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An Address

ON

THE MEDICAL ACTS OF PARLIAMENT: AS THEY ARE AND AS THEY OUGHT TO BE.

Delivered before the South-West London Medical Society on Dec. 8th, 1897.

BY VICTOR HORSLEY, F.R.C.S. ENG., F.R.S.,
DIRECT REPRESENTATIVE ON THE GENERAL MEDICAL COUNCIL.

MR. PRESIDENT AND GENTLEMEN,—I wish to lay before this society to-night certain facts regarding those particular statutes under which we practise our profession because I have found that even in certain circles a considerable amount of misapprehension prevails as to the exact powers we are accredited with as members of a body politic by the Acts of Parliament of 1858 and 1886. In the first place the profession in 1858 was put into the following precise position by the Act of that year. The members of the profession were called "qualified practitioners" in the preamble of the Act and it was stated that it was expedient that persons requiring medical aid should be able to distinguish qualified from unqualified practitioners. We should specially observe the word used is "practitioner." The Act therefore was constructed not to protect a mere title but a person who practises his profession. Then we look through several sections to see what the Act defines a practitioner to be and we find that after the day on which the Act becomes operative the words "legally qualified medical practitioner" or "duly qualified medical practitioner" or any words importing a person recognised by law as a medical practitioner or member of the medical profession when used in any Act of Parliament shall be construed to mean a person registered under this Act.

The Act then of 1858 put us into this position that we being *registered* practitioners of medicine are alone *qualified* practitioners of medicine. This however is not the view which had been taken even by many persons up to the recent session of the General Medical Council. We have now succeeded I think in convincing them that this view is the correct one. The customary contention has been that this Act only dealt with us as having a title and wherever you go you will find a rooted belief that the Medical Acts only protect our diplomas or titles and do not protect us in our practice. It is true that the Medical Defence Union found in prosecuting unqualified practitioners that there was sometimes great difficulty in getting magistrates to convict and the Union pointed out that it would be expedient to get an amendment of the Act to make it clear to any authority not gifted with perception that a person who was not *registered* was not entitled to practise and that if he did so he should be punished. Of course, as I said just now, this is contained already in the Act of 1858 and I have only to add that the Act of 1886, Section 6, says that on and after the day appointed for its entering into operation a *registered* medical practitioner shall be entitled to practise medicine, surgery, and midwifery in the United Kingdom and in any other part of Her Majesty's dominions and to recover in due course of law in respect of such practice any expenses, charges, &c. The converse of that position is of course that any person who is not registered is not entitled to practise or to sue for professional charges and it is provided in Section 40 of the Act of 1858 that "any person who shall wilfully and falsely take or use the name or title of a physician, doctor of medicine, licentiate in medicine and surgery, bachelor of medicine, surgeon, general practitioner, or apothecary or any name, title, addition, or description *implying that he is registered* under this Act or that he is recognised by law as a physician, &c., shall upon a summary conviction for any such offence pay a sum not exceeding £20." Going back again to Section 34, in which it says that a *qualified* medical practitioner is only a person "registered under this Act," the conclusion is obvious that any person who is not on the Register is within the punishment provided by Section 40.

I stated some time ago that the advisers of the Council did not fully recognise the provisions of the Medical Acts. In an opinion given by the legal assessor in 1895 he said that there was a difficulty in the case of a person struck off the Register but whose qualification was not taken away by the body granting it. But in that case he was using the word qualification in a popular and wholly inaccurate sense, according to which the parchments which we obtain from the corporate bodies are "licences to practise," but whatever these diplomas were in a pre-historic past their character is governed by the Acts of 1858 and 1886. The Act of 1886 says a qualification examination shall be an examination in medicine, surgery, and midwifery held for the purpose of granting a diploma or diplomas conferring not a right to practise but the right to be *registered*. That is where the whole structure of the Medical Acts comes in. So that our diplomas do not give us in the eyes of the law the right to practise but the right to demand that our names shall be placed on the Register. The obvious inference is that any person not on the Register should be prosecuted. To take a case in point and which occurred on the first day of the late session of the General Medical Council. It was reported in the medical journals, but I am sorry to say that the report conveys no idea of its great importance, whereas, as a matter of fact, it strikes at the whole root of registration. This case was as follows. A certain practitioner in one of the colonies had had his registration taken away from him by the General Medical Council. He made application to have it restored in the usual way, but meanwhile his name had been erased from the list of Licentiates of the Apothecaries' Society. He therefore possessed no qualification. Nevertheless that Society wrote to the Council to this effect—it is true that this gentleman's name has been erased, but his qualification has not been withdrawn. When this remarkable statement was received by the Council I drew attention to the serious nature of the question and pointed out that a man could not be on a list and off it at the same time. That was the real position as represented by the Apothecaries' Society through Mr. Upton, their solicitor and secretary. On discussion the question was postponed for the further opinion of the legal advisers and finally, in accordance with an unfortunately common procedure of the Council, it was referred to the next session and that is where the matter stands.

Now to return to Section 3 of the Medical Act of 1886: "A qualifying examination shall be an examination in medicine, surgery, and midwifery." The Licentiateship of the Apothecaries' Society is granted after an examination in these three subjects, and because the General Medical Council allowed the Apothecaries' Society to examine in the three, then the L S A. became a triple qualification. But this in no wise supports the claim of the Apothecaries' Society to do what they like with their diploma. What that diploma is is simple: it is a statement from the Society that they have examined Mr. X. Y. Z. and find not that he is a fit and proper person to practise medicine, midwifery, and surgery as required by the Act of 1886, but that he is fit to practise as an apothecary. Since in the first place the diploma dates from 1815 it naturally does not include any of the requirements in 1886. The Section in the Apothecaries Act (14) states that they are to examine persons applying to them for skill in the practise of medicine and their fitness and qualification to practise as an apothecary. But it goes without saying that that confers no *statutory* right to practise the three requirements of the Act of 1886—namely, medicine, surgery, and midwifery. The mistake which has arisen in Mr. Upton's mind is evidently that a diploma which will be accepted by the General Medical Council as a *registrable* triple qualification is at the same time by statute a licence to practise in all these three things. It is, however, not a licence so to practise and no other corporation has put forward a similar claim.

So far, then, the Medical Acts show the Register to be the only portal to the profession. Now we have to look and see how the Acts should be amended so that in the matter of protection of qualified practice there shall be no doubt in the mind of even any magistrate or judge. All that is apparently wanted is a slight rearrangement of the words of the section stating that no person but a registered practitioner shall be entitled to practise medicine, surgery, and midwifery, breach of this same section being punished by fine and imprisonment. Then we shall have something perhaps at which no lawyer can cavil, if such a thing is possible.

Next we may consider some points relating to the other privileges of the profession. By virtue of the Medical Acts we are supposed to be accorded certain privileges in addition to the great privilege of medical practice. It is established by the Act of 1858 that no person shall hold any appointment of any kind to any public body or friendly society without being registered under the Act; moreover, no medical certificates and so forth shall be valid unless the person signing is registered under the Act. Before I had to resign the chairmanship of the Medical Defence Union it came to the knowledge of the Union that unqualified persons are placed as medical officers in public situations and that as regards medical certificates every possible attempt is being made to evade the responsibilities of the laity towards the profession; in other words, to evade paying for the certificates they are obliged to have under the law. This evil will now, I am glad to say, be actively resisted by the General Medical Council.

Other privileges originally granted to the profession under the Act have been really, I do not say taken away from us, but so lost sight of by the Council in times past that they have practically become dead letters. The prosecution of an unqualified practitioner is attended with expense and it was designed by the Act that this should be covered by the penalties being paid to the Council. By reprehensible carelessness the Metropolitan Police Act was allowed to step in and take these monies from us. The profession is, in fact, being heavily taxed and another Act of Parliament is wanted to restore any fines recovered under the Act to the treasury of the General Medical Council. The Council recently approached the Government on that point, but the deputation was politely received with a *non possumus* and so it will be until we can go to the Government and speak with a little stronger voice than in the past.

I have dwelt on the chief feature of the Act of 1858 and brought in from the Act of 1886 so much as was necessary to supplement that of 1858. I would like next to point out that the administration of the Act is practically in the hands of the General Medical Council, which consists of persons chosen by various corporate bodies, some elected by the profession at large and a few nominated by the Privy Council. The constitution of a council composed like that must of course lead to very considerable diversity of opinion and the attaining of concentrated action must always be a difficult task until the constitution is altered by an Act of Parliament and rendered more homogeneous. With the best intentions the representatives of the various corporate bodies cannot divest themselves of the interests of their individual corporations in considering the general interests of the profession. To take the first of two cases in illustration a discussion arose in the past session on an important report furnished by the Dental Examination and Education Committee. In the first place let me digress to say that it is an intolerable grievance to the dentists of this country that they have no direct representation on the Council. They pay money (between £500 and £600 a year) to the Council, which spends that money as it wills, and yet they have no voice in that expenditure or to defend their interests. As a matter of elementary and constitutional justice the next vacancy among the Crown members should be filled by a representative member of the dental profession. Before the Council was a report which only touched the interests of five corporations, yet immediately there was roused an inter-collegiate dispute between a leading English corporation and the representatives of certain Scotch corporations, because the points at issue were not regarded sufficiently broadly and because the technical points involved were not handled by a specialist.

Such is of necessity the result of the present corporate representative constitution of the Council. The second illustrative matter is the evil of the preliminary examination. We all of us agree that the profession is suffering from what is called "overcrowding," but we do not all quite realise, I think, what overcrowding amounts to. It is, however, certain that part of what is called overcrowding could be prevented if we raised the standard of the preliminary examination. When the preliminary examination came up for discussion it appeared that although almost all the medical corporate bodies had given up this examination there remained two that had not. Naturally one would have thought that as nearly all the bodies had agreed on the point these two would have followed suit. But no, they held to them the more tenaciously this session than before because they said their preliminary examination is better than those held by their former competitors and than some of the examinations unfortunately still recognised by the Council, and this is undoubtedly the case. This question, however, carries with it a far larger one—viz., that of the one-portal system. It is clear that a one-portal system should be a complete series of examinations of absolute uniformity throughout the United Kingdom from preliminary to final and controlled by the central medical governing authority—namely, the General Medical Council. These examinations would confer upon the successful candidate the State qualification to be registered, carrying with it the title of doctor.

It occurred to Sir Christopher Nixon, the Representative of the Royal University of Ireland, that the simplest way of saving the time of the Council and the Education Committee in the matter of preliminary education and of clearing the ground would be to settle that the Council should hold its own preliminary examination. Recognising, however, that there might have to be some change in constitutional procedure Sir Christopher Nixon moved and I seconded a proposal that the Education Committee should inquire what steps would be necessary to be taken if such a proposition should be considered. Unfortunately the Council refused to inquire even into the matter. There is no doubt that the representatives of the corporations, who all voted against inquiry, felt that this was the thin end of the one portal wedge and that the diversion of the funds would cause the usefulness of the bodies they represent to diminish. This perfectly reasonable apprehension can, I think, be easily removed. The income of these corporations or guilds is spent practically on two objects besides maintenance of the offices and councils of the bodies. These objects are (1) the remuneration of examiners and (2) the maintenance of various public duties and trusts—e.g., the Hunterian Museum by the Royal College of Surgeons of England. The remuneration of examiners, however, will be provided as before, and proportionate contributions from the fee funds of the examinations would meet the second requirement, even if the Treasury were not persuaded to take its proper share in financially maintaining the efficiency of institutions carried on for the good of the State.

Though the motion was lost the discussion was by no means fruitless, for it revealed the promising fact that not a few of the corporate representatives are not averse to a one-portal system if applied to the final professional examination. I confess this seems to me to be beginning at the wrong end of the stick, but shall be satisfied if we can get that first as it will do a great deal towards removing many evils of which we now complain and will put an end to much disagreeable and internecine competition among the corporate bodies.

In conclusion I may say that the past session of the Council has been a useful one and the next six months ought to show a record of settlement of several crucial points in medical legislation.

Glamorganshire Asylum.—At the meeting of the Glamorganshire County Council held on Dec. 23rd, 1897, it was decided to grant the asylum visitors £3350 for the erection of an isolation hospital for six patients.

Hospital Abuse in Bradford.—At the last meeting of the Bradford and District Medico-Ethical Society the President, Dr. Hime, read a paper on this subject, referring in detail to the various points which he considered most objectionable in the administration of the Bradford hospitals, including the treatment of persons in hospitals who could afford to pay for private attendance, the treatment of large numbers of very trivial cases, the "home patient" system, the misuse of the hospitals by manufacturers sending their workpeople there in large numbers for very small subscriptions, &c. Dr. Hime's paper led to a discussion in which his views were strongly supported. Ultimately a committee, consisting of members of the staff of all the hospitals and of general practitioners, was appointed to inquire into the whole matter and report to the society.

A Lecture
ON
INFANT FEEDING.

Delivered to the Post-graduate Class at the Evelina Hospital for Sick Children, London, on Oct. 27th, 1897,

BY GEORGE CARPENTER, M.D., M.R.C.P. LOND.,

SENIOR PHYSICIAN TO OUT-PATIENTS AT THE HOSPITAL; EDITOR OF "PEDIATRICS."

GENTLEMEN,—I need not impress upon you the importance of infant feeding or apologise for having selected this subject rather than a clinical demonstration on cases of interest in the wards of the hospital. Such sink into insignificance in comparison with the difficult problem I have selected. It is a problem which all of you are called upon daily, almost hourly, to solve and that being so I ventured to think that a practical demonstration on the subject would prove of sufficient interest and repay you for an omission which my medical and surgical colleagues will fill very worthily.

The natural food of an infant is of course the mother's milk and all healthy mothers should feed their infants from the breast. It is one of the greatest privileges of maternity to feed its young from its own body. A healthy mother who for the sake of the contour of her chest or because of the necessarily enforced abstention from gaiety passes her offspring to the care of strangers for its nourishment ought to be severely censured. Moreover, nursing is beneficial to the mother; it stimulates her uterus and is a great preventive of future harm to that organ. But just as it is so desirable that a healthy mother should nurse her offspring so it is most undesirable that a mother suffering from serious organic disease should attempt to perform that function. I would here mention phthisis and any tuberculous affection of the mammary glands as a contra-indication to nursing. Those in whom there is a strong family history of insanity had better not nurse their children—at any rate, nursing should not be carried to such an extent as to undermine the general health. The fact must never be lost sight of that the mind has a great influence for good and evil on the body of the mother and so on the production of milk. Emotional disturbances of all kinds are most harmful and may make the milk actually poisonous to the infant. The child should be placed to the breast as soon as the mother has recovered from the fatigue of the labour, say in three or four hours after her confinement. If there is no milk at first wait for a few hours until it is secreted placing the child at the breast every three hours. Do not give gruel; a little sugar-water may be given if necessary from time to time. As soon as the milk is secreted apply the child alternately to each breast even though a preference is shown for one only. The child during the first week should be suckled every two hours between the hours of 5 A.M. and 11 P.M. and only at fixed intervals. If the child be too weak and puny to take the breast then it will be necessary to feed it at frequent intervals by teaspoonfuls, using either a sterilised mixture of cream and whey or a peptonised humanised cow's milk or a modification of Dr. Gaertner's milk which I will presently mention. Cream and whey mixture is prepared as follows: ordinary cream (20 per cent.), 1 fluid ounce; whey, 2 fluid ounces; and sugar of milk, 1 drachm. This should be sterilised for half-an-hour. The whey is prepared by adding essence of pepsin to fresh milk, which is to be gently warmed. When the milk is set break up the curd quite small, allow it to settle, and then carefully strain it through several folds of muslin, finally squeezing the contained curd so as to extract all the moisture.

During the period of nursing several important problems will arise. For instance, should a mother continue to nurse when she again becomes pregnant? Assuming that the mother and child are healthy the child need not be weaned until the sixth month of pregnancy. Should, however, the double drain on the mother's constitution prove harmful to both of them, shown in the case of the child by gastro-intestinal disturbances, then weaning had better not be delayed. There is also just a possibility that the reflex effect on the uterus may lead to a miscarriage. Should any tendency to such a mishap be discovered then the child must be fed artificially. Another point for consideration is that menstruation sometimes causes gastro-intestinal disturbance in the infant said to be due to an increase of proteids in the milk. If this should occur give the infant a little boiled water before feeding and reduce the meat diet of the mother. But there are some mothers who are only capable of partially feeding their offspring. What should be done? The breast milk should be supplemented by Dr. Rotch's cream food or Gaertner's humanised milk or a modification of cow's milk previously determined by a chemical analysis of the mother's milk. If analyses of the mother's milk are decided upon it should be drawn off by the breast pump five minutes after the child has been placed to the breast.

When a mother from various causes is quite unable to suckle her child two courses are open to you—viz., the employment of a wet-nurse or the use of some modification of cow's milk. Of the alternatives nothing can compare with a healthy wet nurse if her milk is suited to the digestive peculiarities of the infant to be reared. The fact that the wet nurse should be strong and healthy and free from disease need hardly be dwelt upon or that a careful medical examination will be necessary before engaging her. She should be between twenty and thirty years of age and if the foster child is strong and vigorous a primipara may be selected, but should the child be weak and puny a multipara, as the milk will not be so difficult to digest. If her infant be strong and healthy this will be a point in her favour. She should not have been recently confined as the colostrum is undesirable. It will not be a drawback if there is a difference of two or three months between the ages of the children and in one respect it will be an advantage, as the wet nurse's child would have shown any symptoms of congenital syphilis by this time if the disease be present. Of course no syphilitic child can be allowed the advantage of a foster-mother. The treatment of the nursing mother and the wet nurse demands your careful attention. A plain mixed diet, with slight excess of fluids and meat above what she has been in the habit of taking, will be found ample. A small quantity of alcohol may be taken if she has been accustomed to it, otherwise it is unnecessary. Alcohol in small quantities increases the quantity of fat in the milk. Over-feeding and an excessive meat diet will make the milk so rich in proteids as to be quite indigestible. She should take exercise every day and seize every opportunity of being out in the fresh air. You must not lose sight of the fact that various drugs, some of them of a poisonous nature, pass into the milk and upset, or perhaps even poison, the child. Saline purgatives are not desirable as they are likely to stop the milk. The health of the nursing woman naturally requires attention and dyspeptic troubles or anæmia will necessitate the appropriate treatment. If a wet-nurse is selected she must not be allowed to visit her child, but the mother whose child she is nursing must make it her business to see that the child is properly cared for as an anxious, fretting wet-nurse will not produce good milk. No wet-nurse should be allowed to dose her charge on any pretence whatever. The administration of opium is not unknown.

When should the child be weaned? The breasts, as you are aware, begin to fail at various periods of nursing, but no infant should be nursed longer than the first year even under the most favourable circumstances as rickets will surely result. When weaning has been decided upon it should be done by degrees, the artificial food selected gradually taking the place of the breast milk. The process should extend over a period of one month and at the end of that time the mother should send the child away or leave it for a few days. Do not wean a child when he is cutting a tooth and avoid, if possible, the very hot season of the year for fear of summer diarrhœa and postpone it if he has just recovered from a severe illness.

In the event of a mother being unable to nurse her infant, and in the absence of a wet-nurse, what artificial food can be recommended? There is but one answer to this question and that is cow's milk. Chemical analysis of healthy human milk shows that it is composed of the following constituents: fat,[1] 4 per cent.; proteids, from 1 to 2 per cent.; milk-sugar, 7 per cent.; salts, 0·2 per cent.; and water from 87 to 88 per cent.

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[1] The percentage of fat according to Pfeiffer is 3·1 per cent., Adriance 3·8 per cent., Leeds 4·1 per cent., and Hoffmann 4 per cent.

Cow's milk, on the other hand, is formed as follows: fat, 3·75 per cent.; proteids, 3·76 per cent.; milk-sugar, 4·42 per cent.; salts, 0·68 per cent.; and water, 87·39 per cent. From the foregoing it will be seen that cow's milk is richer in proteids and salts but poorer in sugar, therefore in substituting cow's milk for mother's milk we always dilute with water to diminish the percentage of proteids which are so apt to produce indigestion. But in doing this we are diminishing the percentage of fat and making it still poorer in sugar. Hence arises the necessity for adding sugar and cream. But treat cow's milk in whatever way you will it is only a makeshift and cannot be made to exactly resemble mother's milk. Chemically the curd is different, it is not fully digested, it is also lacking an albuminoid which is present in mother's milk. We must not lose sight of the fact that the milk sold in cities is more often than not stale, that it contains many impurities, and is possibly contaminated with disease germs. Not only is this the case but many dairy companies use boracic acid or other chemicals to preserve the milk, in other words, that the consumer may be able to obtain it as stale as possible. Boracic acid is often added in such quantity as to make the milk unfit for infant consumption owing to the indigestion it produces. Apart from such contaminations and adulterations cow's milk differs enormously in composition according to the health of the animal, the time it has been in milk, and the quality of the food; hence the advisability of taking the milk from a mixed herd of cattle rather than from one cow, which was once the fashion. The milk of other animals can of course be used, but there is no advantage in this as their milk will require modification to imitate human milk. Milk as soon as it is received at the house should be placed in a clean vessel, filtered through absorbent cotton-wool to remove gross impurities, and then sterilised to free it from the various germs with which it is contaminated. A reliable apparatus for sterilisation is Alt's, which I now show you, and which has the merit of being cheap as well as effective. The milk should be sterilised in the separate bottles provided with this apparatus sufficient for the day's consumption at a temperature of 100° C. for a period of half an hour. After sterilisation the bottles must be kept in a cool place free from all sources of contamination. Each bottle is to be unsealed and an indiarubber teat affixed such as I now show you when the infant is about to be fed.

In out-patient hospital practice, as also in the poorer neighbourhoods, we frequently have to rely upon an unsterilised cow's milk suitably diluted with water so as to reduce the quantity of the proteids. A mixture of one part milk and two parts sugar-water, the latter of which is made by adding 1 oz. of milk-sugar to a pint of water, approaches human milk in composition but it is deficient in fat. The deficiency in fat can be remedied by adding 1 drachm of 20 per cent. cream to every ounce of the milk mixture, and failing this one-fifth of the quantity of cream in the shape of cod-liver oil should be given to the child. This mixture should be boiled for half an hour and when it is cool a one-twentieth part of lime water added to it makes the fluid slightly alkaline. Ordinary sugar may be used instead of milk-sugar if the proper proportion is observed. In private practice Rotch's Cream Mixture will be found reliable and very satisfactory. It is a near approach to human milk in chemical composition. For its preparation the ingredients are to be mixed as soon as they are received from the dairyman in the following proportions: cream (20 per cent.), $1\frac{1}{2}$ fluid ounces; milk, 1 fluid ounce; water, 5 fluid ounces; lime water,[2] $\frac{1}{2}$ fluid ounce; and milk-sugar, $3\frac{3}{8}$ drachms. I will now call your attention to the method of preparation of Gaertner's humanised milk. The fresh milk mixed with an equal quantity of boiling water is placed in the centrifugal apparatus, a diagram of which—the Victoria Cream Separator—is now before you. The machine is revolved at such a speed that the outcoming streams become equal. From one spout pours all the cream and half the milk and water and from the other spout the remainder. The dirt remains in the machine. All the fat is thus obtained, half the proteids, half the milk-sugar, and half the salts. To bring the sugar to the required standard $5\frac{7}{10}$ drachms of milk-sugar are added to every pint of this mixture before bottling. It is then sterilised in the bottles I now pass round for your inspection which contain the milk ready for consumption. Should half the original proteids be still too large for the digestive capabilities the mixture before the sugar is added can once more be diluted with boiling water and again sent through the centrifugal cream separator, thus obtaining all the fat, a quarter of the original proteids, salts, and milk-sugar. In that case a larger quantity of milk-sugar will have to be added if the human milk standard is desired. The percentage of fat in the Gaertner milk is always kept at from 3·2 per cent. to 3·5 per cent. The casein of this milk when it is precipitated by the gastric juice curdles in a flocculent form in the same way as does mother's milk and not like indiarubber as is the case with cow's milk. I have made arrangements with Dr. Gaertner's London agents to dispense a sterilised milk mixture of any desired chemical formula on receipt of a medical man's prescription. The great importance of this will be readily recognised. It will enable you to feed your infant patients with an approach to scientific precision which has been hitherto unknown in this country. By means of this you can readily vary the quality of the food according to the digestive capabilities of the child. If you find that the proteids supplied in the humanised milk are still in too great abundance and induce gastro-intestinal disturbance all that will be necessary for you to do will be to send your prescription instructing them that your requirements are, say, 0·5 per cent. or 0·75 per cent. or 1 per cent. of proteids or any other percentage you may select in your milk mixture. In the same way you can regulate the quantity of fat in the shape of cream—in fact, select any percentage that may appear desirable should diarrhœa or vomiting from an excess of fat prove troublesome. On the other hand, if the fat supplied be insufficient for the requirements of your patient—for a deficiency of fat leads to anæmia and constipation—then you will be able to increase the quantity. The quantity of milk-sugar can also be regulated as required.

It has hitherto been the custom in cases of summer diarrhœa to withhold all milk and feed temporarily on albumin water, but Rotch, who was the pioneer of the Walker-Gordon milk establishments of the leading American cities, has found that if the fat is reduced to 1·5 per cent., the proteids to 0·25 per cent.–0·75 per cent., and the sugar to 4 per cent.–5 per cent., the milk agrees very well. For prematurely born infants the Gaertner milk can readily be adapted to their digestive capacities by reducing the proteids to 0·5 per cent. or perhaps a trifle less. Dr. Gaertner's agents at my request have consented to supply all the metropolitan hospitals, both out-patients and in-patients, with milk at cost price on receipt of a physician's order and doubtless they will be prepared to do the same with your patients should you deem the case worthy of such assistance.

Before leaving this subject let me tell you that the Gaertner milk is not sterilised to last indefinitely—it should not be kept for a long time. Full sterilisation makes the milk brown from caramelisation of the sugar and changes take place in the fat and sugar which make them indigestible. Further sterilisation does not destroy germs with absolute certainty, any bacteria that may be left are not necessarily harmless, and proliferating bacteria cannot always be recognised by signs of decomposition. Therefore sterilised milk should not be kept for too long a period but should be consumed as soon after sterilisation as possible. Sterilisation appears to rob milk of its anti-scorbutic properties, therefore infants who are being fed upon it require careful watching and any suspicion of the advent of scurvy must be combated by the ingestion of orange juice. The Walker-Gordon laboratories do not sterilise their milk unless compelled, the distances to be travelled determining this. They rely on ice for its preservation for twenty-four hours. There are several other humanised milks on the market, the oldest and best-known preparations being those of the Aylesbury Dairy Company. Lloyd, in the *Dairy* of March 15th, 1897, calls attention to some samples of some humanised milk. In one sample the fat was 1·1 per cent., in another 5·2 per cent., and the sugar 3·5 per cent., and he calls attention to even worse samples than these, one containing over 10 per cent. of sugar.

The question must frequently present itself to you as to whether barley water or oatmeal water or rice water should be added to milk. These waters certainly have nutrient worth and cause the curd to split up into finer particles and thus render it more easy of digestion. If eczema is induced by the use of these gelatin jelly may be substituted.

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[2] The lime water is to be added after sterilisation.

Barley water may be added to Rotch's Cream Mixture instead of plain water if necessary. Prepare it as follows: Take two teaspoonfuls of barley meal and place in a clean jug. Pour on it a pint of boiling water, stand by the fire for an hour, stir frequently, and add a pinch of salt. The same quantity of oatmeal or ground rice can be used in place of the barley. These waters should be sterilised with the milk to which they are added.

Should milk be partially or wholly peptonised? As a temporary measure peptonisation of milk is beneficial. It should be reserved for cases where there is troublesome sickness or diarrhœa or the digestive powers are exceedingly weak and then only to tide the infant over illness. If it is persisted in the infant's gastro-intestinal glands will not develop properly and the seeds of dyspeptic troubles in after life may be sown in infancy.

This question also must frequently present itself to your minds, "What can be urged in favour of the use of condensed milk?" It does not "turn" quickly, the curd is digested better because it is not so thick, and it is convenient when travelling. The best brands are "The Milkmaid" and "The Viking," but to bring them up to the human milk standard it will be necessary to add a drachm of sterilised 20 per cent. cream to every fluid ounce of these when mixed with water. The former also requires one drachm of milk-sugar to every 1½ fluid ounces when mixed with water and one drachm to every ½ fluid ounce of the latter when so mixed. In both cases there is a loss of phosphate of lime salts. It has recently been ascertained that Swiss cows are tuberculous to a far greater extent than the cows of any other country—viz., 85 per cent. of all the cows. Swiss milk is, as you are doubtless aware, evaporated in vacuo and therefore not sterilised, consequently the tubercle bacilli are not destroyed. There are several dried milk foods on the market which have the advantage that they are small in bulk and their proteids are digested with greater ease. They are said to be sterile. No. 1 which I show you is a human milk imitation prepared from cow's milk. It is called "The First Food for Infants" and is recommended to be used during the first three months. No. 2, called "The Mother's Milk Food," stated to be for use from three to seven months of age, is prepared in the same way but contains in addition soluble starch derivatives and sugar, also albuminoids and salts extracted from whole wheat meal and barley meal. I pass round for your inspection Nos. 1 and 2 and also the solutions made from these according to the directions. Should either of these preparations agree the addition of fat may be found desirable and advisable in the shape of ordinary 20 per cent. sterilised cream, 6 drachms to every 6 oz. of the fluid, when prepared as directed, of either No. 1 or No. 2.

Mr. C. Drenckhan, of Stendorf, Germany, also succeeded in making what was apparently a perfect dried milk food. The German Navy patronised it, also private ship-owners, but unfortunately it would not keep as the albuminoids decomposed and the fat went rancid. No preservative had been added and it would appear from this that some chemical preservative is necessary to prevent decomposition in dried milk foods. Of course as long as they are kept dry germs cannot multiply in them. Whilst discussing all these methods of infant feeding now in vogue the scientific advantages to be obtained by the use of Gaertner's milk, or rather the modifications of the process I have related, must be sufficiently obvious to you, and I need hardly therefore advise you to adopt this process in preference to any other I have mentioned. Any system in this country which will give us equal facilities to our American *confrères* and enable the medical profession to supervise and control its infant dietetics should be welcomed, and the advent of the Walker-Gordon Laboratories in Great Britain would prove a positive boon. Such a system permits you to become responsible for the prescribing and ordering of the diet and not the advertising baby-food manufacturers who dictate to you in the most barefaced way as to the manner in which an infant should be fed. The alert food-monger has too long held undisputed sway in the nursery and it is high time that the bulk of the medical profession in England should wake up and relieve itself of what is a great opprobrium in the eyes of more advanced nations in this respect and for which from the generally lethargic attitude it adopts regarding infant feeding it is certainly responsible. It can only do so by taking an interest in this difficult subject and by being able to control at will the quantities of the important constituents of the milk which are known to prove a source of trouble in infant feeding. The gain to the infant world will be immense, the huge infant mortality will not be a crying disgrace as it is at present, and the value of the knowledge to be gained by the medical profession working in unison on scientific principles cannot be over-estimated.

The next question for our consideration is, How often should the infant be fed and what quantities of food should be given at each feeding? The quantity must be determined by the age, the weight, and the digestive powers of the infant. For the average infant the following table will be found a useful guide :—

Age.	Intervals of feeding.	Number of times in 24 hours.	Average amount each feeding.	Average in 24 hours.
1st week	2 hours	10	1 ounce	10 ounces
1st month	,,	8	1½ to 2 ounces	12 to 16 ounces
2nd month	2½ ,,	8	3 to 4 ,,	20 to 30 ,,
3rd and 4th months	3 ,,	7	4 to 5 ,,	30 to 35 ,,
5th and 6th months	3 ,,	6	6 to 7 ,,	34 to 40 ,,

The quantity of milk administered within these specified limits will depend upon the constitutional peculiarities of the infant and upon the previously mentioned factors, but the maximum amounts here advised should not be exceeded. The hours of feeding should be between 5 A.M. and 11 P.M. and punctually observed; if they are faithfully adhered to the child will wake crying at the regular times appointed for its meals.

A word about feeding bottles, an assortment of which along with various rubber teats I have just received from Paris and which I now hand round for inspection. The bottles supplied with Alt's steriliser can be recommended and the soft rubber teats accompanying them can be readily turned inside out and thoroughly cleaned. When cutting these do not make the orifices too small or the infant will not be able to suck properly and if too large will bolt the food and the inevitable will follow. The old boat-shaped bottle is good. Feeding bottles of this class compel the feeding of the infant by the nurse, the tendency to food-bolting is controlled, and the disgusting habit of placing the bottle in the cot with the child is prevented. It is hardly necessary to insist upon chemical cleanliness, therefore the use of bottles with internal indentations or those provided with tubes must be strongly condemned.

At the commencement of the seventh month, if the infant is still thriving, the modified cow's milk which has been found suited to the child, should be still continued, taking from 35 to 40 oz. in the twenty-four hours, and there need be no change of diet until ten or twelve months old. The child should be fed every three hours, the average amount at each feeding being 8 oz.—viz., at 8 A.M., 11 A.M., 2 P.M., 5 P.M., and 11 P.M. The digestive powers are now quite able to deal with well-cooked starchy foods if not given in too great abundance. Should the growth of the muscles, the bones, and the teeth prove slow, and the skull bones become softened, then it will be advisable to add cereals to the modified cow's milk. During the seventh, eight, and ninth months the weekly gain in weight should be from 3 to 3½ ounces and during the tenth, eleventh, and twelfth months from 1½ to 2 ounces. Increase in weight must not be looked upon as a certain guide because, as you are aware, rachitic children are often fat and clumsy. Any of the cereals may be given—viz., oats, rice, barley, wheat, or maize. The grains should be washed, then ground into a fine powder in a coffee-mill, and finally passed through a No. 80 sieve. Two tablespoonfuls of the meal to a pint of milk will make a suitable mixture. Great care must be exercised in the preparation of the food which, when thoroughly cooked for twenty minutes in a clean enamelled saucepan, should be placed in the separate bottles of the steriliser and after sterilisation removed to a cool place from which it can be fetched as required. Should the starch prove troublesome to digest at first it may be partially predigested by using an artificially prepared ferment such as Diastol, which is a reliable preparation.

The time at our disposal has unfortunately been short and the importance and extent of the subject out of all proportion to such a time restriction. Much has been omitted that might have been mentioned and much only rapidly passed in review which merited greater attention. In spite, however, of the shortcomings I hope that what I have brought to your notice will prove of assistance to you in your practices.

ABSTRACT OF THE

Morison Lectures

ON THE

RELATION OF THE NERVOUS SYSTEM TO DISEASE AND DISORDER IN THE VISCERA.

Delivered before the Royal College of Physicians of Edinburgh on Nov. 1st, 3rd, and 5th, 1897,

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LECTURE I.

MR. PRESIDENT AND GENTLEMEN,—A large proportion of the Morison Lectures have dealt with mental disturbances of the brain from the alienists' point of view and to special knowledge in this sphere I can lay no claim. A smaller proportion, however, have been concerned with the nervous system from the point of view of the anatomist, the pathologist, and the general physician, and it is with the latter that I feel I can most appropriately associate myself.

My attention has for some time been directed to the relation of the nervous system to disease and disorder in the viscera, partly on account of the admitted obscurity of the subject and partly because of the frequent opportunities presented to me in hospital and private practice of examining cases in which that relation has seemed, while obscure, to be nevertheless indubitable. I have concluded, therefore, that this subject might be worthy of more systematic examination and have some interest for others as well as myself. As the honorary secretary of the College was good enough to convey to me your wish that I should deliver the lectures for 1897 and 1898 I determined to deal with the matter in its more purely scientific aspects this year—namely, in its anatomical and physiological aspects—as distinguished from the bearing of these fundamental considerations upon the pathology and clinical phenomena manifested by disease and disorder of visceral innervation which I propose treating in the next series.

It would be impossible in the time at my disposal to enter with detail into the neural anatomy and physiology of all the viscera and were it possible it would be tedious to do so. I shall therefore endeavour to study the matter on representative lines so as to elucidate, however dimly, those principles which guide us in the rational discovery and treatment of disease affecting the organs which we conventionally term viscera. Before examining the anatomical relations of nerves to viscera however it may be of interest and not unprofitable to refer shortly to the *methods* suitable for their detection and examination.

For the examination of detail central and peripheral in the nervous system the use by Camillo Golgi in 1880–81 and by Santiago Ramon y Cajal in 1889 of the chrome-silver method has caused a revolution in our conceptions of the ultimate nervous system, a revolution which has been powerfully promoted by the adhesion to that method and of his own researches by its means into the minute anatomy of the nervous system by Albert von Kölliker, the revered *doyen* of European histologists, to whom some of us can offer the homage of pupils to their master. The Golgi-Cajal method is, notwithstanding its indubitable value, not an easy method of examination and this by their own confession, even in the hands of some who are justly acknowledged to be experienced and trustworthy histologists. The expression "quick Golgi method" is usually applied to that which does away with a preliminary hardening of texture in Müller's fluid for a week or two, but it might be more profitably used in connexion with the quickness necessary in the operations following the removal of the stained tissue from the nitrate of silver solution.

The method I have personally found most useful is that employed by Sihler, of Ohio,[1] and was brought to my notice by Dr. Frederick E. Batten who used it in the preparation of the specimens on which his recent valuable paper on muscle spindles was based.[2] The difficulty of staining the peripheral nervous system consists in its fineness and in its being surrounded by texture more or less dense. Stains appear to require application as directly as possible and with considerable potency to effect their purpose. Thus, while Ehrlich's intravenous injection of methylene blue stains peripheral nerves, Seme Meyer's subcutaneous injection of the same material, while it acts admirably on the central nervous system, is of little value for peripheral work. For this reason also Dogiel's direct application of methylene blue appears to act much better on peripheral nerves than the more indirect modes of using that stain which I have mentioned.

In using Sihler's method I made thin sections of the organs with Cathcart's freezing microtome, left them for a fortnight or longer in the stain, and in glycerine for an indefinite period. The longer they remained in glycerine the better I found the result to be, as the staining seemed to be continued in that medium and the tissue to become softer and more easily teased or squeezed. This I believe was also the experience of Dr. Batten. I am also under the impression that the stain and the medium (Farrant's solution) in which the preparation is mounted continues to define detail for a time after mounting. I am strengthened in this belief by a statement recently made to me in conversation by Dr. Lionel Beale that he had had the same experience with the glycerine-carmine method which he has so fruitfully practised.

For the detection of nerve-endings in muscle and for showing the relation of distal ganglionic cells to nerve trunks I found this method very satisfactory; but for the investigation of intercellular nerve-endings in secreting glands it was less successful in my hands. The profuse nuclear staining which results from the use of hæmatoxylin is a disadvantage in this respect and in the case of fœtal structures especially tends to obscure detail. I did not decolourise many of my specimens, as doing so seemed to me to render the detection of the finer nerves more difficult.

During the last decade our knowledge of visceral innervation has been greatly increased. The invisible was previously regarded as the non-existent in many organs which are now known to be richly endowed with nerves. The researches of Golgi, Ramon y Cajal, Kölliker, Gustaf Retzius, van Gehuchten, Sala, von Lenhossék, Ehrlich, and the Dogiels abroad and of Berkley and Sihler in America have done much to elucidate a dark field of inquiry. To our own countrymen we also owe much and before referring to later investigators it would be unpardonable not to acknowledge our indebtedness to Dr. Lionel Beale, whose position to-day is not identical with that of many histologists as regards the manner of nerve termination, but whose accurate observations have a permanent value. Gaskell, Langley, and F. M. Balfour, of Cambridge, have each by different methods rendered clearer to us a subject once the despair of anatomists, physiologists, and physicians alike, and the more recent work of Professor Paterson on the embryology of the sympathetic system has placed in a clearer light the original relation of the sympathetic to the cerebro-spinal system, a relation as influencing function to which I shall have occasion to refer again.

We may determine the character and course of a river by following it from its source to its outflow into the ocean or we may trace it from its distribution to its fountain head. In examining the innervation of the viscera I propose adopting the latter method. The stream of visceral innervation may in its ultimate distribution be likened to a delta with three mouths, these points being (1) the secreting cell; (2) the cell of involuntary muscular fibre; and (3) an intermediate or compound and more obscure condition, the innervation of the mechanism of metabolism and excretion.

The innervation of the secreting cell.—A. S. Dogiel, of Tomsk, in his paper on nerve-endings in the tear gland of mammals[3] before proceeding to give particulars of his own investigations refers to the previous work of others with other glands as establishing a general identity of method in nerve distribution in secreting glands as a whole. Although some have figured what appeared to be nerve terminals on cells the general result of investigations hitherto has been that the actual termination in a cell has not been established. Even the apparent fine endings on or between cells Dogiel regards as due to incomplete staining of continuous nerve fibrils. He thus supports the well-known contention of Dr. Lionel Beale that apparent nerve-endings are a fallacious conclusion from imperfect observation, a view which is opposed to the opinion of the majority of histologists of the present day. Kölliker, on the other hand,[4] states that the penultimate plexus which is frequently observed ends free and that he is in a position to vouch for this fact in the case of intestinal villi, the spleen, the kidneys, the muscles of the intestinal wall, and the mucosa of gut. Gustaf Retzius also joins issue with Dogiel. He admits with Kölliker and others the occurrence of terminal plexuses, but not of terminal nets or loops.[5] The controversy between Valentin and Remak concerning the origin of nerve fibres is thus pushed by the discoveries of the intervening period to the extreme limits of the nervous system, and although it cannot even now be considered to be settled in favour of the terminalists the balance of evidence is on their side.

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[1] Archiv für Anatomie und Physiologie, 1895, Physiologische Abtheilung, S. 202.

[2] Brain, Parts lxxvii. and lxxviii., 1897.

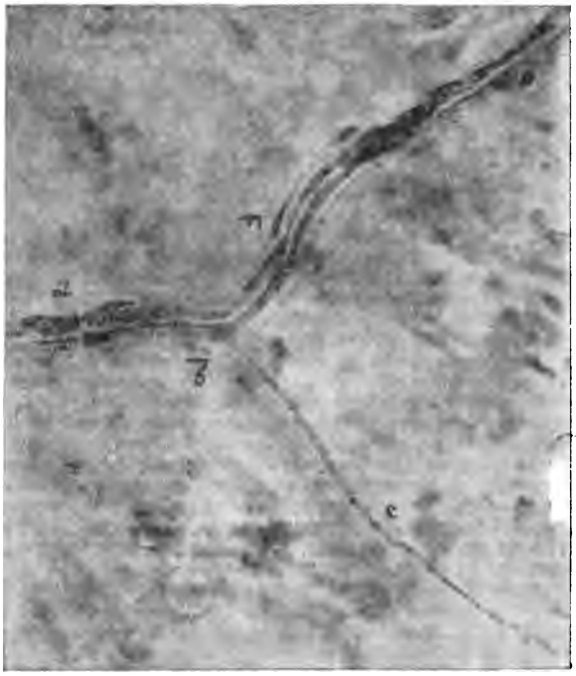
A point of great interest and one which it appears to me can only be determined by the method of induced degeneration is the discrimination of intra-glandular sensory or afferent fibres from the efferent secretory fibres proper. Sensibility is probably essential to all perfect vital action, but the execution of all peripheral functions, as will be asserted again, is in the sphere of the motor division of the nervous system, and to distinguish between these secretory motor fibres and intra-glandular sensory fibres by the microscope is not at present possible. These intra-glandular sensory fibres are not to be confused with others which cause increased discharges of secretion by gross reflex action. This may arise from the most distant stimuli—mental and other. The intra-glandular sensory fibres are nevertheless the afferent channels for the intrinsic irritability of the cell and necessary to the quiet and continuous elaboration of secretion characteristic of healthy gland tissue.

The innervation of the cell of involuntary muscle.—In the case of the voluntary muscle the motor end-plates or end-organs are well-defined bodies, and if the termination of the muscle spindle so well described by Dr. Batten be viewed with Professor Sherrington as the end-organ of muscular sensibility these also are no less well defined and are to all appearance ultimate and not penultimate structures. In the case of involuntary muscle on the other hand there is still room for controversy as to the nature of the ultimate innervation of the muscle cell. The difficulty of examining this question until recently has been so great that it is not long since histologists of repute regarded even so considerable a muscle as the cardiac ventricle as very sparsely supplied with nerves. Even now the "ganglion-free apex" plays a considerable *rôle* in physiological conceptions of the nature of rhythmical movement.

The Golgi methods have shown us, however, that not only is the cardiac ventricle well supplied with nerves, but that it is so richly supplied that there is reason to believe that ilka muscle cell, to vary the poet's language, has its ain twig o' nerve. This is the conclusion come to by Heymann, of Ghent,[6] who showed many beautiful specimens of the innervation of the frog's heart prepared by the quick Golgi method at the last meeting of the British Medical Association in London and which probably many present had an opportunity of examining. Numerous observations prior to and since his lend support to this view.

The end organs described as characteristic of cardiac muscle are knob-like bodies first observed by Krause and frequently seen since. What I have taken to be such, however, appear to me to be continuous rather than freely-ending structures and to be enlargements on the fine fibres of a circumfibrillar plexus similar to the circumcellular plexuses described by Dogiel in secreting glands. Terminal knobs it is true may be observed which do not appear to be continuous with any nervous element beyond them, but they so much resemble small enlargements upon nerve elements which are undoubtedly continuous with similar knob like enlargements in a continuous chain that the possibility suggests itself to me, as it did to Dogiel in the case of glandular nerves, that defective staining may account for the apparently abrupt termination of some of the fibrils in some cases. The majority of present-day histologists, however, appear to be as convinced of the free ending of muscular nerves in all involuntary structures as they are of such a termination in the case of voluntary muscle. It is certainly difficult to conceive how otherwise the separate functions of nerve elements of which there is good physiological evidence can be secured.

FIG. 1.



Nerve from the pelvis of the kidney of a mouse. *a*, main nerve; *b*, point of departure of *c*, the stem of a plexus; *n*, nucleus of investing sheath.

FIG. 2.

Plexus in the pelvis of the kidney of a mouse arising from *c* in Fig. 1, of which *d* is the continuation; *e*, *f*, *g*, points of dichotomous division.

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[3] Archiv für Microscopische Anatomie vol. xlii., p. 632.

[4] Gewebelehre, p. 870

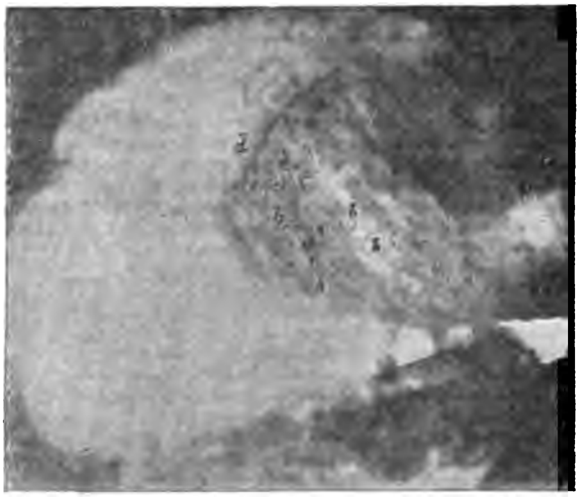
[5] Biologische Untersuchungen, Neue Folge, N. p. 50.

[6] Berlin Physical Society, Feb. 17th, 1893.

The discrimination by the microscope of motor fibres from more sources than one and of motor from sensory fibres in involuntary muscles is no more possible at present than it is to distinguish secretory motor from sensory fibres in glands. As regards the detection of sensory fibres in the case of such special sense organs as the Pacinian bodies of the mesentery and similar bodies which have been found in other organs—for example, the pancreas—we are justified in assuming that we are dealing with a sensory nerve termination. But no such guide to the detection of a sensory as distinguished from a motor nerve-ending is at present known in involuntary muscular fibre. If, however, we agree with Kölliker that a medullated nerve fibre found in the distant periphery is to be regarded as cerebro-spinal and sensory[7] we may have in this a guide to the penultimate distribution of sensory nerves in the viscera. Under the microscope and on the screen I have placed a specimen from the pelvis of the kidney of a mouse which shows the fine fibrils arising from such a fibre—a plexus the fine subsidiary divisions of which are countless, but which in view of the present opinion of the majority of histologists may be assumed ultimately to end free, as indeed at some points it appears to do in the specimen. (Figs. 1 and 2.)

In the case of the heart also similar plexuses with cellular or quasi-cellular points of dispersion may be observed coursing transversely across the muscle bundles. While these probably terminate parallel to the fibres giving off twigs to the cells they are conceivably from another source than some of those found running parallel to muscle fibres and terminating or appearing to terminate in the end-bulbs already mentioned. The importance of this double cardiac nerve-supply we shall have to deal with later. On the screen and under the microscope I show such plexuses. (Figs. 3 and 4.)

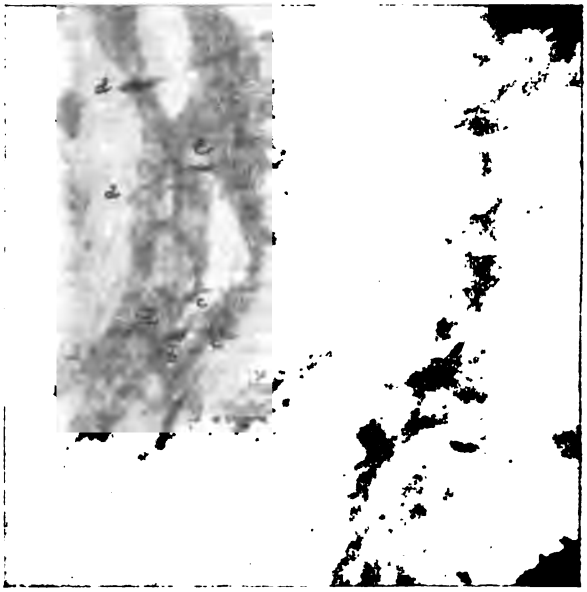
FIG. 3.



Nerve plexus from the heart of a mouse. *a*, nuclear junction; *b*, branching fibrils; *c*, intermuscular knobs; *d*, large nerve.

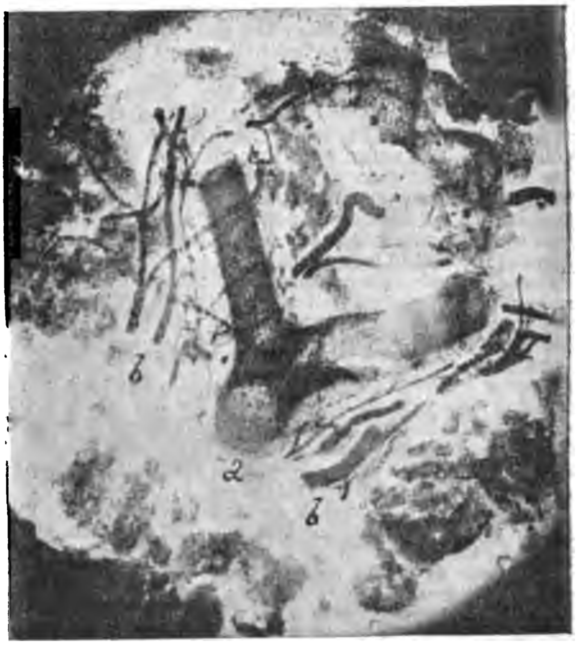
The nervous mechanism of excretion and metabolism.—The essential conditions of excretion are a medium containing the excretion and vessels to convey it to a point at which it is to be excreted, where appropriate arrangements for its conveyance out of the body exist. If we take the kidney as exhibiting these conditions in a typical manner we shall be able to study the nervous anatomy of this process so far as we at present know it. While this organ, however, exhibits the essentials of excretion mentioned it is also one beset with considerable difficulties for the histologist of the peripheral nervous system. Its close texture and general density render the use of staining methods as applied to the finer nerve elements a difficult matter. So great a master in histological methods as Gustaf Retzius recognised and acknowledged this difficulty and stated that even by Golgi's method the nerves of the kidney did not stain well.[8] He succeeded, however, in staining the vascular nerves as far as the glomerulus. A specimen which Professor Kölliker's curator gave me shows the vascular innervation of the kidney very well. I show it on the screen and under the microscope. He also found the organ difficult to stain by the Golgi method and did not succeed in doing so beyond the point reached by Retzius. A ganglionic cluster with fine retiform ramification of fibrils is shown in the preparation. The nerves in the case of the kidney as in other organs follow the course of the blood-vessels. This relation of visceral nerves to blood-vessels is shown by the preparations which I throw on the screen. (Figs. 5 and 6.)

FIG. 4.



Plexus in the heart of a cat. *a*, *a*, non-medullated nerve fibres; *b*, nuclear body in plexus resembling a cell villi with dendrites *c*, *c*, and axis cylinder *d*.

FIG. 5.



Showing relation of vascular (*a*) to nerve trunks (*b*, *b*) in the pancreas of a mouse.

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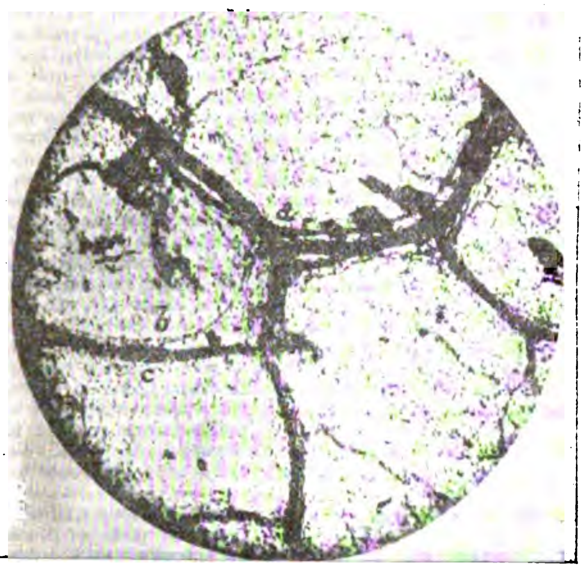
[7] Op. cit., p. 858.

[8] Biologische Untersuchungen, Neue Folge, p. 35.

While we have thus failed hitherto, so far as I know, in demonstrating the complete innervation of the glomerular capsule and its connexions there can be little doubt that the nerves are there for staining and with improvements in methods will, sooner or later, be stained.

The question of special nerves of metabolism, like that of special trophic nerves, which may be appropriately mentioned in this place, must be left undecided at present. That diminution of the *vis a tergo* necessary to push through metabolism to its normal physiological limit is the cause, rather than explosion of physico-chemical material, of the defective metamorphosis met with in some diseases is argued, I would suggest, by the commonly observed clinical phenomenon of deposits of uric acid in conditions of exhaustion in some persons who in more robust health exhibit the normal metamorphosis of urates. There is much more evidence in support of this view which we shall consider more fully in its proper place. There is also a good deal of clinical and some experimental evidence to show that the nervous system has a distinct local trophic influence, although the separate existence of nerves for this purpose has not yet been established. We have so far examined the extreme periphery of the visceral nerve distribution and found that while there are still noteworthy upholders of the non-terminal conception of the peripheral nervous system the balance of evidence and trend of histological opinion is in favour of the termination of the sensory and motor nerve supply of the viscera in free ends.

Fig. 6.



Showing the relation of nerve trunk (*a*) and branch (*b*) to vessel (*c*). From the mesentery of a kitten.

TWELVE CONSECUTIVE CASES OF ACUTE GENERAL PERITONITIS FROM INFECTIVE APPENDICITIS.

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The proved dependence of very nearly all cases of iliac phlegmon, typhlitis, perityphlitis, and paratyphlitis upon infective changes in the vermiform appendix justifies the abandonment of these time-honoured terms and the substitution for them of the one word "appendicitis," barbarous as it may be in some ears. Of this protean infection it is necessary to recognise three forms. The mildest and happily the most common is a circumscribed plastic peritonitis, often called simple appendicitis. The next form, second in gravity as in frequency, is a circumscribed suppurative peritonitis or appendicular abscess. The third form of the disease, at once the most grave and the least frequent, is that in which the infective material escaping from the appendix into the peritoneum is not shut off there by any limiting adhesions; such cases are commonly spoken of as general appendicular peritonitis.

For cases of simple appendicitis no surgical treatment is required during the period of attack. An appendicular abscess should be opened as soon as the surgeon has evidence of the formation of pus. An appendix that is discharging infective matter into the general peritoneal cavity ought to be removed at the earliest possible moment. It is important to recognise a suppurative as distinct from a simple appendicitis and it is of still greater importance to recognise at once an appendicitis in which the diseased appendix is free in the general peritoneal cavity. It is as a contribution to this subject that I desire to record several cases that have recently been under my care. I give the cases in their chronological order with brief notes on each and I have included among them two cases (Nos. 4 and 6) of appendicular abscess in which symptoms of general peritonitis followed upon and overshadowed those of the abscess, and I have done so because the occurrence of general peritonitis puts them in the same category. The fact of perforation of the appendix has been used as a basis of classification for appendicitis, but it is easy to see that this is a mistake. Gross perforation of the appendix as a rule greatly aggravates the disease, but it is not by itself able to determine the issue of a case. I have known it attend a "simple" plastic appendicitis which did not lay the patient aside from her work for a single day. More often it leads only to a circumscribed abscess and only sometimes does it excite the widespread infection of the peritoneum, and when we remember that the grave inflammation follows upon the invasion of the peritoneum by the bacillus coli it is evidently of little moment to determine whether these organisms are passing through the inflamed walls of the appendix or through a hole in those walls. The issue of the case really depends upon the extent and intensity of the bacterial infection of the peritoneum and our classification should accord with the fundamental and not the accidental differences of the cases.

Confining myself to the cases in which the diseased appendix and the infective matter escaping from it are not shut off from the general peritoneal cavity by adhesions I think the following cases establish certain important practical points. 1. That there is considerable variation in the clinical course of these cases. The onset may be abrupt or more gradual and remittent; the symptoms may be most severe and rapidly fatal, or for a time so little marked as to deceive any but the most careful observer; fever may be high or altogether absent; vomiting may be the most prominent feature of one case and altogether wanting in another; intestinal peristalsis may be entirely arrested or the opposite condition—diarrhœa—may exist. 2. That there is just as marked a difference in the pathological course of events. An inflamed sloughing and perforated appendix may be surrounded by peritoneum which to the naked eye appears absolutely healthy (cf. Case 12.), or such an appendix may be bathed in a small quantity of turbid, dark, stinking fluid, the remainder of the sac appearing normal (cf. Cases 1, 2, and 3). In another case there is an abundant sero-purulent exudation throughout the peritoneal cavity (cf. Cases 8, 9, and 11). In another the serous membrane is more or less widely smeared with buttery lymph (cf. Case 10); and lastly, around the diseased appendix there may be a quantity of pus indistinguishable from the thick, offensive pus of appendicular abscess, but unlimited by adhesions. 3 The urgent importance of early diagnosis and immediate operation and the hopefulness of early operations. Of these 12 cases, all of which were operated upon, 7 recovered; I think 3 of the fatal cases might have been saved if operation had been resorted to earlier (Cases 8, 9, and 11); Case 6 had apparently passed out of danger when the patient suddenly died from some unascertained cause; in Case 7 the age of the patient would have been a grave element of danger whenever the operation had been performed. The simple fact of 7 recoveries out of 12 cases amply justifies resort to operation. Dr. Herbert Hawkins, in his monograph on Diseases of the Appendix, speaks of operation for general peritonitis as uniformly unsuccessful. This statement requires qualification, but is only too true if limited to those cases which have been allowed to run on for several days and where there is abundant sero-purulent effusion.

CASE 1. *Gangrene and perforation of the appendix; limited intra-peritoneal effusion; operation on fourth day; recovery.*—The patient was a robust and healthy man, aged twenty-four years. When living in the country and taking a great deal of exercise his bowels were quite regular; when he was in London and taking less exercise he was a little constipated. On April 25th, 1896, he went for a twenty-mile ride on a bicycle and thought he got a chill. During the night of the 27th–28th he had pain in the right side of his abdomen which he attributed to the chill. He got up, however, and went out, but during the afternoon of the 28th the pain came on worse and he had to lie down at his club; this relieved him and he was able to go out to dinner that night. On the next day, April 29th, the pain returned and Dr. Kingston Fowler saw him; he found his temperature was normal and that there were no definite local signs in the abdomen; the patient had previously taken a purge. Dr. Fowler ordered him some bismuth, to take only slop diet, and to rest in bed. That night the pain came on very severely indeed and he walked about all night in the effort to obtain relief. When Dr. Fowler saw him on the morning of April 30th he found marked tenderness and some fulness of the right lower quadrant of the abdomen; his temperature was then 101° F. He ordered four leeches to be applied over the right iliac fossa. At 6.30 that afternoon I saw him with Dr. Fowler; the temperature then was 102·2°, the pulse was 100 and full, and the tongue was very furred. The abdomen was a little distended, especially behind the lower half of the right rectus muscle; it was immobile and tympanitic. No lump was to be felt. There was acute tenderness at McBurney's point. The diagnosis of acute peritonitis starting from the appendix was made; as the leeches had only just been applied it was decided to wait a few hours to observe their effect. Next morning, May 1st, his condition was a little worse in every way, the temperature being 102·2°, the pulse 108, not so full; it was decided to operate. That afternoon I opened the abdomen over the cæcum and as soon as the peritoneum was divided from two to three ounces of very fœtid dark brown turbid flocculent fluid escaped. The appendix was found lying along the outer side of the cæcum and it was drawn out of the wound and removed. There were no peritoneal adhesions except one slight one between the ascending colon and the parietes. There was no more fluid in the general peritoneal cavity; there were patches of grey lymph on the cæcum and the coils of small intestine that were seen were injected but still polished. A tampon of iodoform gauze wrung out of carbolic solution was carefully packed all around the cæcum and the wound closed by buried and superficial sutures. The appendix was very turgid, of a deep purple colour, with four perforations in it with sloughy edges. When laid open it was found to contain three concretions and the whole of the mucous membrane lining it was gangrenous. Next morning, May 2nd, we found his temperature had fallen to 98·8°, the pulse was 90, he had passed flatus, and his abdomen was less tense; the pain was much better and there was no acute tenderness. For several days the patient was greatly troubled with flatulent distension of the stomach and colon, and soon after this was overcome he had symptoms of a thrombus in the right femoral vein. The wound suppurated moderately and healed firmly except for a stitch sinus; the stitch came away on July 13th and when seen on July 23rd he was enjoying excellent health and the local condition was quite satisfactory.

In this case the symptoms did not set in with that sudden acuteness that is so usually seen in this form of appendicitis. The inflammation of the appendix commenced in the early morning of the 28th, but peritonitis did not set in until forty-eight hours later, caused no doubt by the necrosis and perforation of the appendix. The infective material was discharged into the general peritoneal cavity and was not limited in its action by adhesions, but in spite of this the inflammatory effusion was at the time of the operation all lying just round the appendix and none was found in the pelvis or among the coils of the intestine; this same condition existed in Cases 2 and 3.

CASE 2. *Gangrene and perforation of the appendix; limited intra-peritoneal effusion; operation on fifth day; recovery.*—I was asked to see a girl, aged fourteen years, by Dr. Lendon on July 19th, 1896. He told me that his patient, a healthy girl, was seized with pain in the centre of the abdomen about midday on July 15th. Soon afterwards she vomited and her bowels acted. He saw her shortly afterwards and examined the abdomen but detected nothing abnormal in it; the temperature was raised. This ill-defined pain in the centre of the abdomen, with vomiting about once a day and pyrexia, had continued up to the evening of the 18th. The bowels had acted naturally once each day; nothing had been felt in the abdomen on repeated careful examination. He had kept her quiet in bed on a liquid diet. In the night of July 18th–19th the pain which before had been of moderate intensity rapidly increased and became very intense and at 3 A.M. Dr. Lendon found her cold, collapsed, and in great pain; he gave an injection of morphia. At 10 A.M. Dr. Barlow saw her; the temperature was then 103° F. and the pulse 150. It was decided that perforation of some viscus had occurred, probably of the appendix, and that a surgeon should be called in. I saw the patient at 3 P.M. on July 19th; the temperature was then 103° and the pulse 150, the abdomen was moderately distended, and the lower half was immobile and very tender; there was more resistance under the right than the left rectus muscle, but no circumscribed swelling was felt. It was decided to operate at once. I made an oblique incision on the outer side of the right rectus. On opening the peritoneum about an ounce of very offensive turbid brown fluid escaped. I found the appendix bulbous-ended and hanging down into the pelvis. After separating some adhesions I drew it up and removed it. There were no adhesions shutting off any part of the general peritoneal cavity. I wiped all clean, drew the omentum over the cæcum and the stump of the appendix, closed the wound around a large rubber tube, and dressed with the double cyanide gauze. The end of the appendix was very enlarged; it was gangrenous throughout and had a small perforation in it; on laying it open a large concretion was found within it; the wall of the proximal part of the appendix was hypertrophied. The wound suppurated freely and closed slowly, but eventually the girl recovered completely.

Here, as in Case 1, there was a period of four and a half days during which there was moderate pain, occasional vomiting and slight pyrexia before the onset of the acute symptoms due to the infection of the general peritoneum. Although not shut in by adhesions the inflammatory effusion was all collected just around the cæcum and appendix.

CASE 3. *Appendix gangrenous and perforated; limited intra-peritoneal effusion; operation on fourth day; recovery.*—This patient, a boy aged five years, was under the care of Dr. Griffiths. On the evening of Dec. 1st, 1896, when apparently quite well he had a large meal of winkles, jam-tart, and bread. At 2 A.M., Dec. 2nd, he awoke with severe pains in his abdomen referred to the umbilical region, and soon afterwards vomited. For the next three days he was very ill with great pain, increasing distension of the abdomen, fever, vomiting, and constipation. On the morning of Dec. 5th he was seen by Dr. Cayley, who diagnosed perforative peritonitis and advised that a surgeon should be called in. I saw the lad the same afternoon (Dec. 5th)—the latter part of the fourth day of his illness—and found him very ill. His abdomen was very tense all over, immobile, very tender everywhere, and tympanitic except over a very narrow strip just above and internal to the right iliac crest. Nothing was to be made out by palpation; the finger in the rectum detected no tumour in the pelvis. His tongue was thickly coated with a white fur; he was frequently sick, the vomited matter being bilious in character. The bowels had acted twice since the onset of the illness and there was a frequent desire to go to stool, with ineffectual straining. The pain in the abdomen came on in frequent paroxysms. The temperature was high and the pulse was 126 and small; the hands and feet were rather cold. I regarded the case as one of general peritonitis from sudden perforation of the appendix and of almost desperate character, but advised immediate operation. I opened the abdomen by an oblique incision outside the right rectus muscle and as soon as the peritoneum was divided about four ounces of thin stinking sero-pus was spurted out. The appendix lay along the outer side of the cæcum and contained a large concretion; there was a large hole in the appendix on the proximal side of the concretion. The whole appendix was intensely inflamed and around the large perforation was a considerable area of necrosis. There were no adhesions in the general peritoneal cavity; the cæcum was very injected and flakes of lymph lay on its surface; the parietal peritoneum was smooth, glistening, and grey-pink in colour. There was no fluid in the pelvis.

The appendix was amputated and the wound was closed around a large rubber drainage-tube. His subsequent progress was satisfactory; the tympanites quickly subsided, the vomiting ceased, the bowels acted, and he made an uninterrupted recovery.

In this case the onset was absolutely sudden and seemed to have some relation to a large and very indigestible meal. As in the last case the inflammatory effusion, though not shut in by any adhesions, lay close around the appendix, and although the signs of general peritonitis were well marked it was unnecessary to do more than remove the appendix and cleanse the immediately adjacent parts.

CASE 4. *Appendix perforated; appendicular abscess; symptoms of general peritonitis: operation on sixth day; recovery.*—The patient was a man, aged twenty-three years, and was under the care of Dr. Downes, of Forest-gate. Five days before I saw him (Dec. 8th) he was seized with severe pain, at first felt around the umbilicus and later worse in the right iliac region. This was followed by vomiting, fever, absolute constipation, and rapidly increasing abdominal distension. I saw him on Dec. 13th, 1896, on the fifth day of his illness. His general condition was good; his facies was not abdominal. The tongue was moist, the pulse was 96, of good size and force, and the temperature was 99·8°. The abdomen was uniformly and extremely distended, "as tight as a drum," everywhere tympanitic, motionless, and by its distension it caused dyspnœa even when he was lying still in bed. The abdomen was everywhere tender to the touch. I diagnosed infective appendicular peritonitis and recommended operation. I opened the abdomen on the right side, found the intestines intensely distended but smooth, glossy, and free from lymph. On passing my finger to the back of the cæcum I found some soft adhesions and on separating these several ounces of blood and stinking pus escaped. In the cavity I felt the appendix almost severed by a very large ulcer (perforation). With the finger I tore it quite through and lifted out the distal portion which contained a large concretion. I wiped out the cavity as clean as I could and then closed the wound around a large rubber drainage-tube. I subsequently heard from Dr. Downes that this patient made an uninterrupted recovery.

This case differs materially from the preceding ones and some may consider that it ought not to be included in a series of cases of general peritonitis, for there was a large abscess behind the cæcum quite shut off from the general peritoneal cavity and the peritoneum where exposed was glossy and free from lymph. But from a clinical standpoint the case was indistinguishable from one of general peritonitis, with its great distension of the abdomen, loss of all abdominal movement and uniform tenderness. Whether his condition when I saw him was one of "peritonism" or of "peritonitis" I think no one can doubt that if left alone it would very soon have passed into a state of general peritoneal inflammation with a fatal termination. There was one feature of the case that was of very hopeful significance and that was his good pulse—under 100—and his bright cheerful mental state.

CASE 5. *Appendix gangrenous and perforated; limited intra-peritoneal effusion; operation on third day; secondary peritoneal abscess; fæcal fistula; recovery.*—A healthy, well-nourished girl, aged nineteen years, went to bed on Feb. 21st, 1897, feeling perfectly well; indeed, her friends had remarked that day how well she was. Her bowels had been acting regularly and she had taken only plain food, not in excess. She awoke in the early morning of Feb. 22nd with severe pain round the navel, then was sick and passed several motions, the first one formed, the later ones more fluid. Mr. Howard Barrett saw her at 12 noon of that day. She then seemed much better; the sickness had stopped, the pain was much less, and there was no marked abdominal tenderness or distension. A mixture of bismuth and soda was prescribed, with fluid food. In the early morning of Feb. 23rd the pain came on again very severely, with vomiting and when Mr. Barrett saw her at 7.30 A.M. she was evidently very ill. The temperature was 101 and the pulse 96. The abdomen was rigid and tender. One grain of opium was given and repeated at 12 noon when the temperature was 102°. At 5 P.M. the temperature had risen to 102·8°; the pain was less but the pulse was rather smaller. At 9.30 P.M. I saw her with Mr. Barrett. I found her lying on her side, with a good colour. She had just had one and a half hours' sleep, waking once with a spasm of pain. The tongue was a little furred. There had been no vomiting since midday. An enema had been given at 5 P.M. and had been retained. The abdomen was flat with rigid walls, the left rectus being as rigid as the right. There was movement in the upper half of the abdomen when she took a deep breath, but not in the lower half. She stated that the pain had been all over the abdomen and pointed to the upper part especially, but thought that then it was worse in the right iliac region. There was slight tenderness above the right groin but this was not at all marked. There was no swelling in this region. The liver dulness was normal. Nothing abnormal was detected by a rectal examination. Her last period—quite regular—had ceased a week ago. The temperature was 102° F. and the pulse 120. The diagnosis of acute appendicular peritonitis was made and it was decided that if her condition did not show a marked improvement next day an operation should be undertaken at once. She passed a quiet night with occasional paroxysms of pain; nothing passed from the bowel. On Feb. 24th, when Mr. Barrett and I saw her again, we found the lower half of the abdomen motionless and a little fallen; the whole abdomen was rigid and tender but both pain and tenderness were most marked at McBurney's point. The temperature was then between 101-102° and the pulse 120. We accordingly recommended operation and that evening, with Mr. Barrett's assistance, I opened the abdomen on the right side separating, not cutting, the muscles. I found the peritoneum was injected but still glossy. The appendix lay in the pelvis behind the ileum and about one and a half ounces of turbid and very offensive serum was lying around it and a large concretion was free in the pelvis; there were no peritoneal adhesions. The appendix was excised and the pelvis was wiped clean with sponges and the wound was closed around a large rubber drainage-tube. The proximal inch of the appendix appeared to be normal; beyond this was a narrow stricture of the lumen and the distal portion was dilated with a thin wall; the mucous membrane lining this dilated part was gangrenous and there was a large perforation of all the coats just on the distal side of the stricture. For the first two days all appeared to be going on well except that the temperature did not fall; then the patient complained of frequent paroxysmal pains, chiefly beneath the lower part of the left rectus muscle and the lower half of the abdomen remained tense and immobile. On March 7th there was a sudden profuse discharge of very offensive pus through the sinus. On March 10th, as the symptoms were unrelieved, an anæsthetic was given and with my finger passed into the wound I carefully broke down adhesions and eventually opened into an abscess cavity behind and above the pubes; this was washed out and drained. After this she slowly improved, the discharge lessened, and all symptoms of peritonitis disappeared. Unfortunately a fistulous communication formed with the cæcum, which delayed the healing of the wound. By the end of May the wound was firmly healed except for a pinhole fistula through which a minute bubble of gas occasionally passed.

The first noteworthy points in this case were the misleading improvement which followed spontaneously not only upon the first abrupt and severe onset of the symptoms but also upon the recurrence of acute symptoms twenty-four hours later. This led to an unfortunate postponement of the operation; had I operated when I first saw her I think this patient would have made a much more rapid and satisfactory recovery. For although at the operation there was no evidence of widespread infection of the peritoneum the subsequent course of the case showed that this had taken place. Case 10 is another example of a large abscess forming subsequently to an operation for general peritonitis. The explanation of such cases is that at the primary operation some outlying part of the peritoneal cavity is not cleansed and whilst it quickly gets shut off from the drained area by adhesions, behind these adhesions acute suppurative inflammation ensues. Such an abscess may burst into the drainage tube track if the separation between the two is slight, but if the separation is more extensive such a happy result is very unlikely to occur and the abscess if unopened by the surgeon may burst into a viscus or externally. These secondary abscesses should be opened as soon as ever their presence is recognised.

CASE 6. *Appendicular abscess; symptoms of general peritonitis; operation on the seventh day; progress satisfactory for six days, then sudden pain and collapse; death on the fourteenth day.*—This patient, a youth aged nineteen years, was seen in consultation with Dr. Wise, of Walthamstow. The lad had a severe attack of appendicitis in 1895 and subsequently three or four trifling recurrences. On Feb. 20th, 1897, when apparently quite well he was suddenly seized with severe pain in the abdomen followed by vomiting. Dr. Wise saw him next day and recognised the condition as acute appendicitis. On the 22nd the patient was worse with a temperature of 103° F. I saw him on Feb. 26th; he was then suffering great pain in his abdomen which was considerably and uniformly distended, motionless, rigid and tender. The percussion note was everywhere tympanitic except in the right iliac fossa where it was dull. The temperature was 101° and the pulse 108. The diagnosis arrived at was appendicitis with general peritonitis and an abscess in the right iliac fossa. I opened the abdomen on the right side; the small intestine was intensely injected, but the cæcum was empty and paler in colour. Behind and on the inner side of the cæcum was an abscess which I opened with the finger and let out about two ounces of very fœtid sero-purulent fluid. The appendix was lying in the wall of this abscess; it was drawn out of the wound and excised; after cleansing out the cavity the incision was closed around a large rubber drainage-tube. On March 4th Dr. Wise wrote to me: "He seemed to be going on very well until this morning. ...... His temperature had dropped to normal and his pulse was 80. He complained a good deal of flatulent distension. The wound looked well; there was a fair amount of discharge through the tube, which had on one day a bad smell. Last evening he had sharp pain in the abdomen and his pulse went up to 120, but his temperature was still normal. He died about four o'clock this morning. He was quite conscious till the last and did not vomit again. His bowels acted twice on the morning of Feb. 28th very satisfactorily." There was no post-mortem examination.

This case disproves the statement sometimes made that in recurrent appendicitis the successive attacks tend to become less and less severe. It is greatly to be regretted that the appendix was not excised in 1896 after the first recurrence. In the absence of a post-mortem examination it is impossible to state the exact cause of death; the fall of temperature to the normal, and particularly the normal pulse-rate, were taken to indicate an absence of peritonitis and of a second abscess.

CASE 7. *Appendix perforated; limited suppuration in the pelvis; persistent vomiting; apyrexia; operation on the third day; death.*—A woman, aged sixty-eight years, was under the care of Mr. Farnell, of Eastbourne. She was a delicate, "nervous" woman who had been in particularly good health just before the present illness, her only trouble being sluggish action of the bowels which was easily corrected by a small dose of aperient medicine. She had a good motion on the morning of March 5th, 1897; she went to bed very well that night, but soon woke up with acute pain across the abdomen and was sick. After a time she sat up in bed and then the pain became very severe. Mr. Rook saw her at 4 A.M. on March 6th and prescribed a dose of opium to be followed by a Gregory's powder. At 9 A.M. Mr. Farnell saw her; the abdomen was then full and tender; she was vomiting and the pain continued; the temperature was normal. As nothing was passed by the bowel a dose of calomel was given at night followed by castor oil and an enema in the morning, but all to no purpose; neither motion nor flatus was passed and the sickness persisted. These symptoms continuing unrelieved I was asked to see the patient on March 8th. I found she was not collapsed; there had been no rise of temperature all through the illness; the thermometer then registered 98·6° F. and the pulse was 100; the tongue was clean and moist. The abdomen was full, especially in its lower half, and tympanitic; its walls were not rigid although there was tenderness over the lower part—not more in one part than another. There was very frequent vomiting—the nurse stated that she had been sick "dozens of times that morning." The vomited matter was brown in colour, watery, offensive, and alkaline. Neither fæces nor flatus had been passed. The rectum was ballooned, but nothing else abnormal was felt from it. Gas and ether were administered and I opened the abdomen just to the right of the middle line. On passing my finger down into the pelvis on the right side, without breaking down any adhesions, some very offensive thick green pus welled up. I then delivered and excised the appendix; it was a long one and lay right across the pelvis. It was a long appendix with a very fatty mesentery; in its tip was a perforation. The pelvis was carefully sponged out and the wound closed around a tube. She died forty-eight hours later. In a letter written by Mr. Farnell on March 18th he says: "She was quite free from sickness and pain for six hours after the operation, then the vomiting recommenced and became constant, along with symptoms of complete obstruction. I have no doubt there was severe general peritonitis" (Farnell). No post-mortem examination was made.

The special interest in this case lay in its resemblance to a case of acute intestinal obstruction; the apyrexia, the very frequent vomiting, and the absence of all passage of fæces and flatus formed a picture more suggestive of intestinal obstruction than of a sudden perforation of the appendix with pus free in the peritoneal cavity, and the age of the patient—sixty-eight—was also more compatible with such a view. The pus evacuated was in odour, colour, and consistence just like that commonly found in a circumscribed appendicular abscess and was totally unlike the sero-purulent fluid met with in general perforative peritonitis. The operation failed in freeing the peritoneum from infective material and did not succeed in averting death.

CASE 8. *Appendix gangrenous, perforated; general sero-purulent intra-peritoneal effusion; operation on the third day; death.*—This patient was a very strong, healthy, muscular man, aged twenty-five years and single. He had always had his bowels open twice a day. He had often had pain in the right side of his abdomen at night, but had never paid any attention to it or been laid up by it. On March 18th, 1897, he returned home in the evening feeling "not quite the thing" and went to bed. He woke up about 2 A.M. with acute pain in the abdomen and was sick. A few hours later he was seen by Mr. Savery who found he had pain and tenderness in the right iliac fossa. Next day he was worse and as nothing had passed from the bowel an enema was given; this caused great pain and was returned without motion or flatus. The following night was a very bad one with severe pain and vomiting, and on March 21st I was asked to see him with Mr. Savery. I found him with a normal temperature (there had been no pyrexia all through), but a pulse of 130, small and of low tension. His tongue was dry with a thin fur; he had vomited three times during the day, the vomited matter being abundant, bilious, and not offensive. His abdomen was distended especially in the lower half and very tender just below the navel and in the right iliac region; the abdominal wall was immobile and the recti muscles were rigid. I could not feel any localised swelling and the whole abdomen gave a tympanitic percussion note. Micturition was frequent but painless; the urine was scanty and loaded with urates. The diagnosis of general peritonitis from infective appendicitis was made; his condition was considered to be very grave but it was decided to operate. I opened the abdomen on the right side; the peritoneal cavity contained a large quantity of offensive sero-purulent fluid and flakes of lymph were seen over the cæcum. There were no intraperitoneal adhesions; the intestines were distended. The appendix lay behind the cæcum; it was excised and then the peritoneal cavity was well flushed out with warm boiled water and the wound closed round a glass drain passed into the pelvis. Two concretions were removed from the peritoneal cavity, one the size of a large date-stone, the other much smaller. The appendix at its cæcal end was normal; about its centre was a large perforation at least an inch long, with sloughy edges, on the side opposite to the mesentery. On laying open the appendix the mucous membrane lining the distal four-fifths of the tube was necrotic. Unfortunately the operation was not followed by any improvement in the patient's condition; the bilious vomiting continued, the pulse gradually became more frequent and running in character, and death closed the scene next morning seventeen hours after the operation.

This was a typical case of "fulminating appendicitis," the form of the disease least amenable to treatment. The absence of fever all through the illness is especially noteworthy; this was both a misleading and an unfavourable sign. Had operation been resorted to at the very commencement of the attack or at any rate within twenty-four hours of the onset of acute symptoms it might have been successful.

CASE 9. *Appendix acutely inflamed; abundant sero-purulent peritoneal effusion; operation on fourth day (?); death.*—The patient, a man aged forty-two years, was under the care of Dr. Clabburn. He was a stout, active, but very gouty man. Three years previously he had had an acute inflammatory attack on the *left* side of the abdomen with the formation of a lump as of a left-sided appendicitis; from this he entirely recovered and all traces of the swelling had disappeared. He was in his usual good health until March 14th, 1897, when he experienced some abdominal pain which he could not distinctly localise; his medical attendant ordered him to keep his bed, to take only liquid nourishment, and not to take a purgative. By March 18th he was practically well. That night, as an enema had not acted sufficiently, he took a cascara pill which acted next morning (the 19th) and very quickly after this he was seized with pain in his abdomen so agonising that Dr. Clabburn not only gave him morphia under the skin, but administered chloroform until the morphia had time to act; soon after this he had a rigor, his temperature running up to 105°F. On March 20th chloroform was again given for the intense pain; the temperature was 103°. On March 21st the pain continued and half a grain of morphia was injected twice; his bowels acted; all this time there had been no sickness; his pulse was now 120 and running in character. I saw the patient about midday on March 22nd; he expressed himself as having been much easier during the last few hours; his tongue was clean and moist, his pulse was 132, soft and running, and his temperature was 98·4°. His abdomen was considerably distended; the muscles were rigid and immobile; there was great tenderness in the right iliac region much more than anywhere else; the note was tympanitic all over, but the liver dulness was not obliterated. The rectum contained fæces; nothing special was felt in the pelvis. The diagnosis of acute septic peritonitis starting probably in the appendix was made and although the patient's condition as showed by his pulse was a very grave one it was decided to operate. Ether was given by Dr. R. A. Farrar and I opened the abdomen over the appendix and immediately a quantity of stinking thin sero-purulent fluid escaped, the very fat omentum was acutely inflamed, and dirty grey lymph was smearing the cæcum; the appendix lay behind the cæcum and was excised; there were no intra-peritoneal adhesions. The abdomen was washed out with hot boiled water, sponged clean, and then the wound closed round a large glass drain. The patient bore the operation well, did not vomit, and was not collapsed after it. An hour later 10 c.c. of anti-streptococcic serum was injected under the skin of the epigastrium. Two hours later he was quite comfortable and free from pain, his pulse was fuller, his extremities were warm, and his face was of a good colour. The appendix was covered with lymph, not perforated or gangrenous, and no concretion was within it, but the mucosa was acutely inflamed. Next day there was some slight improvement and on the 24th the pulse was once as low as 80; that evening an enema was given and a copious stool was passed; the tympanites increased, however, black vomit set in, and quite early on the morning of March 25th he sank and died. No necropsy was made.

CASE 10. *Appendix gangrenous; buttery lymph on the peritoneum; operation on fourth day; secondary peritoneal abscess; recovery.*—A boy, aged fifteen years, was admitted to Middlesex Hospital on March 18th, 1897. The history of the case was that on March 7th he was seized with pain about the navel and in the right iliac fossa, but this was not severe enough to lead him to go to bed until March 15th, when it became very acute. During that day also he had three rigors and was sick; on the 16th he had another rigor and as his pain continued and he was obviously worse he was sent to the hospital. On admission I found him to be a delicate boy, evidently very ill, with pale face and anxious, pinched expression. The abdomen was distended and immobile, very tender all over, but most so over the right iliac fossa; there was no tumour to be felt through the abdominal wall; the rectum was found to be full of fæces and no proper examination of the pelvis could be made. The liver dulness was not obliterated. His temperature was 100·4°F. and the pulse was 130. The tongue was dry and furred. I diagnosed a gangrenous appendicitis and peritonitis not limited by adhesions and had the boy taken to the operating theatre at once. I opened the abdomen on the right side and found the intestines hyperæmic and covered with flakes of lymph. The appendix was found hanging down into the pelvis and when it was raised a quantity of sero-purulent fluid welled up from the pelvis. There were no intra-peritoneal adhesions. I put a ligature around the base of the appendix and removed it a quarter of an inch from the cæcum; it was a little dilated, acutely inflamed, and at one spot gangrenous; there was no concretion within it. The peritoneum was flushed out with sterilised water and a large glass drain was passed down into the pelvis. During the next three days the temperature gradually fell to under 99° and his pulse to under 100. There was no sickness, but the distension of the abdomen continued and stinking blood-stained serum was withdrawn through the tube. On March 25th the temperature began to rise and continued at about 101° till the 30th. On March 26th tenderness and pain were complained of in the left iliac fossa and a patch of dulness was found there. By March 30th this had increased and fluctuation was felt, so on that day an incision was made just below the tenth left rib and a collection of pus around the left colon was evacuated and drained. After this the boy gradually improved and he left the hospital on April 28th at the request of his father who was very anxious to have him home. I have since heard that he made a perfect recovery and is now strong and well.

This case resembles Case 2 in the long period that elapsed between the first onset of pain and the development of the acute symptoms. The repeated rigors were an unusual symptom. The changes in the appendix were not so extensive as in many of the cases; this may be connected with the absence of a concretion. At the time of the operation there was well-marked general peritonitis. As in Case 5 the flushing failed to cleanse one part of the serous sac and an abscess subsequently developed in the left loin and iliac fossa. Although the boy recovered, his convalescence was slow and this, I think, is always the case where peritonitis has advanced before operation so far as in this case.

CASE 11. *Appendix gangrenous and perforated; abundant sero-purulent effusion; operation on the fourth day; death.*—The patient, a lad aged fifteen years, was quite well on July 3rd, 1897, and started off for a ride on a bicycle, but he returned soon because he felt "poorly." Next day, however, he was quite well and on July 5th he had a long ride on a bicycle and made his dinner off buns. On July 6th he was sick all day, his bowels acted four times before noon, and towards night he had pain in the cæcal region. On the morning of July 7th he was seen by Mr. Rook, of Eastbourne; the temperature was then 101·4°F., the pulse was 88, and the respirations were 22; the lad complained of pain over the cæcum, the abdomen was full, with very little respiratory movement; there was great tenderness just above the right groin and up towards the navel; Mr. Rook was unable to feel any definite swelling. The patient passed a quiet day, with less pain and no sickness; nothing passed from the bowel; at night his temperature was 103°, the pulse was 108, and the respirations were 25. The night, however, was a bad one; he had but little sleep, was repeatedly sick, and next morning (July 8th) Mr. Rook found the abdomen fuller, the temperature 99·4°, the pulse 92, and the respirations 24. He continued to vomit all that day and nothing passed from the bowel; at night the temperature was 100·4°, the pulse was 90, and the respirations were 25. I saw the patient at 6 P.M. on July 9th. His abdomen was tense and motionless and tender all over; he had been repeatedly sick during the day, the vomit being bilious in character. His pulse was 130, small and compressible. We diagnosed general peritonitis from a perforated appendix and regarded his condition as very grave indeed, but advised operation as affording a slight, and the only, chance of recovery. I opened the abdomen over the appendix and at once a large quantity of foul sero-purulent fluid escaped. There were no adhesions in the general peritoneal cavity. The appendix was acutely inflamed and presented at its extremity a large sloughy perforation; its lumen was full of very foul thick grey pus. I put a ligature around its base and excised the appendix. I then washed out the whole peritoneal cavity with warm sterilised water and brought away a considerable quantity of pus. I left two glass drains in the peritoneal cavity. Soon after he was returned to bed he vomited; his extremities were cold; he had a quiet night with much less sickness, but became very delirious next morning and died rather suddenly twenty-two hours after the operation.

At the onset of the disease in this case there was diarrhœa for a few hours and more than the usual amount of sickness, but there was no pain; this is the only case of the series in which pain was not present at the outset. Throughout the case vomiting was very frequent and being associated with absence of all passage from the bowel after the first few hours, and gradually increasing distension the case was one of those liable to be mistaken for intestinal obstruction. In several of its features it resembles most closely Case 8; in each case operation was resorted to too late to be of avail.

CASE 12. *Appendix gangrenous and perforated; no lymph or fluid in the peritoneal cavity; small extra-peritoneal abscess; operation on the third day; recovery.*—The patient, a boy aged ten years, was admitted to Middlesex Hospital on Oct. 20th, 1897. He seemed to have been quite well until

2 A.M. on Oct. 18th, when he awoke with pain in his abdomen, vomited several times, and passed a loose motion. Dr. Wheeler saw him in the evening of that day and found his temperature 101° F. and the boy complained of much pain and tenderness in the cæcal region. All next day (Oct. 19th) he continued in pain and suffered from nausea; his temperature rose to 103°. On the afternoon of Oct. 20th it rose to 104° and as the boy was obviously worse he was sent to the hospital. On admission he was found to be a thin pale lad, evidently very ill, with a pained, anxious expression; the temperature was 103·6°, the pulse was 130, and the respirations were 36. The abdomen was rigid and did not move in respiration; its lower part was somewhat distended. The whole abdomen was tender, but the tenderness was very acute in the right iliac region; the boy also pointed to the right loin as a very painful part. The rectum was full of fæces and nothing could be felt through it. I could not make out any distinct lump in the cæcal region. I regarded the case as one of acute inflammation of the appendix with perforation and infection of the general peritoneal cavity, and determined to operate at once. When the anæsthetic was given the abdomen became much flatter and softer and then a very slight swelling or sense of fulness could be made out over the cæcum. I made an incision two inches in length through the skin and superficial fasciæ and split the three abdominal muscles and divided the transversalis fascia. The subserous fascia was very œdematous and on picking through it a bead of pus appeared at the outer part of the wound. On following this up I opened a small abscess which held about two drachms of thick indol-smelling pus and lay entirely outside the peritoneum and behind the cæcum. This was washed clean and then the peritoneum was divided. The appendix was exposed, lying to the outer side of the cæcum; it had a very short mesentery and was entirely intra-peritoneal; its distal half was intensely inflamed, its proximal half was dilated and filled with offensive pus, and the mucous membrane lining it was gangrenous. There were three perforations of the appendix. I ligatured the appendix close to the cæcum and cut it off close to my thread. There was no lymph or pus in the peritoneal cavity and the cæcum was not injected. There were no adhesions around the appendix which lay quite free in the general peritoneal cavity. Two tubes were placed in the wound—one in the peritoneum and the other in the abscess cavity. The boy made a very good recovery. On Oct. 25th the peritoneal tube was removed, and the other one the next day. Although the sloughing of the appendix appeared to extend quite up to the cæcum no fæcal fistula formed and the lad left the hospital with the wound soundly healed in November.

I have included this case in my list because, as in most of the others, an acutely inflamed, gangrenous, and perforated appendix lay free in the general peritoneal cavity not shut off by any limiting adhesions. Clinically it resembled exactly several of the others, especially Cases 1, 2, and 5. Pathologically, however, it stands alone, for around this perforated and sloughing appendix there was no inflammatory effusion, but a clean dry peritoneum; while, on the other hand, there was a small extra-peritoneal abscess. In this fact lies the chief interest of the case. All now recognise the intra-peritoneal origin of perityphlitic abscesses. Thus Treves[1] writes: "Abscesses resulting from mischief in the cæcum or appendix are primarily intra-peritoneal and are encysted forms of suppurative peritonitis. Inasmuch as the cæcum and vermiform process are normally entirely surrounded by serous membrane any inflammation extending from them must first implicate the peritoneum." Dr. H. P. Hawkins in his "Diseases of the Vermiform Process" adopts the same view, but admits that it is "possible for an extra-peritoneal suppuration to arrive from disease of the appendix" either from extension of the necrosing process through the peritoneum which covers the iliacus muscle or "when the appendix is adherent to the iliacus peritoneum a perforation of it on the adherent side may lead directly to inoculation of the retro-peritoneal tissue, so that a large abscess may form in the iliac fossa with little or no affection of the peritoneum." My case is peculiar because the extra-peritoneal abscess was not formed in either of these ways; the appendix was not adherent anywhere, nor was the iliacus peritoneum inflamed, much less perforated. The condition of the parts at the operation was so plainly seen and so distinct that I think I am entitled to say that in this case there was no error of observation such as explains the older records of extra-peritoneal perityphlitic abscess. The explanation of the fact I think is this, the lymphatics must have carried away all the infective material so rapidly and completely that no development of bacilli coli could take place within the peritoneal cavity, but in the lymphatic plexuses outside the peritoneum the bacilli accumulated multiplied and excited suppuration. In other words the scavenging of the peritoneum was too perfectly effected for inflammation to occur. In support of this view is the fact that in spite of the presence of an appendix with three perforations in it no escaped matter and no exudation of any kind was found around it. A somewhat analogous condition is quite commonly met with in secondary infective abscesses in other parts when a more or less extensive area of healthy tissue intervenes between the point of inoculation and the secondary abscess in the cellular tissue.

The cases, I hope, tell their own story and I need add but little to the brief comments on each. Pronounced vomiting was a very marked symptom in two of the fatal cases (Cases 7 and 8) and was not a troublesome symptom in any of those that recovered. I regard frequent vomiting as a very grave symptom; it is generally recognised as a sign of affection of a wide area of the peritoneum.

The mode of cleansing the peritoneal cavity should be varied with the conditions found at the operation. If the effusion is limited to the immediate neighbourhood of the appendix careful and gentle wiping with a sponge is the best means to employ, but where a more general effusion is found a thorough flushing out of the cavity with a sterilised and non-irritating fluid is the best method. I prefer a drainage-tube to a gauze tampon. Glass tubes are certainly not indispensable and are only superior to rubber tubes in those cases in which the pelvis has to be drained. Rubber tubes should certainly be used for draining the iliac fossa. I prefer a single large rubber tube to two of smaller calibre.

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[1] The Surgical Treatment of Perityphlitis, second edition, p. 22.

CONSUMPTION, A "FILTH DISEASE."[1]

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SIR JOHN SIMON, in his admirable account of the class of complaints which he brands as "filth diseases," attributes them mainly to two "gigantic evils" in the sanitary government of England: "First, the omission (whether through neglect or through want of skill) to make due removal of refuse matters, solid and liquid, from inhabited places"; and, "second, the licence which is permitted to cases of dangerous infectious disease to scatter abroad the seeds of their infection." He calls attention especially to the class of "diarrhœal" diseases, such as diarrhœa and dysentery, cholera, and enteric fever, and he regards the last-named as "the very type and quintessence" of all the diseases which are attributable to filth. He says: "Though sometimes by covert processes which I will afterwards explain, yet far oftener in the most glaring way, it apparently has an invariable source in that which of filth is the filthiest; that apparently its infection runs its course, as with successive inoculations from man to man, by the instrumentality of the molecules of excrement which man's filthiness lets mingle in his air and food and drink."[2] "There are houses, there are groups of houses, there are whole villages, there are considerable sections of towns, there are even entire and not small towns, where general slovenliness in everything which relates to the removal of refuse matter, slovenliness which in very many cases amounts to utter bestiality of neglect, is the local habit" (p. 463).

Phthisis is not included in the list of "filth diseases" and the omission was certainly intentional; for whilst Sir John Simon admits that foulness of air due to non-removal of the volatile refuse of the human body is strictly within the physiologist's definition of filth, yet for the purpose of the report the question of overcrowding is set aside as distinct and the word "filth" is used only in that sense which suggests subject matter for sewers and scavenging. Notwithstanding this arbitrary definition, however, it may be contended that, in spite of all reservations, phthisis comes rightly within the class of filth diseases and the eminent writer of the report would probably be one of the first to acknowledge this. What, in fact, can be conceived as more fitted to come within the designation of filth than the loathsome excretions from the lungs of phthisical patients? And what can better illustrate "utter bestiality of neglect" than the habit of voiding these excretions on the floors or on the ground of any place in which these patients may find themselves? The material of this expectoration contains, as is well known, myriads of the "seeds of infection." If this falls upon congenial soil it retains its vitality for long periods of time, even increasing in virulence if it is allowed to remain in this environment long enough for fresh colonies of the microbe to form. It may also dry up, may become powdered into tuberculous dust, and may then be wafted into the air to be breathed into the lungs of susceptible persons or to be deposited in milk or in other foods and may thus pass into the bodies of children or delicate persons predisposed to the reception of the disease. In one or another of these ways it comes strictly within the description given of a filth disease and in its effects it is infinitely more deadly than enteric fever, the "type and quintessence" of these disorders.

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[1] A paper read at a meeting of the Bournemouth Medical Society on Nov. 10th, 1897.

[2] Public Health Reports, vol. ii., p. 459.

There are, in fact, many points of resemblance between tuberculous disease and enteric fever. The specific organism in each is a bacillus, remarkably long-lived in suitable surroundings, but easily deprived of its virulence by the action of sunlight. They are both "facultative saprophytes"—that is, though they are ordinarily parasites they can exist and even grow outside the body in the presence sometimes of very small portions of organic matter. Neither disease is directly infectious. They both spread by means of the excretions from the body: phthisis chiefly by the intervention of "tuberculous dust" conveyed into the lungs by the medium of the air, enteric fever chiefly in drinking-water, by which means it passes into the intestines. Both diseases may, however, be conveyed either by air or by articles of food or drink.

It is not necessary to lay stress upon the similarity between the lesions produced by these diseases, but it may be incidentally pointed out that Villemin showed that tuberculosis shares with syphilis, glanders, and enteric fever the character of forming "caseous" material. In his Gulstonian Lectures on Tubercle also Dr. Southey showed that typhoid lymphomata are very like tubercle both in their composition and their course affecting similar parts and leading to like lesions. He places tubercle between cancer and these other lymphomata. It is significant of the likeness between phthisis and enteric fever in respect of their derivation from filth that in this country both complaints have greatly declined in frequency since the general improvement of drainage and water-supply. In the last sixty years phthisis has been reduced to one-third of its former prevalence and enteric fever to one-fourth or less.

It is of so much importance that the connexion between phthisis and filth should be clearly recognised that it will be well to advert briefly to the other evidence which is forthcoming to prove the fact. This evidence is of two kinds—(*A*) statistical and (*B*) experimental.

(*A*) *The statistical evidence.*—1. The returns of the Registrar-General prove that phthisis has declined from over 3800 per 1,000,000 in 1838 to 1380 in 1894. This is a reduction of about 2500 per 1,000 000 annually or a saving of an army of 75,000 lives in a year, or nearly three-quarters of a million in a decade. This great improvement has probably been brought about mainly by the better hygienic conditions of the people, especially as regards subsoil drainage, better dwellings, cleanliness, food and clothing, &c.—in other words, by a diminution in the amount of filth of various kinds. 2. This view is supported by an analysis of these returns showing the distribution of the disease in overcrowded, unsanitary areas and its incidence upon certain portions of our large towns, its chosen sites being the crowded, shut-in courts and alleys, the back-to-back houses, and the one- or two-roomed tenements where all kinds of filth, but especially air-sewage, abound. 3. That this incidence of the disease is not due simply to poverty or to the poor constitutions of the inhabitants or to bad food or exposure to the elements or to climate is amply proved by the army and navy returns from all parts of the world. These returns refer exclusively to men who have been chosen from amongst the general population expressly for their health and strength; and it has been proved by Dr. Welch and others that they are less hereditarily predisposed to the disease than the rest of the community. The report of the Army Sanitary Commission shows that in soldiers the excessive mortality from phthisis was mainly due to the "bad ventilation and the imperfect drainage of the barracks" in which they were compelled to live at all the stations to which these British troops were sent. Similar conclusions are also to be drawn from the Navy Medical Returns. 4. That the disease is not due, however, to ordinary filth is sufficiently proved by the immunity of the fishermen of St. Kilda or of the St. Lawrence River, who live in vile surroundings, their huts being more like pig-sties than human habitations; and the same fact comes out in the history of many a savage tribe. 5. A specific form of impurity is needed; and that this impurity is the peculiarly nasty product of phthisical expectoration is clearly shown by the statistics relating to the German nursing orders collected and published by Dr. Cornet. No one studying these statistics can fail to come to the conclusion that infection from the sick to the healthy had taken place through the medium of tuberculous dust produced by the drying up and grinding into powder of the excretions of tuberculous people. The special incidence of the disease upon the novices employed to sweep the floors would almost suffice by itself to point to its source of origin. 6. But there are indications in these and other statistics that the specific germ needs a special food and environment either to preserve its existence or to enhance its virulence. The dirty, ill-lighted, ill-ventilated convent cells were evidently peculiarly favourable to the tubercle bacillus, and a similar conclusion must be formed from the report of the Army Sanitary Commission and from the many other returns from public institutions, prisons, reformatories, &c., which are given by Parkes in his work on Hygiene, by Hirsch in his "Medical Geography," and by others. 7. Lastly, statistics compiled by Bowditch and Buchanan, by the Registrar-General for Scotland, by Haviland and others show the influence upon the virulence of the disease germ of emanations from a badly drained, impervious subsoil. These observations show at least the probability that certain special forms of impurity have an influence in promoting the infectiveness of the specific germ.

(*B*) *The experimental evidence.*—Experimental researches have added weight to the conclusions to be drawn from statistics. (*a*) We have the observations of Villemin, Schottelius, and others to show that tuberculous material inhaled with the breath or ingested in food or in milk will convey the disease to animals and that it can also be inoculated under the skin. These researches show at any rate that this form of filth can produce the disease. (*b*) Professor Koch also, as the result of his exhaustive inquiries, came to the conclusion that tuberculous sputum dried up and ground into dust is the most common and most potent of all forms of infective material, and on a review of all the facts it is difficult to frame any other opinion. Cornet, indeed, by researches subsequent to those already mentioned may be said to have proved this point by inoculating guinea-pigs with the dust from rooms, &c., and thus producing tuberculosis. (*c*) Experimental evidence is likewise forthcoming to indicate the nature of the special organic impurity which keeps alive the bacillus of tubercle. By means of some researches carried out in the years 1889 and 1890 with the assistance of Professor Dreschfeld, of Owens College, Manchester, I was able to show that the air of a poor cottage in Ancoats, with poor ventilation and undrained basement, in which several cases of phthisis had occurred, was able to preserve unchanged the virulence of tuberculous sputum for two or three months at least, but that the same sputum exposed freely to air and light in a hospital for phthisical patients and also in a well-lighted, well-drained, and well-ventilated house entirely lost the power of communicating the disease to guinea-pigs by inoculation. A further research carried on in 1894 in conjunction with Professor Delépine proved that less than two days' exposure to air and light with only one hour of sunshine was sufficient to destroy the virulent power of tuberculous sputum when it was exposed in a clean, well-drained, well-lighted house. Evidently in the air of the Ancoats cottage there must have been some form of organic impurity favourable to the life of the bacillus.

(*d*) During the present year (1897) I have been able to demonstrate the character of some of the substances thus capable of promoting the vitality of these "seeds of infection." A vast number of substances have been tried as cultivation media of the bacillus and Beck and Proskauer have shown that in the presence of glycerine most nitrogenous bodies are capable of sustaining its growth at the body temperature. No attempt, however, seems to have been made to test in this respect the influence of the substances most likely to be met with by the organism in its usual habitats and at ordinary temperatures. From a review of the statistical evidence it seemed most probable that some form of impurity commonly present in the air of unsanitary dwellings would be likely to prove a favourable medium of cultivation. A series of experiments was therefore undertaken with the object of testing this point.[3] The materials chosen for trial were: The condensed vapour from (1) healthy breath; (2) phthisical breath; (3) cellar air (Southampton); (4) cellar air (Bournemouth); (5) a weaver's shed (Blackburn); and (6) pure ground air. These fluids were all carefully sterilised and various substances were used as the supporting medium upon which to sow the seed, such as simple glycerine agar, potato, pure filter-paper, lining wall-paper. All these substances were also sterilised and kept soaked in the fluids mentioned. All the fluids proved to be excellent cultivating media with or without the addition of a small percentage of glycerine. (*e*) These experiments were carried on at temperatures of from 35° to 37° C., but they were all repeated at a temperature of about 20° C. in order to learn whether the usual conditions of many cottage homes would suffice to keep the bacillus alive in these media. In a large proportion of instances these latter experiments were also fairly successful and it was thus proved that the virus of tubercle could be kept alive and could even grow under these conditions. There is now certainly nothing extraordinary in these results. Professor Koch indeed asserted, on the basis of his own experiments, that the bacillus of tubercle is a true parasite and that it could only be cultivated at, or near, the temperature of the human body; that it could not therefore have a saprophytic existence or live and grow at the ordinary temperatures of cottage dwellings. Other observers, however, notably Sir Hugh Beevor, Dr. Kantback, and Professor Delépine, have succeeded in cultivating the microbe on potato at comparatively low temperatures, and, as mentioned above, I have myself been successful with the media which I have employed. It may then be now regarded as certain that the bacillus can grow outside the body whenever it can get hold of a sufficiently impure soil and whenever its activity is not interfered with by the adverse conditions of abundant air and daylight. The filth-origin of the germ of phthisis and the sustaining influence of external filth upon its further growth may therefore be taken as proved.

The conclusion that phthisis is a filth disease is not likely to pass without protest from those cleanly people whose families have suffered from the complaint. They will feel it to be a slur upon their reputation and will ask wherefore it should come nigh their wholesome dwellings? The truth is that both enteric fever and phthisis have the power of operating at a distance. Sir John Simon says with reference to the former: "Filth does not only infect where it stands, but can transmit its infective power afar by certain appropriate channels of conveyance. ...... Thus it has again and again happened that an individual house, with every apparent cleanliness and luxury, has received the contagium of enteric fever through some unguarded drain inlet, or that numbers of such houses have simultaneously received the infection as an epidemic in places where the drain inlets in general have been subject to undue air-pressure from within the sewer. It has again and again happened that households while themselves without sanitary reproach have received the contagium of enteric fever through some nastiness affecting (perhaps at a considerable distance) the common water-supply of the district in which they are" (p. 465). He instances the case of Windsor when the highest persons in the land were affected and the cases of Croydon and Worthing. Much the same may be said of phthisis, from which complaint many have suffered whose houses are above reproach, though it may be doubted whether there are not many even of the luxurious homes of the rich where air sewage is not merely allowed to remain, but where it is even closely stored up by the precautions taken against cold and draught. Even where there is an abundance of fresh air and sunlight is it certain that the inmates of these perfectly hygienic houses never visit places where the specific forms of filth are to be found in abundance and in full possession of all their virulence? What are we to say of many of the places frequented by these otherwise happily situated individuals? What of the constantly attended places of public resort? What of the theatres, concert-halls, assembly rooms, churches, chapels, &c.?

Theatres as at present constructed are often mere death-traps to delicate, susceptible people. These so-called temples of the Thespian art are often charged with many different forms of pathogenic microbes ready to flourish into disease when they meet with congenial soil. They are nightly filled with people some of whom at least are in one or another of the stages of phthisis, and though perhaps many of them are too well bred to expectorate upon the floors others are not so particular and nearly all carry about with them handkerchiefs laden with tuberculous material. The halls and passages and galleries of these places and even their auditoria are seldom if ever visited by the rays of sunlight and their atmospheres are overcharged with carbonic acid and ammoniacal or sulphurous vapours. They are imperfectly ventilated, chiefly in many cases by the spent and disease-laden air from the stage and wings where the employés are still more liable to be in advanced stages of phthisis and where they are still less likely to abstain from spitting upon the floors, scenery, &c. They are true hotbeds and forcing grounds in which may be kept alive and even cultivated the germs of tuberculous and other diseases.

Concert halls and assembly rooms are in little better case than theatres in respect of their appliances for ventilation, for cleanliness, and for the admission of sunlight.

What again shall we say of churches and chapels and other places of public worship? Is it not notorious how badly they are ventilated and how little their "dim religious light" can do to disinfect the germs of disease? Let anyone gifted with an ordinary sense of smell or who knows what fresh air means enter almost any of these assemblies for public worship, even after only a short service, and let him describe the atmosphere he will meet with on entering. It is charged with "air sewage" of the vilest quality, the imperfectly removed emanations from hundreds or thousands of human bodies. There is probably less visible filth than in places of amusement; but even here there can be no doubt that there is plenty of tuberculous dust floating about in the air and the conditions it finds there are well calculated to keep it alive and to preserve its virulence. Here again therefore we have an important source of danger to the individuals whose case we are now considering. There is also danger in closely shut up and badly ventilated vehicles such as omnibuses and railway carriages; and, in fine, we have not far to look for sources of phthisis in most of the haunts of ordinary so-called civilised life. It cannot be said, therefore, that any direct blame attaches to the families of those who have fallen victims to phthisis. The opprobrium rests rather with the supreme health authorities and with the general public for allowing places of public resort to remain in such a condition as to be a serious source of danger to their frequenters. It is a public scandal that places of amusement and our temples of worship should be allowed to remain without adequate ventilation and without frequent and periodical purification.

It is possible that, owing to the terms in which I have described the dangers arising from places of public assembly, I may be accused of attempting to increase the "scare" of infection which at present undoubtedly possesses the public mind, but this is very far from my intention. I believe that in temperate climates direct infection from patients is one of the rarest events. It is only when tuberculous filth is scattered about in places fitted to keep alive the bacillus that infection becomes probable and it is therefore against the retention of gross impurities in the air that the above remarks have been written. I have elsewhere given my reasons for concluding that in well-kept, cleanly, well-aerated, and well-lighted dwellings[4] there is little, if any, danger of infection from phthisical persons. On the other hand, I believe strongly in the danger of infected, insanitary houses and even infected areas, and it has been owing to that conviction that I have ventured to raise a protest against the filthy habits of communities and against the vile condition of our public assembly rooms under which infection from phthisis is only too likely to take place.

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[3] This research was communicated to the Royal Society on Nov. 25th, 1897 (see Proceedings of the Royal Society).

[4] On the Limits of Infection by Tubercle. (Cornish, Manchester.)

It will be gathered from what has been said that in my opinion it is not the person of the phthisical subject that is to be dreaded but the conditions under which he lives. It is true that, like the typhoid fever patient, he is the source and origin of the infective material, but he is not himself directly infectious. In the case of enteric fever it is well known that if proper care is taken to disinfect and to dispose of the excreta there is no risk of infection to the attendants, and the same immunity can be claimed under this condition for the nurses of phthisical persons.

The measures to be adopted in order to prevent the spread of phthisis are indeed very similar to those required for staving off an epidemic of enteric fever with this difference, that instead of paying especial attention to drains and sewers and to the condition of the drinking-water it is the purification of the air, the admission of sunlight, the drainage of the subsoil, the provision of damp-proof courses and concrete basements that must be chiefly attended to for the prevention of phthisis. The means which are used and which have been to a great extent successful for the suppression of enteric fever are—(*a*) notification of disease, (*b*) disinfection of excreta, (*c*) hospital treatment, and (*d*) general sanitary measures. Similar methods, with certain modifications to suit the differences between the conditions of the disorders, must be adopted for the suppression of phthisis. Thus (*a*) the notification of phthisis can hardly be made compulsory as in the case of enteric fever. Phthisis usually runs a much more chronic course than typhoid fever; it is not unfrequently difficult to make an accurate diagnosis; and the announcement of its presence would be regarded by many as a blot upon the family escutcheon, especially among the upper classes of society. Notification amongst these classes would indeed be almost useless since no medical officer would interfere with the private medical practitioner, and we may be sure that for their own sakes these families would take every care to prevent the spread of infection. In Manchester a plan of procedure was formulated a few years ago at a meeting, called together at my suggestion, of the medical officers of the Hospital for Consumption, some of the physicians of the Royal Infirmary, and Dr. Tatham, then the medical officer of health of Manchester. It was proposed that the medical officer of health should send to the medical men then present, and to any others willing to carry out the modified notification, post-cards addressed to himself, which should be filled up with the names and addresses of phthisical patients in whom the disease had advanced as far as excavation or in whose sputum bacilli had been detected. Only those cases were to be reported which were likely to spread infection owing to the state of their dwellings or to want of means or of will, to disinfect. These cards were to be countersigned by the patients themselves. On his part the medical officer of health promised to send to these people carefully drawn up papers of instructions stating the precautions to be taken with the sputum or other excreta and directions as to ventilation and admission of sunlight. He also offered to disinfect free of charge any dwelling likely to be a source of danger. This plan of campaign was adopted both in Manchester and in Salford and was to some extent carried out not only in these towns but in the surrounding district. It was also unanimously approved of by the north-western branch of the Association of Medical Officers of Health.[5] (*b*) Destruction of the bacillus in the excreta must be carried out by 1 per 500 solutions of corrosive sublimate, by fire, or by sluicing away the already disinfected excreta into the sewers. Infected houses must be treated by brushing over all surfaces with 1 per cent. solutions of chloride of lime according to Professor Delépine's directions. (*c*) Although in so chronic an ailment hospital accommodation cannot be provided for all the cases likely to require isolation yet it would undoubtedly be a great benefit both to the sufferers themselves and to the general community if all who were without proper lodging and accommodation or who were unable themselves to take proper precautions could be received for treatment into fitting homes. May we not hope that in the near future local authorities will see the importance of establishing in connexion with fever hospitals wards for the reception of all such cases? It is much to be regretted that the funds formerly so lavishly provided for the segregation of lepers are not now available for the treatment of the strictly analogous disease, tuberculosis. (*d*) The last of the measures to be directed against the spread of these "filth diseases"—namely, sanitary reform—is also probably the most important. We know how efficient it has been against enteric fever, and it is probable that when it is once fairly directed against tuberculosis it will be equally successful. Already the simple measures of improved drainage, better house accommodation, better food, &c., which have diminished the death-rate from enteric fever, have had some effect upon the mortality from phthisis, reducing it by nearly two-thirds, as I have already pointed out. Some more special means will, however, have to be adopted if the remaining third of this mortality is to be abolished. Particular attention will have to be paid, as we have seen, to the condition of the air in all places of public assembly and a much higher standard of ventilation will have to be ensured in all workshops, weaving sheds, and in all rooms occupied by working people. It is much to be desired that the standard recently proposed by the Home Office Committee on Cotton Cloth Factories, of which I was a member, could be applied to all places where manual labour is carried on. Again, "air-sewage" must be promptly carried away or destroyed in all the densely populated recesses of our towns and in order that the natural enemies of the tubercle-bacillus—fresh air and sunlight—may have free scope to act local authorities will everywhere be obliged to carry out extensive works of re-construction and will have to put in force the strongest powers they now possess for preventing the pollution of the atmosphere by smoke or noxious vapours; they must open out all confined areas, must destroy all insanitary house property, and must provide ample lung space in the shape of public parks and playgrounds. It would be well also if all towns would follow the enlightened policy of Liverpool and London and obtain powers for securing that an adequate space shall be left around all houses or buildings in the future and that ground air shall be excluded from buildings by efficient concrete basements, damp-proof courses, &c. Owing to the recognition of the fact that enteric fever can be stamped out by attention to the water-supply and by the proper disposal of abdominal excreta this disease has now come to be regarded as entirely preventable and its presence is felt to be an opprobrium upon the sanitary management of the community. If it could be made plain to men's minds that phthisis is likewise essentially a "filth disease," and if the means of disposing of the "air sewage" from which it springs could be clearly shown to the people, its presence as an endemic in any community would quickly come to be equally regarded as an opprobrium and the disease would soon be as great a rarity as leprosy.

Bournemouth.

CASES OF URETERECTOMY AND NEPHRO-URETERECTOMY—PARTIAL AND COMPLETE.

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WHEN performing nephrectomy if the ureter is found to be dilated and suppurating, as it often is in calculous and some other affections, or is in a condition of tuberculous ureteritis it ought to be removed in part or to the whole of its extent. Ureterectomy partial and complete is, in fact, an important adjunct to nephrectomy and may be performed either at the same time or subsequently according to circumstances. If done as a primary operation it prevents the formation of a fistula which otherwise would follow nephrectomy for some forms of pyonephrosis or tuberculous disorganisation of the kidney. As a secondary operation it is required when a discharging fistula persists due to ureteral disease and not to a suppurating "foyer" in the retro-peritoneal cellular tissue. By ureterectomy is thus meant not the excision of an inch or so of the tube in the course of a plastic operation on the renal pelvis or ureter, but the removal of a great part or the whole of it for conditions which nephrectomy alone cannot cure and sometimes is not able even to alleviate. Other circumstances being the same the operation is distinctly easier in the male than in the female; in the latter the ovarian and uterine vessels and the broad ligament complicate the process of exposing and removing the pelvic portion of the ureter. In the male there is nothing in the way and the pelvic part may be as easily removed as the abdominal. The operation is entirely retro-peritoneal.

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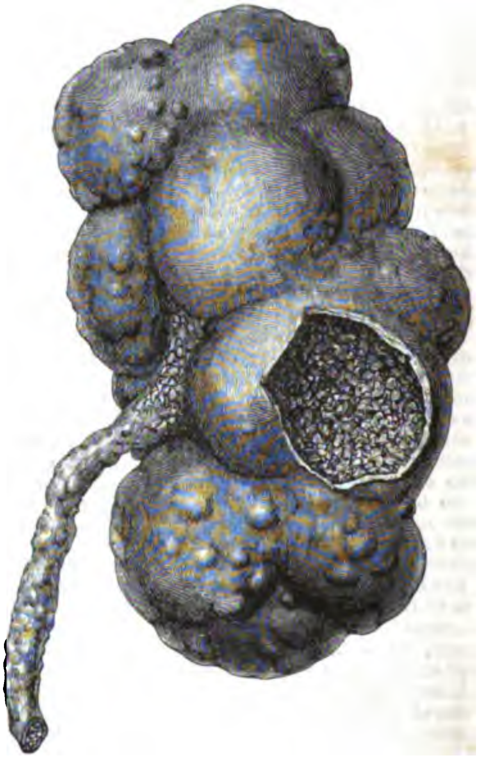
[5] A somewhat similar scheme has also for the last year or two been carried out in New York. (See report of the medical officer of health.)

Future experience will show whether tuberculous ureteritis may be brought to a check by removing several inches of the tube together with the kidney when the latter is the primary seat of the disease. Opinions differ as to the effect of thus putting an end to the physiological function of the ureter. My experience up to the present seems to point to the probability of this being in some cases the result of nephrectomy combined with the removal of so much of the ureter as is contained within the abdomen proper and the first part of the pelvis. The abdominal is of course the portion of the ureter first and most extensively affected in descending tuberculous ureteritis and if it be found that partial ureterectomy—as low down, for instance, as the posterior fold of the broad ligament—suffices to stay the progress of the disease in the lower part of the ureter there will but rarely be occasion to perform the more difficult part of complete ureterectomy in the female—namely, the removal of that portion which is within the layers of the broad ligament. In the male when the disease extends low down along the tube it will always be as well to remove the ureter as near the bladder as possible. The additional amount of time required for, or of shock following, ureterectomy when done at the same time as nephrectomy is but slight if the ureter can be tracked down from the kidney; but if this is not possible, as the search for the ureter on the detached peritoneum or in the cellular tissue on the psoas is often difficult, ureterectomy will sometimes best be postponed for a subsequent operation.

In the first of the three cases here recorded—one of tuberculous disease of the left kidney and ureter—nephrectomy with primary partial ureterectomy was performed. In Case 2 secondary partial ureterectomy was done: and in Case 3 complete ureterectomy was effected together with the removal of the remnant of the kidney, the upper third of the organ having been previously removed for tuberculous disease. In other cases, before and since the date of the operation on Case 1, I have performed primary partial ureterectomy chiefly for tuberculous disease and in one case for traumatic rupture, removing the ureter as low down as the brim of the true pelvis. I have selected for publication the notes of the first case because it is the only fatal one amongst them and also because there is a woodcut (Fig. 1) of the specimen which shows (1) the extremely lobulated outline of the organ which was converted into a conglomerate mass of distinct sacs, each of which was filled with a peculiar pale greenish coloured and very soft putty like material, and (2) the marked calcareous change which the ureter had undergone. The cause of death was acute bronchitis and heart failure and might have happened just the same if no operation had been performed. In other cases the ureter had suffered in a similar but less extreme way; in other cases again the ureter dilated and tortuous was filled with semi-fluid tuberculous material and urine, but with walls otherwise unaltered. In one case since dead of tuberculous lungs the diseased ureter was surrounded by a tuberculous abscess in the iliac fossa. In a specimen of kidney and abdominal portion of ureter removed quite recently the kidney was in a state of very advanced tuberculous pyonephrosis of about six years progress, but the ureter itself had not become invaded by the disease. The history of patients together with microscopical examination of the ureters after removal prove how slowly in some cases tuberculous disease when primarily attacking the kidney extends to the ureter. Case 2 is a very remarkable instance of what may happen when the whole of the renal capsule is left behind after intracapsular nephrectomy, more especially, perhaps, if the ureter connected with it is the seat of disease. It is, however, the only case in which I have known the same thing to occur. I have many times in the course of nephrectomy left large portions of the renal capsule behind when toughly adherent to the surrounding structures, but in these cases I have made it a rule after shelling out the kidney to trim off as much of the capsule as I safely could without wounding the colon, peritoneum, diaphragm or neighbouring solid organ. Sometimes nearly the whole of the capsule can thus be removed after the kidney has been taken away. In Case 2, however, the adhesions were so firm and so universal that I would not attempt its removal at the first operation, and when excising it at the second operation it was necessary to take extreme care of the colon, whilst the peritoneum actually suffered in several places. Case 3 raises the interesting and important question of resection of a portion of a kidney when the seat of limited tuberculous disease. The opinion has been expressed that in this form of renal affection if the opposite kidney is known to be healthy it is best to perform complete nephrectomy even though the tuberculosis of the affected kidney is very limited in extent. I do not myself share this opinion for the results in cases in which I have scraped out tuberculous abscesses or removed multiple wedges of kidney tissue when the seat of tubercle encourage me to view with favour the conservative practice adopted by Mr. Swain in this case. It is probable from the variations of the urine that the condition necessitating the nephro-ureterectomy was the result of an independent outbreak of the disease and not of the extension of some undetected focus overlooked by the operator.

CASE 1. *Renal tuberculosis; nephrectomy and partial ureterectomy.*—A woman, aged forty-four years, was placed under my care at the hospital by Dr. Lewis, of Chelmsford, on Aug. 3rd, 1895. The previous history was as follows: Five years ago the patient noticed a swelling in the left side of the abdomen. She was treated for a floating kidney, but the swelling steadily increased in size. Lately she had suffered a good deal of pain in the side. The patient stated that she passed a large quantity of urine; she had never noticed "anything wrong" with it. There had been no hæmaturia and no frequency of micturition. On admission there was a large well-defined tumour occupying the right hypochondriac region and projecting backwards into the loin; anteriorly it extended as far as the median line

FIG. 1.



Kidney and portion of ureter (half original size) removed from the patient in Case 1 for tuberculous disease of the kidney and ureter.

of the abdomen; its lower border was on a level with the anterior superior iliac spine, while its upper limit could not be felt, as it extended under the costal arch. There was dulness in the left loin and over the tumour laterally, but resonance in front. It was rounded in outline, smooth on the surface, and fluctuating. The descending colon lay in front of the tumour. The average quantity of urine passed in twenty-four hours was 60 ounces. It was clear, acid in reaction and contained no albumin. On Aug. 6th an incision was made in the left loin and the tumour exposed. It was cystic, and on opening the capsule a large quantity of pale green caseous material escaped. Several other cavities in connexion with the main cyst were then emptied. The kidney substance was entirely destroyed. The cyst wall was separated from the surrounding tissues and the pedicle exposed. The renal vessels were first ligatured and divided. The ureter, filled with cheesy tuberculous matter, was traced downwards into the upper part of the true pelvis and ligatured four inches below the enlarged kidney. Its walls were in a state of advanced calcareous degeneration. The wound was closed, a drainage-tube was inserted and dry dressings were applied. The patient was very sick after the operation. Acute bronchitis set in on the day following the operation—i.e., Aug. 7th. She became extremely collapsed on Aug. 8th. Brandy (2 drachms) was given every hour, and a hypodermic injection of strychnia was administered, but she rapidly sank and died at 8 P.M.

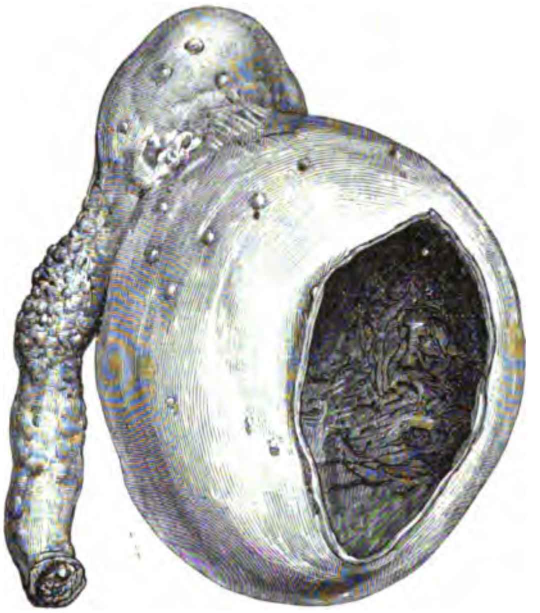
The following is the pathologist's report of the post-mortem examination. "The left kidney has been removed through a recent lumbar incision. There is no injury to the peritoneum and no peritonitis. The right kidney is pale but not enlarged. The lower end of the left ureter shows extensive calcification. The bladder is natural. There are numerous cretaceous mesenteric glands. The liver, spleen, and the right kidney are anæmic. There is no hypertrophy of the left ventricle of the heart. There are emphysema, bronchitis, œdema, and hypostatic congestion of both lungs."

CASE 2. *Tuberculous kidney and tuberculous ureteritis; intra-capsular nephrectomy; subsequent removal of the renal capsule with the ureter as far as its entrance into the broad ligament.*—In February, 1896, Mr. Balding, of Royston, sent a single woman, aged thirty-three years, to be under my care at the Middlesex Hospital on account of tuberculous disease. She was sallow, thin, and weakly looking, and she stated that her mother had died from "consumption" and her father from "consumption of the throat." Her own general health had been good up to her twenty-second year when she "strained her left side" in lifting a heavy weight. She afterwards experienced great pain in the left side with inability to hold her urine for any length of time and had passed a little blood in her urine. She soon recovered from these symptoms and remained well for three or four months; then the pain returned and was more severe than at first, and slight hæmaturia reappeared. After two months of rest and treatment in St. Thomas's Hospital her health again improved and she remained pretty well for several months. Subsequent relapses occurred through the succeeding years up to the beginning of 1895 when she noticed a "lump" deep in her left side which caused her much pain and gradually increased in size. Micturition became now more and more frequent, till at length it was requisite every hour. There was no return of the hæmaturia. On admission on Feb. 28th, 1896, the left kidney was enlarged into an elastic tumour which bulged the ilio-costal space as well as the antero-lateral wall of the abdomen, and reached inwards nearly to the median line; it also extended upwards under the costal margin and downwards to the anterior iliac spine. It was moveable both in the antero-posterior and lateral directions, and could be made to descend nearly to the middle of Poupart's ligament when the patient held her breath after taking a full inspiration. There was resonance in front of the tumour. She complained of considerable pain on the left side of the abdomen and in the left loin. The right kidney was freely moveable, but not enlarged; she had felt a little pain in this side also of late. Micturition was very frequent; the urine had a specific gravity of 1016, was alkaline and contained albumin, pus, and numerous crystals of triple phosphates. The average quantity of urine passed in twenty-four hours was between 26 and 30 ounces.

On March 11th the patient was anæsthetised and through an oblique incision in the left ilio-costal space the kidney was exposed. It was seen to be lobulated, tuberculous, and pyonephrotic, and on being punctured some thick fluid resembling boiled starch was withdrawn. Through two incisions into different parts of the organ all the fluid contents were evacuated. The kidney was composed of two quite distinct sacs or spaces divided off from one another by tough fibrous partitions. It was very adherent to the surrounding tissues and on this account nephrectomy was performed without removing the renal capsule which was left almost entirely undisturbed in its relations to parts around. The kidney after removal was found to be studded with caseous tuberculous masses and riddled by caseous lined spaces, and on section it was seen that the renal cavity was divided into two large compartments each entirely shut off from the other.

A good recovery at first seemed probable but the subsequent course was unsatisfactory and exceptional. On and after March 17th (the sixth day from the operation) a little pain was complained of in the left side and the left iliac fossa, and the temperature ranged between 100° and 101·8° F. The urine still contained albumin, pus, and excess of phosphates but it was increased in quantity and averaged from forty to fifty ounces daily. On April 4th (twenty-four days after the operation) a slight swelling was detected in the left renal region and a little discharge escaped through the centre of the scar. Gradually the swelling increased in size and in painfulness, so that on April 11th—i.e., thirty-one days after the nephrectomy—an incision was made through the old scar and was carried forwards upon the front of the abdomen along a curved line passing an inch to the median side of the anterior superior spine of the ilium towards the middle of Poupart's ligament. Through this the tumour was exposed and was found to be the renal capsule which had healed where it had been split for the enucleation of the kidney and had become distended with dark blood-coloured serum. The ureter was exposed below the cyst and was found to be tortuous and greatly thickened as low down as it was examined. An endeavour was now made to dissect out the renal capsule with its contents entire but this did not succeed; the capsule was pricked and the fluid contents escaped. In the process of detaching the capsule from its connexions the peritoneum was wounded in several places so adherent were they to one another, and it was with difficulty that the colon was detached without damaging it. The peritoneal wounds were closed by fine silk sutures. The ureter was then separated from its connexions as far down as its entrance between the folds of the broad ligaments and was there ligatured and divided above the ligature. It was removed together with

FIG. 2.



Renal capsule and ureter (two-thirds original size), the seat of tuberculous disease, removed from the patient in Case 2 thirty-one days after nephrectomy.

the renal capsule and after removal presented the appearance shown in Fig. 2; both ureter and capsule were affected by tubercle. The stump of the ureter above the ligature which was left in the pelvis was scraped and rubbed with iodoform. Iodoform gauze was packed into the retro-peritoneal space and the edges of the fascia, muscles, and integuments were brought together by sutures passed through all of them.

For five days after this second operation the evening temperature was nearly 101°, and the morning 99°; afterwards, till the conclusion of the case, the evening temperature did not exceed 99°. The daily quantity of urine maintained an average of from forty to fifty ounces; it was of specific gravity 1015, slightly acid when passed, contained a little albumin, sometimes also a trace of pus, but no blood. Three days after the operation the gauze packing was removed. The pain had all gone by April 15th; the sutures were all removed by April 21st; the patient was allowed to go into the garden on May 12th, and she was discharged from the hospital with the wound all but healed on July 9th. On Oct. 10th, 1897, Mr. Balding wrote: "She is still in fair health and does not require any medical attendance, though she is unequal to any very active employment."

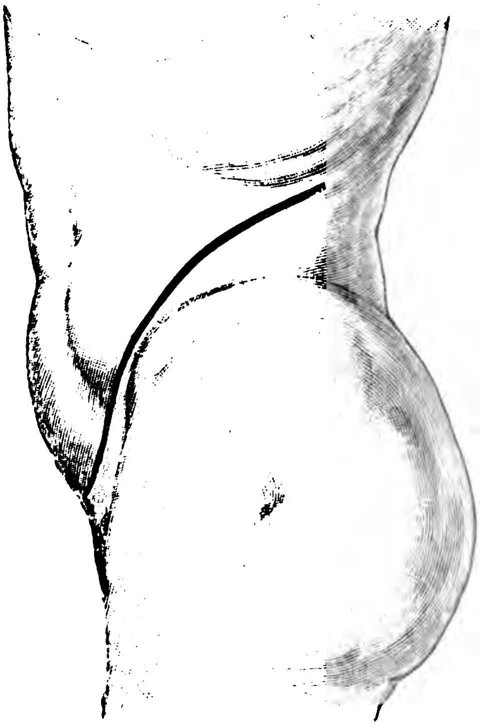
CASE 3. *Tuberculous disease of the left kidney; ablation of the upper third of the kidney, followed after eight months by complete nephro-ureterectomy.*—A young man, aged twenty-four years, had had the upper third of his left kidney removed for suppurating tuberculous disease in January, 1897, by Mr. Paul Swain, of Plymouth. A urinous and purulent fistula followed the operation. In the first week of June Mr. Swain had the intention to cure the fistula by completing the nephrectomy but for certain good reasons he abandoned the attempt, as he states in the following note.

"The first operation was performed on Jan. 19th. Great difficulty was experienced in getting the kidney out as it was situated so high up under the ribs. The upper segment was found on incision to be the only part of the kidney affected. This was removed and the kidney wound closed with chromic gut. The patient made a good recovery, but unfortunately a sinus remained leading down into the kidney. In the following June the wound was reopened with the intention to remove the kidney. All the parts, however, were so matted together that it was thought better only to scrape out the sinus. This plan was followed as at that time the urine was quite healthy and there was no symptom of return of tuberculous disease. The sinus did not heal and subsequently tuberculous matter was found in the urine so that removal of the kidney became imperative."

I saw this patient for the first time on Sept. 20th. There were then two fistulous openings about one and a half inches apart in the middle of an oblique scar in the left ilio-costal space. Each sinus easily admitted a grooved director and about two inches from the surface they both ran into the same deep track which passed upwards under the lower ribs and inwards towards the spinal column. From these sinuses urine trickled. On bimanual palpation of the loins no enlargement or undue fulness could be made out on either side, but pressure, even slight, over the course of the left ureter—more especially at the point where the brim of the true pelvis gave counter-resistance—made him complain of sharp pain. Micturition was frequent and painful and occurred every hour or oftener. The urine was turbid and alkaline, contained pus and a slight excess of phosphates, and had on quite recent examinations been found to contain tubercle bacilli. The patient was of a strongly-built frame and well nourished, but his face was pasty and pale. His father was a robust and healthy-looking man but the patient's mother had died a few years previously from tuberculous meningitis. Neither in his lungs, testes, nor other organs were there signs of tubercle and proof had been formerly forthcoming of a healthy second kidney because after the partial nephrectomy in January he daily passed thirty ounces of normal urine, whilst the urine excreted by the remnant of the left kidney was escaping by the wound. With this history and these symptoms there was a clear diagnosis of tuberculous uretero-pyelonephritis and I had no hesitation in recommending the removal of the remainder of the left kidney and the whole of the left ureter. The proposal was at once accepted by the patient and his father and approved of by Mr. Swain, and I was asked to perform the operation on the following day—viz., Sept. 21st.

As soon as the patient was anæsthetised the bladder was emptied of urine and a few ounces of weakly carbolised warm water were injected into it. A careful examination per rectum was then made. I could not feel the ureter on either side and the vesiculæ seminales felt normal. There was one spot on the rectal surface of the prostate, the size of a pea, which was somewhat harder than the rest of the gland, but I did not think it sufficiently indicative of a tuberculous focus to alter my views as to the treatment to be adopted; and in this opinion Mr. Swain after making examination agreed with me. Long probes were passed into the sinuses as far as they would go. I then made an incision beginning a finger-tip's breadth below the last rib at the outer border of the erector spinæ, and carried it forwards and downwards into the old scar along which it passed until it had divided the tissues intervening between the two sinuses; it was then prolonged, leaving the line of the old scar, downwards and forwards an inch to the inner side of the anterior superior spinous process, and at a later stage in the operation was continued parallel to Poupart's ligament about as far as the internal abdominal ring (Fig. 3). I next deepened the lumbar part of the wound and reached the kidney by following the track of the probes. The lower end of the kidney was partly free in a small perinephric space which when subsequently laid open was seen to be lined by a tough, glistening, smooth membrane, and in it doubtless urine and pus had lodged. The colon was inseparably adherent to the tissues along the outer border of the kidney, and in trying to separate these from the kidney the peritoneum close to the colon was torn. Having temporarily closed the rent in the peritoneum with interrupted sutures I renewed my efforts to completely enucleate the kidney, but owing to its very high situation under the ribs I could not reach its upper end to loosen it. To give more room I first made a short vertical incision over the last rib upwards from the oblique incision but it was not until I had removed the greater part of the last rib that I was able to detach the kidney completely from its tough adhesions above. The kidney was then brought well into the wound, when an artery of some size behind the hilum spurted forcibly and had to be ligatured. This was probably a posterior branch of the renal artery. Owing to a quantity of indurated fibro-lipomatous tissue fixing the

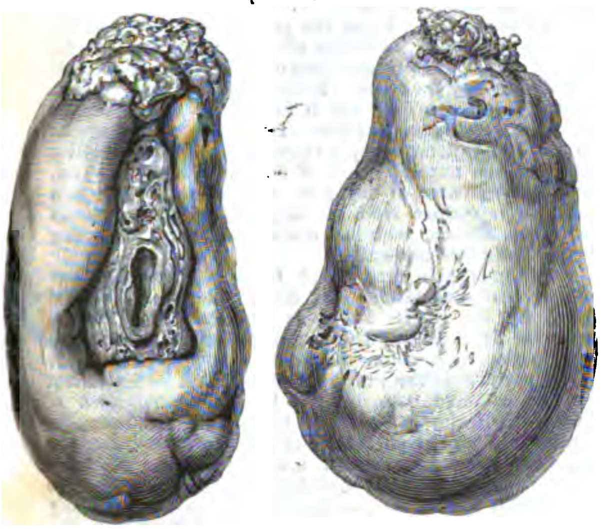
FIG. 3.



Showing line of incision in Case 3.

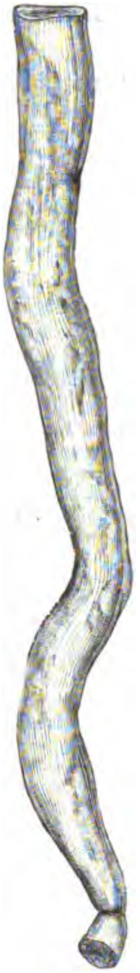
hilum to the side of the spinal column I feared I might possibly damage the aorta if I attempted to clear this away so as to bring into view the renal pelvis and the upper end of the ureter. I therefore transfixed the pedicle of the kidney with a needle carrying a double silk thread and ligatured it—vessels, ureter, and fibro-lipomatous tissue—in two equal portions. As soon as the kidney was cut away the pedicle retracted upwards towards the inner border of the spleen the lower end of which was fully exposed in the depth of the upper part of the wound. The next step was to find the ureter. It was clearly useless and risky to seek for its upper end in the dense tissues which surrounded it, so I detached the peritoneum as low as the brim of the pelvis and felt for the iliac artery. The peritoneum and subjacent viscera were protected by a large flat sponge and drawn inwards by Mr. Burghard who with Mr. Swain gave me valuable assistance. The ureter was then sought for on the detached aspect of the peritoneum at the point where the serous membrane had been raised from off the iliac vessels at the brim of the pelvis. It was seen as an obscure bluish-yellow, tape-like band closely adherent to the peritoneum, against which it was firmly held in a sheath as distinct as the sheath of any artery. I scratched through this sheath with the end of a grooved director and then separated it laterally from the ureter. I introduced an aneurysm needle around the ureter and then replaced the needle by the end of my index finger and so secured a loop of the tube. The ureter as it bulged before the finger was seen to be considerably dilated and filled to distension with pus. By gentle traction on it I was able to bring the ureter into relief and with a few touches of the scalpel to clear it from below upwards as far as the dense fibro-lipomatous tissue near the renal pedicle. Here careful dissection was needed to detach the peritoneum and colon, and when this was done they were retracted inwards and forwards after tucking a flat sponge over them. The sponge was of good service in giving additional protection to the rent in the peritoneum, as was proved a few seconds later when the renal end of the ureter in the course of being dissected from the structures which encased it was suddenly torn out of the loop of ligature which surrounded the renal pedicle, and the wound was flooded with the pus and urine it contained. After irrigating the wound and securing the renal end of the ureter by a ligature the wound in the peritoneum was permanently closed by a continuous suture without removing the interrupted sutures previously introduced. At this stage the incision through the abdominal parietes was carried forwards to a point close to the internal abdominal ring and until the deep epigastric vessels were exposed. The peritoneum was then detached from the wall of the pelvis and the ureter was followed and isolated as far as the base of the vesicula seminalis and the wall of the bladder. The contents of the vesical end were squeezed into the part of the ureter just above and two ligatures were here applied about three-quarters of an inch from one another and the tube was divided between the ligatures. The cut end of the piece of ureter still attached to the bladder was carefully cleaned and rubbed freely with iodoform gauze and then closed over with a Lembert's suture. Three long strips of iodoform gauze were packed into different parts of the wound and the edges of the wound were closed by interrupted sutures passing through all the divided structures. The ideally perfect thing to have done with the short remnant of the ureter left attached to the bladder was to have catheterised and irrigated it through into the bladder, but in the interest of the patient I thought it best not to do this. He had been nearly two hours under the operation and though the operation had been well borne throughout, thanks largely to the way in which the anæsthetic was administered by Mr. Carter Braine, I did not wish to run the risk of fouling the tissues in the deep recesses of the pelvis and of spending time in cleansing them afterwards.

FIG. 4.



Pelvic view (two-thirds original size). Side view (two-thirds original size).
Left kidney removed from the patient in Case 3.

FIG. 5.



Ureter (two-thirds original size) removed from the patient in Case 3.

The after course of the case was quite smooth and uninterrupted. The gauze packing was removed on the second and third days. The daily average of urine for some days after the operation was from 28 to 32 ounces; at first it was of a dirty brown colour from blood, and subsequently yellow flakes and a little pus, I believe from the lower end of the ureter, were passed with it. On Sept. 24th it was acid, of a yellowish straw colour, and contained a considerable amount of albumin. Subsequently it increased in quantity, contained no albumin, and could be retained for two and a half and three hours. The wound healed kindly and the patient, greatly improved in health, returned home on Oct. 26th. Some time after his return home the scar broke down in two or three spots and the frequency of micturition returned to an extent. Mr. Swain has been good enough to inform me, under date of Dec. 27th, that ligatures have been discharged through the sinuses, all of which are now closing, and that micturition is again less frequent.

The kidney was puckered on its surface; its upper end was narrow and scarred and coarsely granular in appearance at the site of the former excision. Here as elsewhere it was invaded with tuberculous material. The interior of the kidney was hollowed out into cavities communicating with the dilated and suppurating renal pelvis. The ureter was stuffed with caseous and purulent fluid, its walls were thickened and tortuous and its lumen was expanded. When first removed from the body it looked like a limp, white, asparagus stem, and could be held out nearly straight when seized by one extremity.

Cavendish-square, W.

MEDICAL MAGISTRATES.—Mr. Arthur Andrews, M.R.C.S., of Albury, New South Wales, and Mr. Murdoch Matheson, M.D., Queen's College, Kingston, Canada, of Waverley, Sydney, have been appointed magistrates for the colony of New South Wales.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.—The new laboratories for the London School of Medicine for Women now in process of erection will, it is hoped, be ready for use at the commencement of the Summer Session. The new buildings include laboratories, lecture rooms, &c., for anatomy, physiology, biology and physics, and chemistry, each department occupying an entire floor in the building. It is also hoped that the whole school will be rebuilt in the course of a few years at a cost of about £20,000.

FURTHER REMARKS ON "COLOUR HEARING."[1]

WITH COLOURED ILLUSTRATIONS.

BY W. S. COLMAN, M.D., F.R.C.P. LOND.,
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ATTENTION has been called by Mr. Francis Galton to the great variations in the exact manner in which mental processes are carried out in different individuals. In his fascinating book, "Enquiries into Human Faculty," he has given many illustrations of this individuality. One of the most remarkable of these is the faculty possessed by a considerable percentage of persons of experiencing a sensation of colour in association with certain sounds the colour seen being definite and invariable for the same sound. This faculty had been observed by many earlier writers and had been ascribed to morbid brain conditions. My attention was called independently to these curious conditions and I had the opportunity of investigating a number of cases the result of which appeared in the article already referred to in a footnote. It was found that the cases fall into two groups. In the first there is a crude colour sensation, often very beautiful, associated with certain sounds such as each of the vowel sounds, musical notes, or particular musical instruments. The appearance is usually that of a transparent coloured film similar to a rainbow in front of the observer but not obscuring objects. In the second group there are colour sensations whenever letters or written words (symbols of sound) were spoken or thought of, so that when a word is uttered the subject visualises the letters, each having a distinctive tint. I have since that time been able to investigate a number of additional cases. Most of them were of the same character as those previously described and need not therefore be again described. Others which illustrate fresh points will be described later.

A study of these additional cases entirely confirms the opinions previously expressed as to the nature of the phenomena—viz., that they are "associated sensations" analogous to the cutaneous sensation of shivering in certain parts of the body, varying in different individuals, which is experienced at the sight or thought of an accident or at the sound of the squeak of a slate-pencil. The subjects are more frequently males than females. I have met with about the same proportion among highly educated individuals and those who have had an ordinary board school education. It is difficult to obtain any light as to the origin of the phenomena. They nearly always date back to the subjects' early childhood. It has been suggested that they have been due to the child learning his letters from a coloured alphabet, but this is certainly not so in some cases. In one case the letters in the alphabet used for teaching were all pink, and none of the colours excited by the pronunciation of words were pink. In another all the members of one family (who possess this faculty) were taught from the same coloured alphabet, but their colour experiences had nothing in common. Even where the faculty is inherited mother and daughter associate totally different colours with the same sound.

The tints excited are very definite and characteristic, each for its own sound. They do not vary as time goes on. In one of my cases the tints were exactly the same when recorded after an interval of ten years. The colours are scarcely ever the same in two individuals. This is very clearly shown in the coloured diagrams which accompany this paper. The tints given are only approximate. If it were possible to reproduce the exact shade still greater variety would be evident. The first diagram shows the tint excited by the spoken vowel sounds in twenty-one individuals, while the second shows the coloured letters which are visualised by five subjects respectively when they think of a word. It will be seen at once that the same sound is associated with a different colour in the case of each person and the phenomenon cannot therefore depend on any physical relationship between sound and colour as has been supposed. The process is an individual and psychical one. [See Coloured Plate.]

Allied sensations may occur occasionally in subjects who at other times do not experience them. A distinguished physician has kindly allowed me to quote his personal experience in this connexion which occurred when he was suffering from some simple ailment: "The sound of a gong seemed to be *seen* as a pale ochreish disc in front of me a little larger than the full moon with an irregularly dentated edge. This edge was almost black and the border varied in thickness as the sound of the gong increased or diminished as the habit of a gong is. When the gong ceased this spectron persisted for a little time."

I have elsewhere[2] indicated the close association of these colour sensations with the symbols which many people invariably associate with abstract ideas, and with the mental diagrams which always occur with others in connexion with numbers, dates, and serial events. These have been fully described by Galton[3] and Flournoy[4] and are much more commonly met with than colour associations. One "symbol" is frequently met with. Whenever "Justice" is thought of a clear mental image of a face with the eyes bandaged or a pair of scales or both arises in consciousness. The association here is obvious. A friend of mine was unable to think of "value" without appearing to see a particular gable of the private house of the professor of political economy in whose house he had been instructed in the subject. Mental diagrams in connexion with number are more common. Those who possess them are unable to think of numbers except as occupying a particular position on a scale which is projected in front of them, in some cases vertically, in others horizontally. The form remains the same throughout life. From the prominent place that the number twelve takes in nearly all it is probable that the diagrams may be first formed when a child is being taught to tell the time by the clock. Not infrequently the diagram takes the form of a dial, but it is difficult to account for the form assumed in many cases. In Figs. 1 and 2 diagrams are given from different people showing the relative position to them of the numerals and of the months of the year. Some are from cases of my own, the others I have been allowed to reproduce from an unpublished paper by my friend, Miss Mitton, who has made some very interesting observations in this connexion.

A very remarkable case which forms a connecting link between colour associations and mental diagrams has been recorded by Mr. G. E. Thorp in the *Edinburgh Medical Journal* for July, 1894. The pronunciation of a word not only gave rise to a colour sensation corresponding to the vowels contained in the word, but there was a definite form about the coloured "spectron." By kind permission of Dr. Joseph Bell, the then editor of the journal, the forms for four words are here given. Each of these forms as perceived had several colours, and the constant change of these coloured patterns was very bewildering. Mr. Thorp came to the conclusion that in his case the forms were unconsciously suggested by the shape of the buccal cavity which was constantly varying owing to the movements of the tongue in enunciating the words. The forms varied in length according to the rate at which words were sung but alterations of the pitch had no effect on them.

At present the study of these phenomena has thrown little light on the psychical processes connected with sensation. The marked individuality of psychical operations in different people illustrated by them is of interest in connexion with the physiology of speech and the study of aphasia. Probably individuality comes more freely into play in the spontaneous acquisition of speech than in later routine education and may account to a considerable extent for the curious divergences in the symptoms produced in different persons by an exactly similar lesion of some part of the brain concerned in speech processes.

Since these phenomena are most prominent in early life and tend to fade if disregarded it is important to determine whether the faculty is one which is helpful in education and whether attention to these associated sensations should be encouraged or the reverse. As regards its utility I have met with two cases in which people relied on the tint excited to decide whether they had spelt a word correctly or not and with several singers who found the sensations of value in enabling them to hit the exact pitch. A musician writes that

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[1] The previous article appeared in THE LANCET on March 31st and April 7th, 1894.

[2] Phonographic Quarterly Review, October, 1895.

[3] Loc. cit.

[4] Des Phénomènes de Synopsies, Paris, 1894.

FIG. 1 *a*.

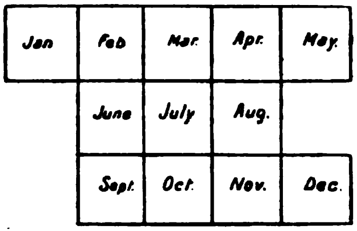


FIG. 1 *b*.

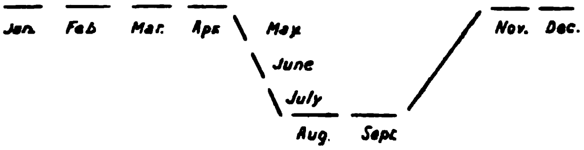


FIG. 1 *c*.

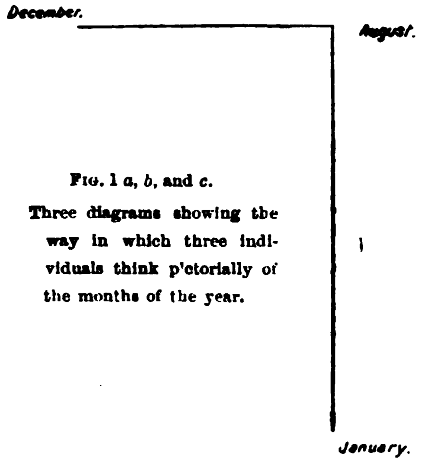


FIG. 1 *a*, *b*, and *c*.
Three diagrams showing the way in which three individuals think pictorially of the months of the year.

FIG 2 *a*.

FIG. 2 *b*.

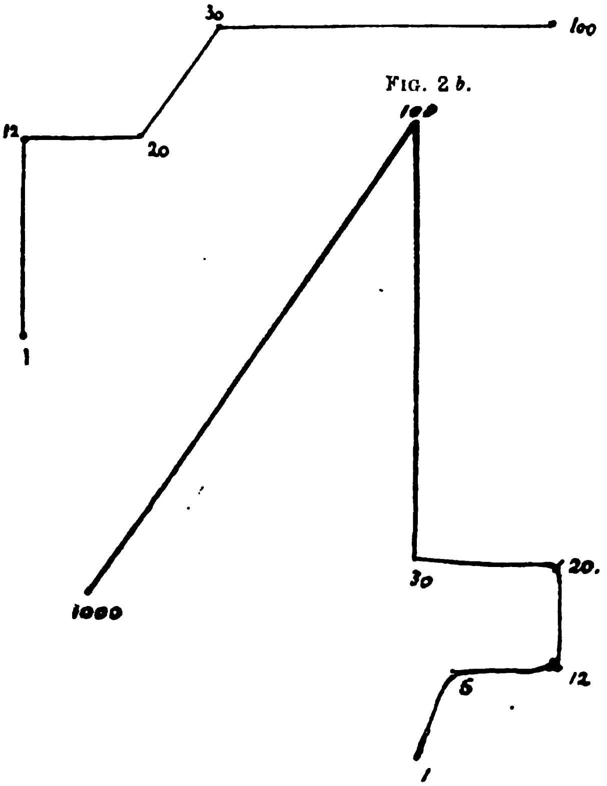


FIG. 2 *c*.

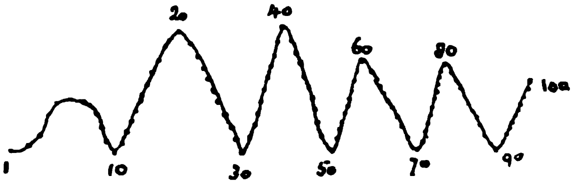


FIG. 2 *d*.

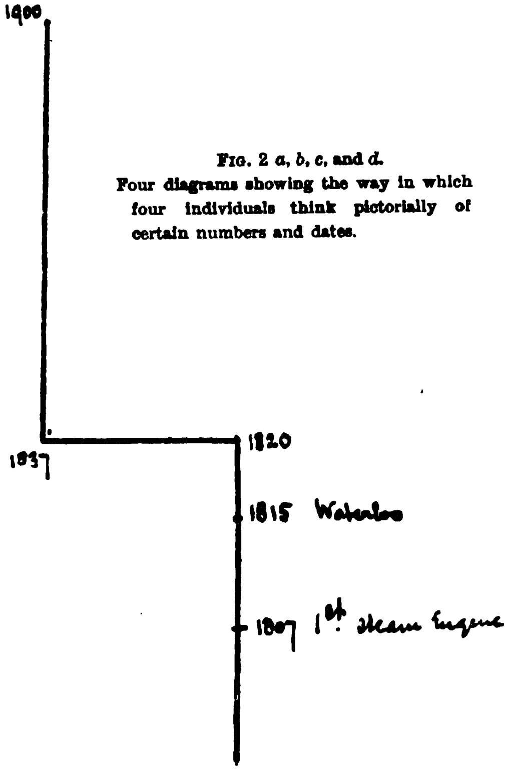


FIG. 2 *a*, *b*, *c*, and *d*.
Four diagrams showing the way in which four individuals think pictorially of certain numbers and dates.

FIG. 3 *a*.

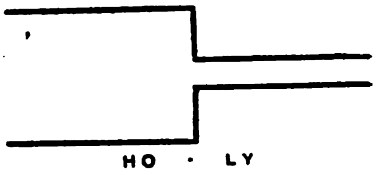


FIG. 3 *b*.

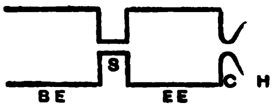


FIG. 3 *c*.

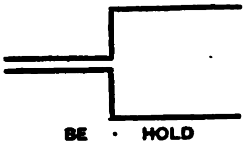
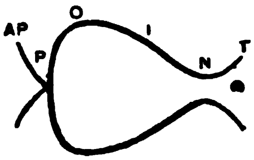


FIG. 3 *d*.



Four diagrams showing thought pictures suggested by certain words. The words are printed below the diagrams.

if he so desires he can strike a note on the piano and then go home and for some time afterwards tune his violin exactly to that piano by simply recalling the tint produced by the particular key. Similar cases are mentioned by Galton, Nussbaumer, and Gruber. Mental diagrams also are found of assistance by those who possess them in mental calculations, in remembering the time of past occurrences, domestic and historical, and often also in learning things by heart.

On the other hand many complain of these sensations as confusing and annoying when attention is paid to them. Thus Mr. Thorp writes[5]: "These various forms and colours which during childhood amused me in time became an annoyance. The training received for professional life did not correct the changes in form nor the fantastic jumping about of the colours which were not only different on every degree of the scale but also on the same tone when words were sung. *All sentiment in singing was on this account destroyed* and finally I decided to give up both singing and teaching." It has been pointed out also, I believe by Mr. Galton, that the inability to dissociate an abstract idea from some material symbol must be a serious hindrance to the study of speculative philosophy, and in the same way the inability to think of numbers without form or space relation must be a serious hindrance to those working at higher mathematics. Several of those I have observed who have mental diagrams associated with number have experienced great difficulty with any but the simplest mathematical processes although brilliant students in other subjects. I have not, however, had the opportunity of ascertaining whether the faculty is present among those who have achieved mathematical successes. So far as can be seen, therefore, these faculties seem to be helpful for simple processes—e.g., spelling, singing at correct pitch, learning by rote, and mental arithmetic, but that for higher work such as expressive singing, musical composition, abstract speculation and higher mathematics the sensations are likely to prove a hindrance rather than an assistance, and their possible utility being so limited their systematic development by any deliberate education is hardly desirable.

Wimpole-street, W.

ON SPIRAL GROWTH.[1]

By GEORGE WHERRY, M.C. Cantab., F.R.C.S. Eng.,

UNIVERSITY LECTURER ON SURGERY, CAMBRIDGE.

It is at first rather difficult in speaking of spirals to describe the direction of any such curve or helix because no convenient words occur to us. Mathematicians often use the expression "clock-wise" or "anticlock-wise" to indicate the way of a spiral coil. Botanists use their term "heliotropism" meaning that the tendril or plant turns the way of the sun. Architects imagine themselves going up a spiral staircase with the newel on the right or on the left hand. Carpenters again judge by their screws. For anatomists a right-handed supination gives at once the direction of a helix and is the easiest way for us to gain a correct conception or to convey the idea.

The expression "heliotropic curve" serves exceedingly well for the botanist as an appropriated term and might pass very well generally if there were no Southern Hemisphere, where the sun takes apparently a different course through the heavens and the plants have to follow the same sun in a different way. The hands of the clock as you face it travel round in the same direction in both hemispheres, but the shadow on the sun-dial passes along the opposite path at the antipodes. It is worth while to notice a tendency, partly superstitious, partly useful, to make turns in the way of the sun. Thus we must not stir a pot the wrong way or the sugar in our tea. Your mayonnaise sauce is ruined if you stir it first one way and then the other. It is a thoroughly useful and orderly rule which makes us pass the decanter in the way of the sun or "through the button-hole" as is taught in Lincolnshire. There are still sun-dances in Mexico and Chili and in Spain in which the turns of the dance are arranged astronomically and the movements of the heavenly bodies are followed in the dance both as to time and direction. Old writers had a delightful word in "widershins" (wider Schein), the opposite way of the sun. Thus Merlin said that[2] "the fair Burd Ellen was carried off by the fairies because she went round the church widershins." The church of course being oriented the lady went round the wrong way in going the opposite way of the sun. Those who are possessed all day by a demon from getting out of bed in the morning on the wrong side are not able to say definitely which is the wrong side, though some superstitious people prefer to have their beds arranged so that they may be waked by the rising sun and thus directed in the last sleep of all their friends place their graves. Those who walk round the chair to change the luck at whist are careless of the way they turn and habitually disregard all fairy lore. "The Queen of the Fairies," Queen Mab, knows better:—

> "She has a little silver wand,
> And when a good child goes to bed
> She waves the wand from right to left
> And makes a circle round its head.
>
> "And then it dreams of pleasant things,
> Of fountains filled with fairy fish,
> And trees that bear delicious fruit,
> And bow their branches at a wish:
>
> "But when a bad child goes to bed,
> From left to right she weaves her rings,
> And then it dreams all through the night
> Of only ugly, horrid things:
>
> "Then wicked children wake and weep,
> And wish the long black gloom away;
> But good ones love the dark, and find
> The night as pleasant as the day."—Hood.

It is time now to leave the fairies, folk-lore, and solar myths to consider a few facts and to put before you a few puzzles in spiral growth. Take, first, the shells, to all appearance those of common whelks, but their helical turns go in opposite directions. The ancient whelk, now in fossil form (Fusus antiquus) is usually left-handed, while in the present generation of common whelks the shell is always right-handed. These fossils I dug myself out of the red crag at Felixstowe some years ago; they are all left-handed. Nevertheless, among the right-handed shells the fishermen there will occasionally find as a rare specimen a modern whelk of the ancestral type in going a contrary curve. What was there at work in the whelk when the soft young creature began life to give it the twist to left or right? and why are the ancient whelks found going the "wrong" way? The questions remain unanswered, but from observations on spiral growth in plants we feel sure that there are general laws determining these curves—such laws as govern our earth and the universe.

Spiral growth in plant life is a subject of bewildering interest and though worked at by so many great observers, from John Hunter to the Darwins and De Candolle and the modern Germans, there are still many phenomena wholly unexplained. The mere facts of spiral growth in tendrils and twiners would take a long time to mention; still less would it be possible to discuss them or attempt to explain those already made reasonably clear. There is an observation by John Hunter which makes a sort of generalisation about twining plant and in his own words runs thus: "It would appear that weakness in anything that has powers of action within itself produces or stimulates the parts so weak to take all advantage of collateral support. Thus a bean [he means a field bean?] which when strong seems to depend entirely upon its own powers, yet if it grows weakly, as when not in the sun or any other cause acting to hinder strength in growing,—in such if a stick is put into the ground close by it it will twine around it in loose spiral turns."

Climbing plants with tendrils may well claim first attention. Organs are adapted for the ascent and spread of the plant as our climbing irons or crampons are designed for climbing trees or ice except that the tendrils remain behind during the growth of the plant and have no mere temporary function. As the climbing plant grows the apex revolves of the shoot and also of the tendril by means of that remarkable movement called *nutation*—a revolving motion distinct from heliotropism and not arranged for exposure of the plant to the direct rays of the sun. This slow revolving of the apex and of the tendril gives every opportunity for the latter to gain a support. The nutation movement appears to be due to the more rapid growth of cells on one aspect or edge than on the other, which makes a curve in the tendril and revolves it as the growth alters and alternates. Thus in the bryony a filiform organ grows out from the plant and becomes irritable in such a fashion that, while revolving at its free end exactly as if groping for a prop, if this free end touches a twig it coils round it at once. The contact at the fixed end transmits a stimulus along the tendril which induces a corkscrew twist in the tendril and this spiral will show reversals of direction from a right-handed to a left-handed spiral or *vice versâ*. This reversal of spirals after the fixation has been called a "mechanical necessity," for without the reversal torsion would soon be excessive. This is well seen in the specimen of bryonia dioica. With twinings, stems, and tendrils a strong positive heliotropism—i.e., a turning towards the sun—would often carry them away from a support and would therefore be injurious. It is evidently important that the tendrils should turn towards the wall in order to fix themselves to it and this is accomplished by means of negative heliotropism which drives the tendrils towards the most shaded part, where they then by their groping nutations find points to fix upon or, as in the case of the Virginia creeper, develop their attaching discs. The quickly growing creeper seeks a prop, then, almost as if it could see the way. "Shadow and shine is life" with the tendrils as they curl around the twig or tree with a singular rapidity under the influence of the sun and shade, though it is not necessary to believe the Yankee story of the creeper in his country and how a lazy, long-legged man stretching out asleep in the sun awoke to find that a quick-growing creeper had left the wall and was twining round his knees.

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[5] Loc. cit.

[1] A paper read before the Cambridge Medical Society and illustrated by specimens.

[2] Childe Rowland, edited by Jacobs.

The twining plants have points of distinction when compared with creepers carrying tendrils or similar organs. To name one of some importance—that twining plants only coil themselves round and climb up upright supports. This distinguishes them from tendrils which can grow horizontally or up and down. The majority of twining plants are no longer able to climb actively if their support forms a smaller angle with the horizon than 45°. A further point of difference lies in the fact that twining shoot axes wind themselves round the support in a definite direction according to the species of the plant in each case. The hop and honeysuckle take the form of a left-handed screw; the majority of twining plants, however, twine like a right-handed screw—i.e., from the left below to the right above when the plant and its support are looked at from the exterior. The free pendant apex of the growing shoot revolving in nutation behaves much as if groping towards all points of the compass for support and when meeting a support a part of the apex then curves round it and grows spirally up it. The question of torsions in the true axis in a spiral twist makes another serious complication for the observer. In the twining of twining plants some form of geotropism or influence due to gravitation is of the greatest importance; and in a growing twiner on a rod if the whole pot be inverted so that the twining apex is lowermost the youngest coils of the shoot loosen themselves from the rod and the terminal bud becoming free erects itself and again grows upwards close to the rod. A twining plant will make its spiral curves without a support if the terminal but be steadied by a thread and weight over a pulley so that the apex of the shoot is drawn vertically upwards, but a free horizontally sweeping shoot will make no spiral turns at all. It will not be possible to explain the ways of twiners until we can fully understand how gravity and rays of light act upon processes of growth so that they are able to produce geotropic and heliotropic curvatures. The number of twining plants being over 2000 is far greater than those of tendril-plants; there is thus no lack of objects of interest for the many observers still at work upon them.

In connexion with so-called "mechanical necessity" in spiral curves I will call attention to the spiral form of these carpenter's shavings made with an ordinary plane with the iron set square. Sherlock Holmes is dead, killed by his creator, but that ingenious gentleman, if revived, might observe that this shaving was made by a left-handed man or by a Japanese. The Japanese carpenter works on the opposite side of the bench. The reason of the spiral form of a right-handed screw which is usually seen in shavings is because the workman tends to drive his plane slightly to the left. He plays, as a cricketer would say, a "little to the on"; if he made a perfect stroke fore and aft a simple coil would result; in "playing to the off" or standing on the wrong side of the bench he would make a left-handed twist in his shaving. The carpenter is usually all unconscious of the twist that he makes and imparts to the shavings, but it is a pretty piece of evidence of how slight and subtle a force determines the direction of a spiral. It was probably a similar tendency to make coils to accommodate his hands which caused the sculptor of this Greek archaic Apollo to surround it with curls of which forty-seven out of sixty-one turn the way of the clock hands. In other archaic statues the curls are arranged exactly in right- or left-handed spirals according to the side of the head as in the Greek athlete, whose long hair shows a period previous to the Persian War. The sculptor sometimes showed his right-handedness by carving the left side of the face better than the other in these ancient heads. In more advanced art the curls are arranged as in nature—neither stiff nor symmetrical nor coiling all one way. The use of the spiral in ornament among savage nations shows an appreciation of graceful form in plants, but I have not seen any evidence of superstition in following the way of the sun in spiral decorations. It would be important in such observation to remember the path of the sun in the Southern Hemisphere.

One or two more illustrations. Consider the fine pair of horns of the koodoo, a right-handed spiral on the left side and a left-handed spiral on the right side. They are grandly symmetrical and as much rights and lefts and of the same length as were the limbs of the creature that carried them. It is to the advantage of the animal that its horns should be so symmetrical both for offence and for defence. In combination also with the spiral curves the distance apart of the points is a provision of value; when the animal rushes through the bush the horns thrown back act as a wedge and drive aside the branches as the koodoo dashes through the thicket. With regard to hoofs and nails it is astonishing under the influence of moisture and absence of friction how these organs will curve and grow spirally. The influence of moisture is as old as Nebuchadnezzar. "His body was wet with the dew of Heaven, till his hairs were grown like eagle's feathers and his nails like bird's claws." All this came upon the King Nebuchadnezzar and it is a truthful and interesting example of the way in which the growth of the nails is encouraged not only by neglect but by moisture. The growth of his nails was probably not greater than that of a first-class Chinese Mandarin who is really cultivated, for the curves of the nails merely became like bird's claws. If only the growth had continued until the nails assumed a spiral form they might have been compared to corkscrews had bottles then been corked in Babylon. A good specimen to illustrate this tendency (in the Museum at Cambridge) is that of the hind hoofs of a sheep which was shot among boggy soil in the Falklands. Each portion of the cloven hoof is of enormous size and length and twisted spirally about two and a half turns, intertwined, moreover, each with the other portion in a complicated twirl. The contortions, however, take the right-handed twist on one side and left-handed on the other. The hoofs of the ox and the horse from the same soil show this tendency to grow and curve. So far as I can observe in the hoofs the direction of the spirals follows the laws of growth as in the koodoo in growing a different spiral curve on the different sides of the body. With so few examples the observation is of only slight value and anyhow does not apply to Nebuchadnezzar's nails—at least, with our present knowledge.

The effect of want of friction and want of resistance in producing a symmetry and unequal length is here suggested by these perversions. Conversely we manage to grow both our legs of the same size and the same length by exposing them to the same resistances during growth. If encouraged the human nail will grow as the usual claw at first and later will begin to take a twist, as in the Chinaman, and the writer well remembers an example in a queer old bachelor who cultivated his little finger nail by covering it with a cot until it became the wondering talk of the town. The cutting of poor Tom Wither's nail caused as much sensation as when in Athens Alcibiades cut off the tail of his dog. Passing in review these objects of interest now before us, the shells, the shavings, the tendrils and twining-plants, the horns of the koodoo and the contorted hoofs of the sheep, some of my remarks upon them may seem trivial and all unsatisfying, but at least of this I am assured, that many of the problems of spiral growth are deep and difficult and touch upon those great laws which regulate the world. Consideration of such problems sets us thinking of the power that "preserves the stars from wrong" and encourages that constant preference for higher thoughts over lower ones which is the true intellectual life.

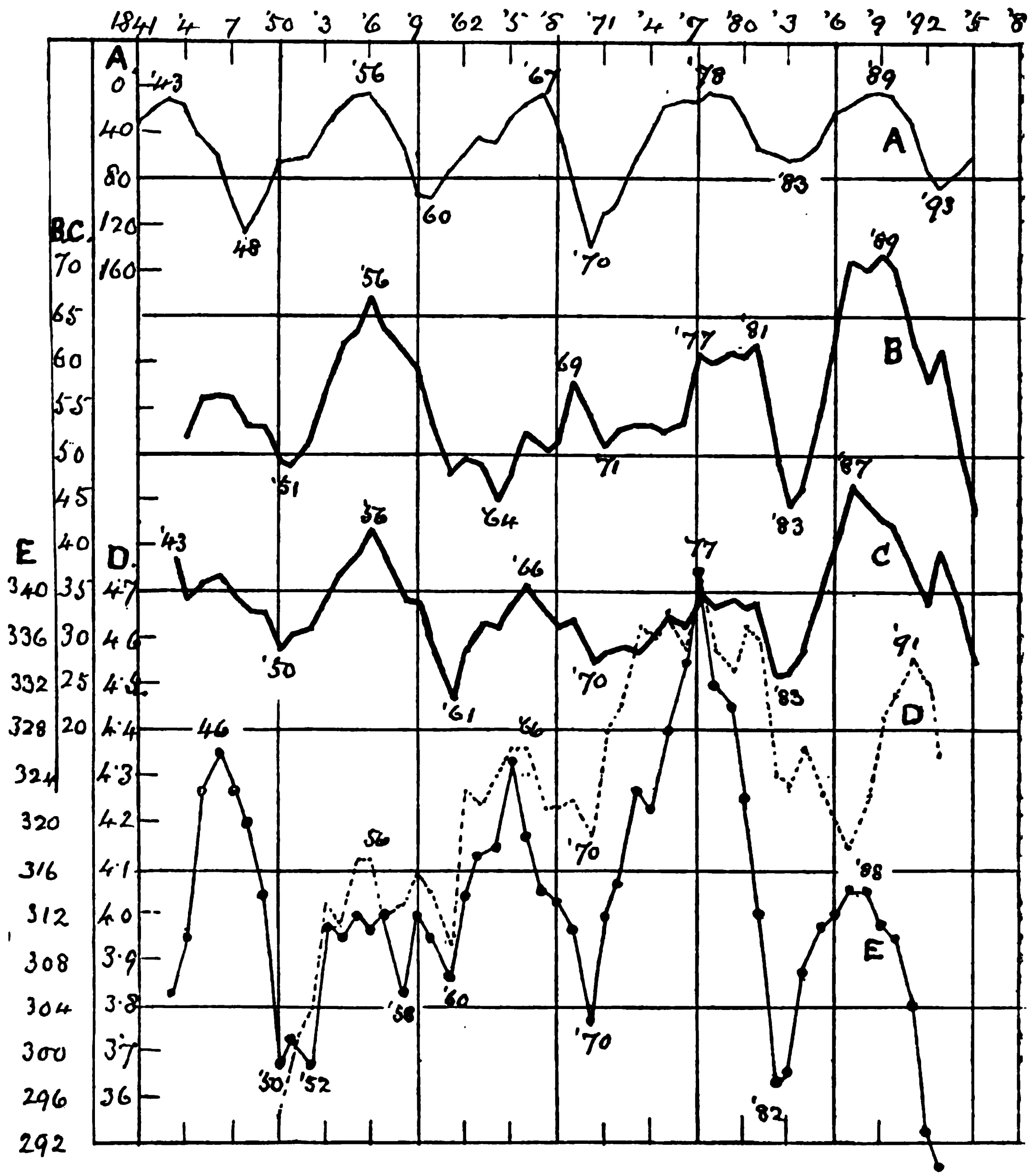
Cambridge.

MORTALITY FROM A COSMIC POINT OF VIEW.

By ALEX. B. MacDOWALL, M.A.

I would invite attention to the following propositions: (1) Winter cold varies in amount (say number of frost days), with the sunspot cycle, the maxima of cold coming near the minima of sunspots;[1] (2) the mortality from respiratory disease and the mortality of aged persons, *inter alia*, are known to depend largely on the amount of cold; thus (3) the variations in the mortality from respiratory disease and the mortality of aged persons agree to a large extent with those of the sunspot cycle.

Evidence of this is offered in the accompanying diagram, which presents five curves for comparison, as explained.



A. Sunspot curve (inverted) from 1841. B. Smoothed curve of number of frost days in each winter season at Greenwich (September to May) [Here 1844 means 1843 to 1844, &c.]. C. Smoothed curve of frost days in each first quarter (Greenwich). D. Smoothed curve of death-rate from respiratory disease, London (per 1000 living). E. Smoothed curve of death-rate of males in England eighty-five years old and upward (per 1000 living of that age-grade). The curve for females is very similar. The smoothing in each case with averages of five—thus, e.g., in curve C the point for 1856 represents the average number of frost days per first quarter of the five years 1854–58. Each curve has a separate vertical scale, except the two frost-day curves, which have the same.

The correspondence is not complete nor, if we consider the matter, should we expect to find it so. But it is of such extent as, in my judgment, to form a pretty strong case. The influence of those waves of cold might probably be traced in other directions.

Gadebridge, Crouch-end, N.

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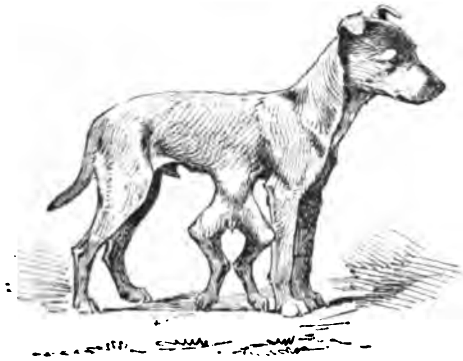
[1] For a discussion of this matter see the Quarterly Journal of the Royal Meteorological Society, July, 1897, p. 243; also Knowledge, October, 1897.

AN INTERESTING MONSTER.

BY CHARLES STEWART, F.R.S., M.R.C.S. ENG.,
PROFESSOR OF COMPARATIVE ANATOMY AND PHYSIOLOGY IN THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND CONSERVATOR OF THE COLLEGE MUSEUM.

THROUGH the kindness of Mr. Peter Taylor, of Manchester, I have had an opportunity of examining the anatomy of the interesting case of polymelian canine monstrosity of which the external features were figured and described in THE LANCET of Aug. 28th, 1897. The malformation affects the posterior part of the alimentary canal and the genito-urinary organs of the right side.

FIG. 1.



The animal when alive.

The alimentary canal is normal to a point 210 mm. from the anus; the small intestine here bifurcates, both divisions having an ileo-cæcal valve at 30 mm. from the point of bifurcation. The large intestine and cæcum of the left side are normal; the large intestine of the right is nearly twice the diameter of the left and with a cæcum making only one turn; it terminates abruptly in a solid cord 20 mm. long that is continuous with the apex of the bladder of the parasite.

FIG. 2.

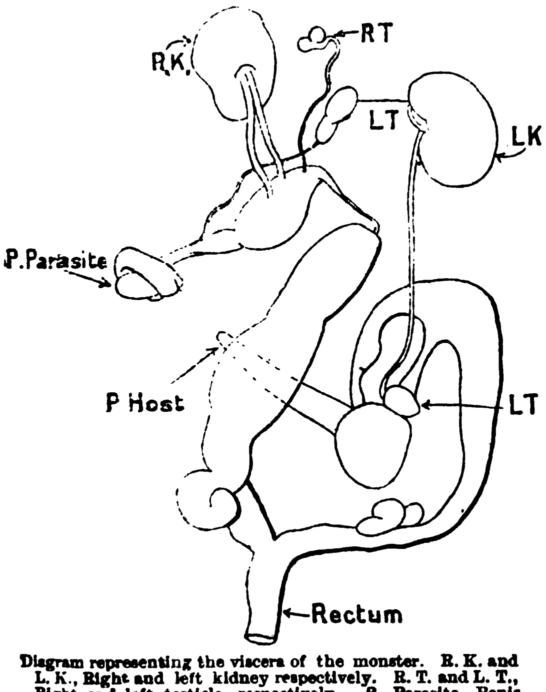


Diagram representing the viscera of the monster. R. K. and L. K., Right and left kidney respectively. R. T. and L. T., Right and left testicle respectively. P. Parasite, Penis of Parasite. P. Host, Penis of Host. One-half natural size.

The left kidney is normal in position and with a ureter opening into the bladder in the usual way. The left testicle was in the canal; its vas deferens was normal. The right kidney is more rounded than the left, its posterior border being on a level with the anterior of the left. It has two ureters 34 mm. long that open close together on the right side of the small bladder of the parasite. The right testicle of the parasite is small, its duct opening into the apex of the bladder. The left is of about the same size as the single testicle (left) of the host; its duct opens into the urethra. The penis of the parasite is short and has a distinct urethral opening and os penis. There was no trace of female organs. A large artery that supplies the parasite and sends a small vessel to the right kidney is given off close to the origin of the superior mesenteric.

An ischium and ilium were present on the left side of the parasite with an acetabulum in the usual position, but on the right the ilium is alone present.

THE USE OF HYDROCYANIC ACID AS AN ANTIDOTE TO CHLOROFORM.

BY FREDERICK HOBDAY, F.R.C.V.S.,
PROFESSOR OF THERAPEUTICS, ROYAL VETERINARY COLLEGE, LONDON.

THE extreme frequency with which records of death from the anæsthetic administration of chloroform appear in the professional journals must make welcome the addition of another antidotal agent to the list of those with which we are already acquainted. The idea of using hydrocyanic acid as an antidote to chloroform first suggested itself to me about two years ago when watching the different effects of the two drugs upon the respiratory tract when used to produce death, and particularly from having observed the powerful and rapid excitant result which follows absorption of a toxic dose of the acid. In 1896[1] there was published in detail a list of some forty-three observations upon various animals, including dogs, cats, a horse, sheep, and calf, showing the results obtained by this method of resuscitation and also a few cases illustrating the palliative and sedative effects produced on the respiratory efforts by chloroform inhalations upon animals suffering from overdoses of hydrocyanic acid. Since then I have been able to collect fifteen additional consecutive cases in which it has been successfully used in the College canine clinique after respiration had actually ceased, and I have also had confirmatory reports of its antidotal value from veterinary practitioners in various parts of the country. The results have certainly been in the highest degree satisfactory, so much so that when chloroforming animals the only antidotes we now have at hand ready for use are those of hydrocyanic acid and liquor ammoniæ fortior. As soon as breathing ceases or becomes dangerous artificial respiration is resorted to, the tongue being continuously pulled well forwards in a jerky manner and a full medicinal dose of Scheele's acid placed as rapidly as possible at the back of the throat. When respiration has re-commenced the ammonia vapour is applied cautiously to the nostrils and in the majority of cases a safe termination ensues.

The method of artificial respiration preferred is that of laying the animal in a horizontal position on its right side and pressing the ribs in a short, sharp, jerky manner; we have tried everting the body, but I am convinced that this is a bad method in the dog and cat, as the intestinal organs press upon the diaphragm and limit the capacity of the thorax. We have also tried placing the body in the opposite position with the idea of removing all pressure of the abdominal organs from the thorax and its contents, listening carefully at the same time in each case to the heart sounds with the phonendoscope, but I am firmly convinced that the heart sounds are stronger and less laboured when the body is placed horizontally.

When reasoned out theoretically, in addition to the results of practical work, hydrocyanic acid stands foremost amongst agents likely to prove of antidotal value; for what more rapid or powerful respiratory stimulant have we? Its use is attended with no more danger than that of strychnia—in fact, in the dog and cat with far less. Its rapidity of action is unquestionable, it is easily absorbed from any of the entrances of the body, and it has the advantage over ammonia that it does not irritate the tissues to which it is directly applied. Besides these things, not only has it an immediate effect in starting the respiratory mechanism, but when once this has commenced the stimulating effect of the acid is maintained for twenty minutes or half an hour and keeps it going until the breathing is able to resume its normal aspect and the patient is out of danger. I am aware that many cases will recover by the aid of artificial respiration alone, but I am perfectly convinced from tests applied to this point, and from an extensive experience of the results we used to obtain with other antidotes before hydrocyanic acid was tried, that the use of the acid gives an enormously higher proportion of successes. When compared with hypodermic injections of strychnine, ether, or saline solution, or the use of amyl nitrite or ammonia vapour, its effect is visibly much more rapid and powerful. Scheele's acid is of course more rapid and powerful than the British Pharmacopœia acid and acts best when given undiluted.

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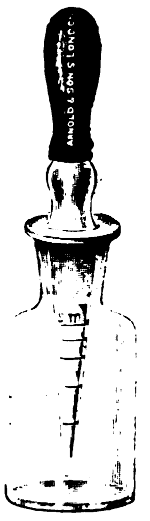
[1] Journal of Comparative Pathology and Therapeutics, June, 1896.

With reference to the method of administration the best way to apply it is undoubtedly by means of a graduated drop tube on the back of the tongue; several models of this have been made at my request by Messrs. Arnold and Sons, and the illustration shows the one which I am now using. Hypodermic injection does not seem to give such good and rapid results, and the direct forcing of the vapour up the nostrils by means of bellows is decidedly dangerous from the risk of administering an overdose. Full medicinal doses are necessary as when an animal is under chloroform the effect of the acid is not visible quite so quickly as when no chloroform has been used. If an overdose be given the judicious use of the anæsthetic vapour will combat and quiet the spasm of the respiratory muscles until the excess of acid has had time to become eliminated from the system. In several cases we had opportunities to test this before experience taught the exact dose. This latter averages in the dog and cat about one minim of Scheele's acid for every seven or eight pounds of live body weight. The object must be to give just enough acid to produce the preliminary excitant effect upon the respiratory centre and, of course, like all antidotes, the sooner it is administered after dangerous symptoms have appeared the more likely is the result to be favourable.



Drop-bottle tube.

The last two cases in which the acid was used are fairly typical of the others and illustrate the effect.

Case 1.—A Scotch terrier, female, six months old, was being operated upon for the reduction of an umbilical hernia. After the animal had been under the influence of chloroform for eighteen minutes respiration suddenly ceased, the heart still continuing to beat. The restraint of the operating table was at once removed and the animal placed in a horizontal position, lying on the right side. One minute after respiration had ceased three minims of Scheele's acid were administered on the back of the tongue, the latter organ being drawn well forward in a jerky manner, and artificial respiration started. Respirations did not re-commence until two and a half minutes later, but they speedily became strong in character, and four minutes after this the patient was quite out of danger.

Case 2.—In a mongrel beagle, female, about nine months old, respiration ceased suddenly (10·49 A.M.) Whilst the restraint of the operating table was being removed the breathing re-commenced (10.50 A.M.). Thinking that the animal was recovering no further antidotal measures were then taken, but at 10.51 A.M. the respirations became faint and again ceased. Fifteen seconds later four minims of hydrocyanic acid (Scheele) were placed on the back of the tongue and artificial respiration was applied. Twenty-five seconds after this the respirations re-commenced and this time they were maintained, speedily becoming strong and the patient making a good recovery.

Clinical Notes:

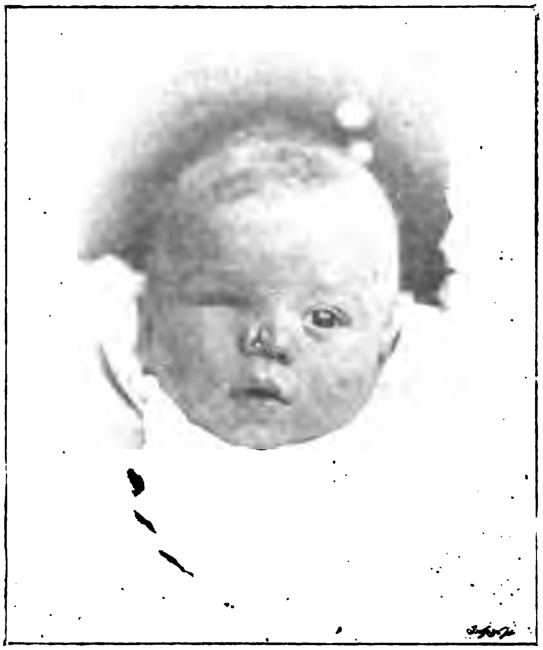
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CONGENITAL ABSENCE OF THE RIGHT EYE AND FISSURE OF THE NOSE.

By W. G. Nash, F.R.C.S. Eng.

The accompanying illustration is reproduced from a photograph of a child, aged six months, who was born without the right eye and with a fissure of the right side of the nose. On examination the right palpebral fissure was seen to be small and on raising the upper lid the socket looked very much like that seen after removal of the eye except that a small pigmented body about the size of a pea occupied the centre of the cavity. This is the eye the development of which was arrested at a very early stage. The right side of the nose is fissured up to the lower edge of the nasal bone. The right nasal bone is slightly separated from its fellow and causes a slight flattening of the bridge of the nose. Near the tip of the nose is a small projecting nodule very much like the small supernumerary auricles so commonly seen.

As to the cause of this deformity the growth of the eye appears to have become arrested at a very early stage of development and at the same time the external nasal process failed to unite with the fronto-nasal process. The mother attributes the deformity to the fact that she was frightened by a strange dog jumping on to her bed when she was three months pregnant.



Both these deformities I believe are very rare. Mr. Cantlie[1] has figured a Chinaman with congenital absence of an eye and ear, and there has also been figured[2] a child with double hare-lip and fissure of both sides of the nose. I have a photograph of a dead full-term fœtus with a single hare-lip, cleft palate and fissure on the same side between the nose and the cheek extending as high as the inner angle of the orbit, absence of eyelids and apparent defect of development of the corresponding half of the skull. Mr. R. H. Lucy, of Plymouth, in August, 1890, had under his care a child, aged two months, with a congenital cleft of the right side of the nose. The remnant of the right ala nasi stood straight out as a vertically placed cartilaginous ridge; the right anterior choana was much smaller than on the left side. Since birth the cleft had closed somewhat; there was no hare-lip or cleft palate and no maternal impression. Mr. Lucy pared the edges of the cleft in September, 1890, and got a very fair result. He has now lost sight of the child.

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[1] Brit. Med. Jour., 1891, vol. i., p. 1223.
[2] Annals of Surgery, vol. xxiv., p. 210.

Bedford.

ONE OF THE RARER FRACTURES AND DISPLACEMENTS CONNECTED WITH THE ANKLE.

By FREDERICK BROOKE, M.R.C.S. ENG.

SINCE a fracture which has hitherto been of, comparatively speaking, rare occurrence seems likely from its method of production to become more common now that cycling has taken such hold of the public both as a healthful exercise and as an almost indispensable aid to locomotion a short account of the following accident may be of interest.

A man, about forty years of age, was cycling in damp weather on an asphalt road which was in a greasy condition as well as in a bad state of repair when, on trying to avoid a hole in the road, he met with a "side-slip," his left foot as he fell quitting the pedal and becoming lodged in the frame of his machine, the wheel and pedal continuing to revolve; the latter struck his foot while in this position. The following was the condition of the foot and ankle when I saw the case almost immediately after the accident. The foot was displaced backwards and strongly inverted, the outer border pointing directly downwards; the outer malleolus was very prominent and the inner could not be felt satisfactorily, being almost entirely buried; the foot was shortened in front, the tibio-fibular arch being thrown to the front, making a marked projection upon the inner side of the foot. On reducing the dislocation marked crepitus was obtained over the internal malleolus. A careful examination was made along the whole length of the fibula. Pressure applied at various places along the bone ranging from the head to the internal malleolus gave rise to no pain; neither could crepitus be elicited nor irregularity felt along its whole length, though it was difficult to understand how it could have escaped fracture with such a displacement of the foot. Six days after the accident I had the ankle skiagraphed and on examining the skiagram the internal malleolus was seen to be torn off close to the shaft and to have been replaced in very good position while an oblique fracture of the fibula just above the malleolus was clearly defined. There being not the slightest tendency either to inversion or eversion of the upper end of the lower fragment the difficulty of diagnosis will be readily appreciated. The patient may be congratulated on having narrowly escaped a compound fracture, since the external malleolus was perilously near making its way through the surrounding tissues.

West Bridgford, Notts.

NOTE ON A CURIOUS CASE OF VACCINATION.

By J. H. LAMB, M.B., C.M. EDIN.

ON Nov. 21st, 1897, I was called to see a man and his wife, having six weeks previously vaccinated their child. The parents had during this period been attending to the child's arm, which was discharging some clear fluid, and the vaccination marks were covered with brownish crusts. No definite history of inoculation could be got; but on several occasions the husband had attended to the child's arm before getting out of bed and had then micturated without previously washing his hands. On Nov. 17th he complained of some pain and tenderness in the groin and also noticed some swelling in that region. He discovered some marks on his penis but did not take much notice of them. On the same day his wife had pain on micturition but had no vaginal discharge. On the 18th the swelling was more noticeable and the pain and tenderness were much increased. His wife also had a small swelling in the right groin. On the 21st both husband and wife were worse. On examining the husband I found the horizontal inguinal glands were much enlarged on either side and were also painful and tender. On drawing back the prepuce I saw five typical vaccination marks about a week old on the glans penis. The vesicles contained a very small quantity of lymph. There was no urethral discharge. His wife had two vaccination marks one just inside the labia and the other at the margin of the orifice of the urethra, the latter accounting for the pain on micturition. They seemed to be about the same age as those on the glans penis of the husband. There had been no sexual intercourse since the 14th. On the 22nd the conditions were more aggravated in both cases. In the husband's case there was some swelling of the penis and by the 23rd that had become so great that the prepuce could not be retracted and there was some discharge coming from the glans but none from the urethra. On the 27th the glands in both were nearly their normal size and all the local conditions in both husband and wife were not so great, although the wife had still some pain on micturition and a slight discharge from the vagina. On the 29th the husband returned to his work and his wife was able to resume her house duties without any discomfort.

The mode of onset and the subsequent history with their complete recovery in so short a time leave no doubt as to the true nature of the case.

Crediton, Devon.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

ST. THOMAS'S HOSPITAL.

TWO CASES OF ANTHRAX.

(Under the care of Mr. H. BETHAM ROBINSON.)

THOUGH by no means rare, anthrax is sufficiently uncommon to render interesting many of the cases, especially with regard to the manner in which the infection has taken place. In both the following instances of the disease there was a very clear connexion with materials which are frequently vehicles of infection—namely, horse-hair and foreign hides. A point which is very strikingly brought out by these cases is the immediate improvement which followed the excision of the infected part. This is doubtless due to the fact that for several days the bacilli are limited to the point where inoculation has taken place. At the present time the prognosis is not considered to be grave if early and complete excision isperformed. For the notes of these cases we are indebted to Mr. E. O. Thurston, surgical registrar.

CASE 1.—A boy thirteen years of age was admitted into St. Thomas's Hospital on June 4th, 1897, complaining of a sore on the cheek. For a week before coming to the hospital he had been employed in cutting up horsehair and on one occasion he had carried a basket containing the hair on his right shoulder but so far as he knew he had not scratched his face with it. Four days before admission he noticed a small pimple on his right cheek just below the malar bone; this gave him no pain, but he suffered from sickness and headache and was obliged to leave off work. The pimple increased in size and a tender swelling appeared on the right side of his neck. On admission a small black slough was seen on the right cheek; it was surrounded by a ring of vesicles; in fact it presented the typical appearance of an anthrax pustule. Its size was about that of a shilling and around the pustule the tissues were brawny and indurated, the induration extending as far as the clavicle. He was somewhat delirious and complained of pains in his limbs; his temperature was 102 8° F. On the day of admission, the patient being under chloroform, the pustule was excised and the edges of the incision were brought together with sutures. The temperature had fallen to 100° by the next day and on the third day (June 6th) it was normal. His general condition rapidly improved. Two days after the operation the swelling and induration of the neck had much subsided and the individual lymphatic glands could be made out, and by the end of a week the glandular enlargement had completely disappeared. For four days after admission he was given forty minims of liquor hydrargyri perchloridi three times a day. Coverglass preparations made from the vesicles gave negative results, but a culture from the same source showed anthrax bacilli and staphylococci. He left the hospital on the 14th, ten days after admission, and has remained well since.

CASE 2.—A skin sorter, aged thirty-seven years, was admitted to the hospital on June 12th, 1897, for a painful pimple on his neck. For many years he had worked with skins, but about a fortnight before admission he had had to deal with some goat skins which came from Calcutta and he had been told by his employer that they were specially dangerous. Five days before admission he noticed a pimple on the left side of his neck immediately below the ear; it steadily increased in size. He had no other symptoms for three days, when he was seized with severe headache, and later he felt ill, drowsy and sick, but did not vomit. Two days later he noticed that his neck was swollen and he was obliged to leave his work. On admission there was a vesicle with a small area of inflammation surrounding it, but without any definite slough, situated over the centre of the left sterno-mastoid; around this were numerous vesicles extending from the hair to one inch above the clavicle. There was no glandular enlargement. His temperature was 102·4°F. The patient having been anæsthetised the whole area of skin covered by the vesicles was excised, leaving a raw surface about the size of the palm of the hand. The sterno-mastoid lying beneath the central vesicle being indurated a portion of the muscle was excised and pure carbolic acid applied. The whole wound was well washed out with perchloride of mercury lotion (1 in 500). The margins of the wound were brought together, so far as it was possible, with silkworm gut sutures. The condition of the patient improved at once, his temperature fell, and his headache left him. Ten days later the raw surface left was covered with Thiersch's skin grafts and the patient left the hospital on July 16th. On bacteriological examination of the fluid in the vesicles no bacilli could be found.

LEEDS GENERAL INFIRMARY.

A CASE OF DERMOID CYST IN GÄRTNER'S DUCT; DERMOID CYST IN THE SIGMOID MESO-COLON.

(Under the care of Mr. BERKELEY G. A. MOYNIHAN.)

FOR the notes of this case we are indebted to Dr. J. Clough, resident obstetric officer.

A married woman, aged thirty-three years, was admitted into the Leeds Infirmary on Sept. 8th with an abdominal tumour and with a dermoid cyst of the vagina. Ten years ago, and again eight years ago, the patient had been in the hospital suffering from a dermoid cyst in the vagina which had been on each occasion opened and scraped. The cavity had again filled and she sought re-admission wishing for the removal of the cyst. On Sept. 5th, three days prior to admission, she had suddenly and unexpectedly discovered a swelling in the abdomen on the left side. On this day and on the previous day she had a rigor with high temperature and vomiting, and it was during a seizure of vomiting that she had placed her hand upon the abdomen and noticed for the first time the swelling there. Menstruation had been regular up to the previous six months, but since then it had been very excessive in quantity and more frequent, although normal in the duration of each period. On admission abdominal examination revealed a large and prominent swelling, rounded in outline and hard in consistence, situated in the left iliac and hypochondriac regions. Above it reached to about two inches beyond the umbilicus and laterally it extended on the one side just to the middle line of the abdomen and on the other to about one inch outside a vertical line drawn upwards from the anterior superior iliac spine. The swelling was firm and very tense, very slightly moveable from side to side and very tender on manipulation. There was obscure and rather doubtful fluctuation; the skin was not adherent; over the whole prominent area a dull note was elicited by percussion. On vaginal examination a swelling of the size of a Tangerine orange was felt at the upper part in the left wall. On introducing a speculum the surface of the tumour was found to be covered with long coarse hairs; this lump was also tender on manipulation. The abdominal tumour could not be felt on examination here.

On Sept. 11th the dermoid tumour in Gärtner's duct was readily removed by the vaginal route. In spite of the previous operative measures it shelled out quite readily. On cutting open the tumour the contents were seen to consist of a sebaceous, fatty, fibrous, and hirsute conglomeration, the hairs therein being very long and coarse. After this operation the patient did well and on the 18th she was again put under ether and the abdominal tumour was dealt with. After anæsthetisation an incision about four inches long, subsequently enlarged to double that length, was made over the most prominent part of the tumour, which chanced to lie in the position of the linea semilunaris. On exposing the tumour after opening the peritoneum an exploring syringe was introduced with a large needle and some very thick material, porridge-like in consistence and appearance and composed in part of pus and in part of sebaceous material, was with difficulty extracted. On exposing the tumour thoroughly it was seen to originate and to lie in the meso-colon of the sigmoid presenting on the outer side of the bowel and pushing this portion of the gut towards the median line. The sigmoid was very closely adherent to the tumour throughout its length. The peritoneum, the outer leaf of the sigmoid meso-colon, was incised and the tumour was with difficulty shelled out. It was everywhere intensely and firmly adherent and on stripping it away from the sigmoid a small opening in the latter was unavoidably caused. This opening was stitched up by two rows of fine silk sutures. After completely enucleating the tumour the wound in the peritoneum was stitched (as in Langenbuch's method applied to the kidney) to the incision in the parietal peritoneum at the original wound and gauze drainage was adopted.

The patient was collapsed after the operation very profoundly and three pints of saline solution were introduced into the median basilic vein with great benefit. For the first twenty-four hours her general condition decidedly improved, but on the 23rd persistent and wholly uncontrollable vomiting set in and there was after removal of the gauze packing some questionable fæcal discharge from the wound. On the 24th her condition became worse and she died from collapse and exhaustion on the 25th.

At the post-mortem examination the wound in the sigmoid was closed and firmly united and the cavity seemed in a fair way for healing. The pelvic organs were normal. The abdominal tumour contained sebaceous matter and hair, with a large amount of solid material. The contents were infiltrated with pus and the whole mass seemed in a state of acute inflammatory disorganisation.

Remarks by MR. MOYNIHAN.—The points worthy of special note in this case are:—1. The alleged sudden appearance of the abdominal tumour. This I well remember to have seen in a case of ovarian dermoid in a patient aged twenty-seven years, who, so far as she was aware, was well in all respects up to a moment when she was assailed with a rigor with vomiting, and had on investigation a temperature of 105° F. After this attack she discovered for the first time a swelling of the size of a cocoanut in the right lower abdomen which on removal proved to be an ovarian dermoid. It may be that the high temperature sets up in a dermoid tumour a latent activity of development and produces, as in both these cases, an acute inflammatory reaction in the tumour attended by a sudden increase in size. On the other hand, the on-coming series of changes in the tumour due to other, not obvious, causes may be the cause of the constitutional distress and disturbance. 2. The occurrence of two dermoids in the abdomen. Dermoid cysts in the duct of Gärtner are uncommon and those in the meso-colon decidedly rare. I have discussed this subject of mesenteric dermoids fully in the *Annals of Surgery*, July, 1897, but it is perhaps worth recalling that until Mr. Langton's case was recorded where a dermoid was removed by abdominal section from each ovary and a third from the mesentery the presence of a cyst of this kind in the mesentery was attributed to an extension of the tumour from the ovary. In my case, as I have remarked, the ovaries were found to be perfectly healthy.

GLASGOW WESTERN INFIRMARY.

A CASE OF EXTENSIVE SEPTIC THROMBOSIS OF THE LATERAL SINUS FOLLOWING INFLUENZA; OPERATION; RECOVERY.

(Under the care of Mr. Walker Downie.)

At one time thrombosis of the lateral sinus was considered to be certainly fatal, but now many cases are treated successfully, yet even at the present day the result will depend in a great degree on the extent of the thrombosis and on the possibility of removing all the septic material. In order to be able to clear out the infective clot without risk of hæmorrhage ligature of the internal jugular vein is sometimes performed, but this may be unnecessary as in the following case. The connexion of middle-ear disease and its complications with epidemic influenza has been recognised now by many observers, but so far as we are aware no cases have been recorded in which the bacteria present in the clot have been investigated. It is very desirable that this should be done.

The patient whose case is here described was a man, sixty-six years of age. He was admitted into the Glasgow Western Infirmary on Dec. 14th, 1896, under the care of Dr. Alexander Patterson, who on the same day desired Mr. Downie to see the patient and to take charge of the case. The patient complained of severe pains over the right temporal region, of frequent attacks of giddiness accompanied at times by sickness, of occasional loss of memory, and of slight discharge from the right auditory meatus. Five years previously he had a severe attack of influenza, prior to which he had had no aural trouble at any time and his hearing had always been good. On recovering from this illness he found that he was deaf on the right side and although he observed no discharge he had slight pain in the right ear together with what he described as a "cold feeling over the bone behind the right ear." Some months later he had a discharge from his right auditory meatus and this was followed by a swelling over the right mastoid which was incised by the medical man in attendance. A quantity of pus escaped, the swelling subsided, and the incision healed as if it had been a mastoid periostitis. But while the wound over the mastoid healed discharge continued to escape from the ear and he suffered from attacks of severe pain over the right side of the head which came on first at intervals of months but latterly of days only. In October, 1896 (two months previous to the first time Mr. Downie saw him) he had become unconscious while suffering from one of these attacks and he remained so for two days, when, following the escape of a quantity of pus from the auditory meatus, he regained consciousness. From that time onwards pain was always more or less present, and there were occasional exacerbations during which attacks he sometimes felt dazed but was never again rendered unconscious.

On testing his hearing power the patient was found to be totally deaf to the voice, to the watch, and to the sounds of the vibrating tuning-fork by aerial conduction on the right side. The vibrating tuning-fork when placed over the vertex (bone-conduction) was said to be heard equally on the two sides. The man however was very ill when the tests were applied so that this latter statement is not of very much value. On making an examination of the affected ear the meatus was found to contain a small quantity of fœtid pus, the tympanic membrane generally was thickened and perforated, the perforation being small and circular and situated immediately below and in front of the short process of the malleus. The size and site of the perforation favoured the retention of fluid within the middle ear. The mastoid area was somewhat prominent on the right side as compared with the left and slightly tender on pressure particularly over the scar of the early incision, but there was no fluctuation the bone being hard and firm.

On Dec. 17th, three days after admission, the right side of the head having been shaved and otherwise prepared for operation, an incision was made over the mastoid through the scar of the former incision and carried well upwards, the intention being in the first place to open into the tympanic or mastoid antrum. On separating up the periosteum, however, a small area of necrosed bone was found which, on being fully exposed, was seen to correspond with the level of the lateral sinus. A portion of this bone was then carefully removed by means of mallet and chisel and as soon as the sinus was opened a quantity of very foul-smelling thick purulent material escaped. The opening thus made was enlarged by the removal of all necrosed bone and the exposed sinus was carefully examined and thoroughly cleansed. A great part of the contents was of a curdy character with broken down blood clot which had to be scooped out. This completed, the tympanic antrum was opened and cleared of its purulent contents, the operator making sure that nothing of a septic nature remained lodged in the middle ear or in any of the bony cavities communicating with it. The result has proved that this was accomplished satisfactorily. The cavities were washed out with carbolic lotion; portions of the skin were turned in over the edge of the opening in the lateral sinus, and the sinus, the antrum, and the middle ear were packed with iodoform and boric gauze.

On the morning of the operation the temperature was 98·6° F., the previous morning it had been 99°, and on the evening of the day of operation it was 97·6. It is interesting to note that throughout his convalescence it continued to be somewhat subnormal, being 96·4° on two occasions and this without the slightest untoward symptom or even complaint of discomfort. The chart showed that from Dec. 14th to Jan. 8th inclusive the temperature exceeded 98·4° on only five occasions, being 98·8° on Dec. 15th, 99·0° on Dec. 16th, 98·6° on Dec. 17th, 99·0° on Dec. 29th, and 98·6° on Jan. 7th. The two lowest temperatures were 96·4° on Dec. 30th and on Jan. 2nd.

The operation was immediately followed by disappearance of pain and giddiness, and the raw surfaces healed quickly. He was dismissed from the infirmary at the end of three weeks from the date of the operation (Jan. 8th), and from that date there has been complete absence of discharge and other symptoms of which he formerly complained. In November, 1897, he reported himself stating that there had been no aural trouble, no discharge, no pain, and no giddiness since leaving the infirmary ten months previously. The opening into the lateral sinus, which admitted the forefinger, had firm edges and the interior of the cavity, the capacity of which was equal to four drachms, was lined throughout with epithelium continuous with the portions of skin which at the operation were turned in to "paper" part of the walls. The patient's general health had greatly improved and he had been at his work regularly during the greater part of the previous nine months.

Remarks by Mr. Downie.—Some years ago I drew attention in The Lancet[1] to the frequency with which epidemic influenza affected the middle ear and the adnexa in those who had previously no aural complaint. During that epidemic my experience was that the aural affection came on suddenly during convalescence and that the inflammatory process was of a rapidly destructive character. The patient whose condition has just been considered suffered, peculiarly, from influenza during that particular epidemic and he had suffered from the resulting aural complications which appeared during convalescence, in which destruction of tissues had been widespread, ever since, calling in the end for serious operative interference. I publish the case as an example of extensive and deep-seated mischief beginning as a middle ear catarrh, the sequela of influenza, and as an instance of complete recovery following an extensive septic thrombosis of the lateral sinus.

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[1] The Lancet, May 28th, 1892.

The fifth annual "Santa Claus" distribution of food, clothing, toys, &c., to 2000 of the poor children of Cardiff and the neighbourhood took place on Dec. 22nd and 23rd last.

Literary Intelligence. — Messrs. Baillière, Tindall, and Cox announce for publication this week a new work on "Nasal Obstruction, the Diagnosis of Various Conditions causing it, and their Treatment," by Mr. Walsham. They will also publish during the present month a new work by Dr. Harry Campbell on "Respiratory Therapeutics"; an "Anglo-French Medical Dictionary," by Mr. de Méric; a new student's manual on "The Essential Outlines of Surgery," by Mr. Spencer, of Westminster Hospital; one on "Medical and Surgical Diagnosis," by Mr. Parkinson; and a new edition of Dr. Rabagliati's "Air, Food, and Exercises."

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Fragilitas Ossium.—Spina Bifida.—Gumma of Pituitary Body.—Cystic Disease of Liver and Kidney.

A meeting of this society was held on Dec. 21st, the President. Dr. Payne, being in the chair.

Dr. L Guthrie showed an example of Fragilitas Ossium from a child in whom five fractures of the long bones were discovered after death. The left femur, which was exhibited, showed that the walls of the shaft were thin and so soft as to be easily indented by the finger and the medullary cavity was enlarged. Immediately below the lesser trochanter was a complete transverse fracture with little displacement owing to the interlocking of the serrated ends. There was a considerable amount of callus thrown out. The child was a congenital imbecile and partially paralysed. Dr. Guthrie remarked that cases of spontaneous fracture such as he believed this to have been were most frequently met with in association with mental defect.—Mr. Edgar Willett thought that the term fragilitas ossium was too loosely applied. These cases in children ought to be separated from those occurring in adult life, a large proportion of which were due to deposits of malignant disease.—Mr. Jackson Clarke agreed that cases of fragilitas ossium required differentiation into groups. He had met with a case similar to that described by Dr. Guthrie, which he thought was due to congenital syphilis from which the child was suffering. In his case also there was a large amount of callus. He agreed that mental defect was often associated but that also was often due to syphilis. In Dr. Guthrie's case from the amount of blood effused into the medulla he would think that a scorbutic condition might have contributed to the condition.—Mr. Targett also drew attention to the hæmorrhage into the cancellous tissue and thought that this, with the history of bruises during life, pointed to scurvy rickets.—Dr. Guthrie, in reply, agreed that scurvy played an important part in the production of the fractures in his case.

Mr. R. Henslow Wellington showed a specimen of Spina Bifida removed from an infant who died when three weeks old. When the child was born there was a cystic tumour along the right iliac crest just reaching to the middle line. When this was emptied by aspiration a smaller independent cyst could be felt within it. On a second occasion this second cyst was punctured and twitchings and signs of irritation of the spinal cord occurred. At the necropsy it was found that the sacrum was twisted half round. The lumbar and sacral spines were defective and left an oval aperture through which the outer cyst protruded, the wall being formed of skin and dura mater. Within this was an independent cyst which appeared to be formed by distension of the arachnoid sac, or it might have been a syringomyelic cyst. No trace of spinal cord could be discovered in its wall. There were extra centres of ossification in the bodies of the lumbar vertebræ and there was also a malformation of the liver, which had an extra lobe, and the gall-bladder was so low down as to be close to the urinary bladder. The specimen was referred to the Morbid Growths Committee.

Dr. William Hunter showed a specimen of Gumma of the Pituitary Body. The patient was a woman, forty-seven years of age, who died from pyonephrosis and who had shown no signs referable to the pituitary body during life. There were well-marked signs of syphilis in other parts. The pituitary body was of the size of a marble, firm and yellowish, with a firm, fibrous capsule and a caseous centre. Microscopically it showed the characters of gumma. There were no giant cells and no tubercle bacilli. Gummata of the pituitary body were rare. One had been shown to the society by Mr. Cecil Beadles and Virchow and another German observer had also recorded instances.

Dr. G. F. Still read a paper on a case of Cystic Disease of the Liver and Kidney in an infant, eight weeks old, who was under the care of Dr. Lees at the Hospital for Sick Children, Great Ormond-street. The infant was an eight months' child and the abdomen was noticed to be enlarged fourteen days after birth. The child was much wasted. The enlarged kidneys could be felt during life and the urine was highly albuminous. There was never any jaundice. The child died with symptoms of uræmia. The kidneys weighed fifteen ounces together as against a normal weight at that age of about one ounce. The capsule stripped off easily. On section the organ had a peculiar translucent appearance and was seen to be honeycombed everywhere by minute cysts which were separated one from another by minute septa. The pelvis and ureters were normal. Microscopical sections showed numerous dilated tubules lined with cubical epithelium separated by trabeculæ of fibrous tissue which was not highly cellular. Normal glomeruli and tubules could be seen in places. There was no sign anywhere of concentric thickening of Bowman's capsule such as occurred in inflammatory affections of the kidney. The liver was not enlarged; it weighed five ounces. There were no cysts visible to the naked eye. Microscopically there was great increase of the connective tissue which was fibro-cellular and enclosed lobules and groups of lobules irregularly but was not inter-cellular. Embedded in it were numerous irregular branching cavities lined by columnar epithelium. These were not limited to the portal spaces but occurred beneath the capsule and even within the lobules. Dr. Still discussed the various theories which had been adduced to account for the cystic condition of the organs and particularly combated the inflammatory view. Had it been inflammatory in the liver there would have been jaundice and further the fibrosis would have been progressive. In the kidney not only were the signs of previous inflammation absent but the kidneys had not been formed for a sufficient length of time for post-inflammatory fibrosis and cystic change to occur to the extent shown in this specimen, as this was a process requiring many months. Dr. Still regarded the condition as due to irregular development, there being overgrowth of the mesoblastic elements of the organs which led to cystic dilation of the tubules and ducts.—Dr. H. D. Rolleston said that he had listened with great interest and admiration to Dr. Still's paper but he still held the view that the condition was inflammatory and allied to biliary cirrhosis although he admitted that it was difficult to account for the absence of jaundice. He had recorded several cases and in one in addition to cystic disease of the liver and kidneys there was an occipital meningocele and in another there was cystic disease of the pancreas. He thought that the cysts found in unusual positions were due to new formation, and it had been shown that the bile-ducts might be so formed in inflammatory cirrhosis. No explanation would be satisfactory which did not explain the occurrence of cysts alike in the brain, pancreas, liver, and kidneys, and he still thought that the inflammatory hypothesis was the most satisfactory one. — Mr. Targett remarked on the uniformity of the appearances met with in specimens of cystic kidneys. Many of the specimens he had seen were from still-born children. The duration of life would depend on the amount of normal tissue present. The ureters were sometimes ill-developed. He agreed with Dr. Still's developmental explanation. — Dr. Parkes Weber said that although the inflammatory theory was very plausible there seemed very little direct evidence in support of it. In that way it was like the theory that valvular malformations in the heart were due to intra-uterine inflammation of which, however, there was often not the slightest sign.—The President said that whichever theory was adopted it was clear that the disease must begin at an early period of fœtal life. If the ducts were obstructed just before birth there would be definite symptoms just as in the case of biliary cirrhosis. The process must begin before the secreting and excreting parts were connected. It must be remembered that a temporary injury, using the term in a wide sense, might bring about inflammation and all trace of it might disappear.

EPIDEMIOLOGICAL SOCIETY.

Leprosy in China, the East Indian Archipelago, and Oceania.

A meeting of this society was held on Dec. 17th, 1897, Professor J. L. Notter, M.D. Dub., President, being in the chair.

Mr. James Cantlie read a paper on the Physical and Ethnological Conditions under which Leprosy occurs in China, the East Indian Archipelago, and Oceania. When at Hong-Kong he had by personal and postal inquiries obtained information from all parts of the area through which leprosy occurs from the western borders of China to the furthest islands of the Pacific. There was a general consensus of opinion among all competent observers that leprosy was a bacillary and therefore probably communicable and inoculable disease closely allied to, if not a specialised form of, tuberculosis; it was not proved to be hereditary or transmitted with vaccination and it was independent of soil, climate, or food. On the other hand, it was essentially a Chinese disease extending from its focus in the south-eastern provinces to every region visited by the lower class of Chinamen and to no others, the Japanese, Malays, and some Mongolian races suffering in a less degree, but the aborigines, black or brown, never, and having indeed no word for the disease in their languages. The alleged exceptions would not bear examination, being either cases of scrofulous abscesses, eczema, lupus, &c., or wholly imaginary like the two large hospitals with 200 beds each at Tientsin described by Doolittle and Newman but nowhere to be seen. The rapid encroachment of the sand from the desert on the cultivated and completely disafforested northern provinces had driven the sturdy Manchus southwards, crowding out the weaker but more intelligent Chinamen of the south and compelling them to seek employment beyond the seas. The coolies belonging to the poorest and lowest class esinclude many actual or incipient lepers who spread the disease in districts where it was unknown while the Chinese settlers were merchants, planters or tradesmen. Leprosy, however, was not met with in every part of China, being absent from twelve of the eighteen provinces of the "middle kingdom," while its distribution seemed independent of the climatic conditions of north and south or of high and low-lying lands or of extremes of temperature and rainfall. In China proper there was a leprous area conterminous with the peninsula and province of Shantung; a second on the Yangtse around Hankow; a small patch in Szechuen bordering on Tibet probably infected by hill-men from India; and lastly, the great southern area embracing the provinces of Fokien, Quangtung, and Quangsi, whence three-fourths of the emigrating coolies were drawn. There was no leprosy at Pekin, Shanghai, Amoy, &c., but Chefoo, Hankow, and Canton were in the hearts of the larger areas and the strict inspection of all coolies at the ports of departure and arrival was the duty of all European authorities. Northwards Japan was deeply involved, though in Yezo only the half-castes among the Ainos were attacked. In Corea the sufferers were mostly Chinese and the disease was confined to the southern portion, being quite unknown along the coast line northwards, where the natives have been exterminated by the Russians. In the south it extended over the whole of Tonkin, Annam, Siam, Burma, and the Malayan states, though in the latter the Malays suffered much less than the Chinese, who in many places now outnumbered them, and the aborigines or savages escaped entirely. The same might be observed in Formosa, Hainan, Sumatra—where the Achinese were exempt—Java, and Celebes, where it was confined to a small portion of the south-west coast, the seat of the trade in Macassar oil. In Borneo it was introduced with the Chinese in 1888 and disappeared with their expulsion after the rising at Sarawak. Throughout the Sunda Islands beyond Java, Papua, and the Melanesian groups, as well as those scattered over the Pacific Ocean, whether the people were Negritos or belonged to the brown aboriginal races, leprosy was unheard of save when and where European settlement had attracted Chinese labour; the rush for gold in California led to the development of the Sandwich Islands and a large immigration of Chinese and Japanese, while the native race proved unusually susceptible to leprosy, the regulation of which at present absorbed nearly half the revenue. There was a little leprosy in New Caledonia and in one of the Fiji Islands limited to the Chinese and to the single tribe willing to work with them in the fields; it had disappeared from the Friendly Islands; and of three lepers who once came to Samoa one died and the other two were promptly sent back to China.

Dr. SIMPSON (late of Calcutta) remarked that in New South Wales fifty-seven lepers had been found among the Chinese and two among Europeans associating with them. There were now no lepers in the Japanese colony at Hawaii.

Dr. PRINGLE said that the Indian hill-tribes threw leprous women into the mountain torrents, to escape which fate the women went to the plains as prostitutes.

Mr. CANTLIE, in his reply, remarked that women in China were active disseminators of infection, "selling the disease," as they called it, in the belief that they could free themselves by coitus with a healthy man. The police at Hong-Kong sent back to the mainland every leper they found in the town.

SOCIETY OF ANÆSTHETISTS.

New Method of Combining the Vapours of Chloroform and Ether.—Protracted Anæsthesia following the Administration of Nitrous Oxide Gas.

A MEETING of this society was held on Dec. 16th, the President, Dr. DUDLEY BUXTON, being in the chair.

Mr. TYRRELL read a paper on a New Method of Combining the Vapours of Chloroform and Ether and pointed out that occasionally difficulties arose in giving ether to certain patients. He thought that the administrator should be able to control the proportion of the anæsthetic employed. He used two Junker's bottles, giving either chloroform or ether singly or combined. To meet the condition of oxygen starvation in prolonged operations and in fat persons with feeble circulation he allowed a small stream of oxygen to enter the face-piece, so providing for the need of aeration. The apparatus consisted of two Junker's bottles fitted with tubing controlled by taps so as to supply either chloroform or ether or both to the face-piece. The chloroform was given in the ordinary way and ether was given if occasion arose either simultaneously with, or instead of, chloroform. The method was advocated for operations on the young, for thyroid tumours with dyspnœa from pressure, for removal of glands in the neck in young children, in operations for empyema, and in some eye operations — Dr. GRANT MORRIS said that by this method the after effects of the anæsthetic were obviated.—The PRESIDENT said that he had adopted the method of giving oxygen with ether for two years and found it very satisfactory. He hoped to bring his results before the profession shortly.—Mr. E. WHITE, Mr. J. WHITE, Dr. LOW, Dr. SILK, Dr. COOK, and Mr. CARTER BRAINE took part in the discussion and Mr. TYRRELL replied.

Dr. FLUX read the notes of a case of Protracted Anæsthesia following the Administration of Nitrous Oxide Gas. The patient was a girl aged nineteen years, apparently in normal health; the gas was given with a view to the extraction of teeth; and the usual phenomena of nitrous oxide gas narcosis were present except that consciousness did not return for an hour and twenty minutes in spite of vigorous efforts to arouse her. Consciousness when it returned was complete and occurred abruptly. The patient had fainted in the waiting-room before the administration of the anæsthetic.—Mr. TYRRELL considered that the case might be one of hysteria.—Mr. CARTER BRAINE and Mr. STARLING regarded these as cases of hystero-epilepsy and Mr. HILLIARD and Mr. E. WHITE thought the case might be of the nature of a hypnotic trance.—Dr. FLUX having replied the meeting closed with the usual votes of thanks.

MIDLAND MEDICAL SOCIETY.

Puerperal Fever.—Exhibition of Cases and Specimens.

A MEETING of this society was held at the Medical Institute, Birmingham, on Dec. 1st, 1897, the President, Mr. J. W. TAYLOR, being in the chair.

Dr. THOMAS NELSON read a paper on the Nature and Prevention of Puerperal Fever.

Dr. SHORT showed a case of Writer's Cramp affecting both hands. The patient, a clerk, thirty-three years of age, had the neurosis of his right hand eleven years ago, with marked wasting of the intrinsic muscles, which condition has persisted and is plainly seen now. He taught himself to write with the left hand. This year the left hand became affected with commencing atrophy of the thenar and hypothenar muscles. He was much depressed mentally. Electrical reaction showed diminution to both currents. Treatment with electricity, regular massage, and practice in shoulder writing had improved his condition and had obviated the necessity for leaving off work.

Dr. RUSSELL showed two patients—mother and daughter—suffering from Idiopathic Muscular Atrophy. The family history extended through three generations and the complaint showed a marked tendency to diminish in the successive generations. A slight improvement had been noted in one patient under electrical treatment.

Dr. PURSLOW showed a Strangulated Ovarian Tumour removed during pregnancy. The patient (who had been married four years and had had one previous pregnancy which had ended in abortion at the fourth month) was after seven weeks' amenorrhœa seized with severe abdominal pain, vomiting, and collapse, with distended abdomen dull to percussion over its lower half. The diagnosis was doubtful, ruptured tubal pregnancy being suspected. As the symptoms were grave the abdomen was opened. An ovarian cyst was found and removed. There was twisting of the pedicle and one part of the cyst was almost black from strangulation. The uterus was enlarged and evidently gravid. The patient made a good recovery and the pregnancy was now (nine weeks after operation) pursuing a normal course.

Mr. J. FURNEAUX JORDAN showed two specimens of Tubal Pregnancy. The first was unruptured and the site was at the uterine end of the tube, the outer end being free and patent. The patient from whom it was removed had eight years previously had an Alexander's operation performed and four years ago had a hydro salpinx removed. The operation for the tubal pregnancy was performed on Sept. 2nd and the patient's recovery, though protracted, is now complete. The second specimen was one of tubal abortion; the hæmorrhage from the outer end of the tube had taken place slowly into a cystic ovary to which the tube was adherent. The patient made a rapid recovery from the operation and is now quite well.

Dr. MARRIS showed specimens of new absorbent dressings—viz., Robinson's Cellular Wadding and Robinson's Dressing and Gauze. The wadding is made of pine wool and is recommended for very free discharges. Robinson's dressings contain white wool evenly mixed with the cellular material and have all the absorbent qualities of white absorbent wool. They can be faced with gauze (as in Robinson's tissue) after the fashion of Gamgee tissue.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens.—Induction of Premature Labour.—Origin of the Placenta

A MEETING of this society was held on Dec 8th, 1897, Dr. HALLIDAY CROOM, President, being in the chair.

Professor SIMPSON showed: 1. A Parovarian Tumour which was Removed with Ovary and Tube; the latter had a double fimbriated extremity. The appendages of the other side were also removed for a small parovarian tumour; this tube was also found to have a double infundibulum and a small lipoma was present. 2 Uterus and Fibroids removed by vaginal hysterectomy. 3. Uterus removed by vaginal hysterectomy for malignant disease. 4. Uterus and Appendages removed by vaginal hysterectomy with an ovarian abscess on one side.

Dr. MILNE MURRAY exhibited a specimen of Meningocele.

Dr. BREWIS showed a Uterus removed by vaginal hysterectomy for adeno-carcinoma of the body; also another Uterus similarly removed for cancer limited to the cervix.

Dr. J. W. BALLANTYNE showed (1) a Fœtus with Exomphalos and Double Genital Tubercle; (2) a fœtus with large Encephalocele; these two cases had presented by the morbid part; (3) a Fœtus with Ascites and Distended Bladder, where the urethra was dilated to an occlusion close to the point of the penis; and (4) a Placenta with a large Hæmatoma.

Dr. D. W. JOHNSTON (Johannesburg) sent (1) specimens of a case of Hypertrophy of the Liver with Dropsy in the Fœtus; (2) two specimens of ruptured Extra-uterine Gestation removed by operation; and (3) Uteri and Appendages of Baboons.

Dr HAIG FERGUSON showed an Anomalous Placenta and a Missed Abortion.

Dr. JOHN MOIR read a paper on the Induction of Premature Labour. He had received his teaching from Professor Hamilton, of the Edinburgh University, the predecessor of Sir James Simpson. At the latter end of the last century the practice consisted of puncturing the membranes, allowing the liquor amnii to escape and then waiting till the pains came on. Dr. Hamilton discountenanced the rupturing of the membranes and recommended that they should be left entire for the sake of the child. He advised the separation of the membranes from the os and cervix and if pains did not come on then the drawing off of a small portion of the liquor amnii. This was effected by passing a small silver catheter some inches between the membranes and the wall of the uterus. The point of the catheter had been cut off, and when it had been inserted sufficiently far the point was turned towards the membranes and a stiletto passed through it to effect puncture. A flow of liquor amnii occurred through the catheter, but only a few ounces were permitted to escape. The pressure of the walls on the minute puncture prevented any further flow after withdrawal of the catheter. Labour generally supervened in a day or two. If not this procedure was assisted by the introduction of a gum elastic catheter between the membranes and the uterus and left there or reintroduced if it escaped. Dr. Moir had occasional recourse to sponge or tangle tents or a small Barnes' bag. He also considered the hasty accomplishment of the premature labour as detrimental to the interests of the child. The separation of the membranes might be required daily for some days before labour was induced; in this way the parts were gradually dilated and softening of the canal took place. He had induced labour on twenty-six different women, from once up to eight times in one case; in all on seventy-two different occasions. He had brought on labour once in 8 cases, twice in 3 cases, thrice in 10 cases, four times in 1 case, five times in 3 cases. and eight times in 1 case Once twins were born; and of the seventy-three children fifty-nine were born alive, one died in a few hours, and thirteen were stillborn. Of the stillborn eight were the children of women with very deformed pelves; the others were shoulder or breech cases. Twenty-four of the mothers recovered; his last 2 cases died. His earliest case was in 1833. He thought the results obtained by these methods compared favourably with the recent practice.

Dr. A. H. F. BARBOUR read a paper on Leopold's Account of the Origin of the Placenta. Leopold's atlas, "Uterus und Kind," is the most important contribution made to the sectional anatomy of obstetrics during the past year and by far the most important that has yet been made to the anatomy of pregnancy as distinct from the anatomy of labour. It contains thirty plates with sections of the pregnant uterus from the first week up to full time. The most valuable one is that of the uterus and ovum of nine days' conception. The patient was a multipara, thirty years of age, and was operated on for cancer ten days after cessation of menses. On opening the uterus to ascertain how far the cancer had extended Leopold was struck with the congested appearance of the mucosa and a slight elevation of the size of a lentil seed on the posterior wall near the fundus. The drawing of the uterus laid open shows the hypertrophy of the mucosa which stops short at the os internum. On the posterior wall about a quarter of an inch below the fundus is a round, somewhat flattened elevation of the mucosa 7 mm. in diameter. The mucosa increases to double its thickness as it comes near the ovum and diminishes by one-half beneath it; the mucosa, which is 4 mm. thick at the fundus, increases to 8 mm. at the ovum, measures 4 mm. underneath it, and rises again to 8 mm. at the other side of the ovum, and falls again to the 4 mm. lower down the wall. That is to say, immediately round the ovum it is twice as thick as underneath or beyond it, giving the appearance compared to a stone set in a ring. Microscopic section shows the compact and spongy layers of the mucosa, the former with the drawn out necks of the glands, the latter with the convoluted bases. The section indicates how rapid is the growth of the mucosa when it can become hypertrophied to this extent within ten days of a menstrual period. The ovum rests within the reflexa on a fold of mucosa like a ship resting on a ledge of rock. There is no epithelium on the ledge, though there is on its lower slope. Dilated gland spaces with cylindrical epithelium are seen in this fold and into the mouths of one of these glands a villus has extended. The villi are usually applied to the surface of the mucosa and united to it by a layer of fibrin. Large numbers of decidual cells are noted between the villi; the ends of the villi stimulate the decidua to proliferate. The capillaries are dilated and burst, opening with their mouths into the spaces between the villi; and at this period, according to Leopold the villi are already washed with maternal blood up to the chorion. Another preparation is of a fourteen days' ovum embedded in the mucosa. In discussing the preparations, Dr. Barbour stated that there is no ground for the idea that the ovum becomes embedded in the raw surfaces as has been suggested. The ovum is found perched on a fold of mucous membrane with its surface epithelium still present on one side of it.

The rapidity with which the mucosa is hypertrophied is noteworthy. In this connexion he instanced Werth's investigation where a uterus was removed five days after curetting, when he found the mucosa reproduced anew with glands opening freely on the surface and an unbroken covering of epithelium. It is remarkable that in so early a pregnancy the mucosa shows distinct, compact, and spongy layers. Hunter's and Sir William Turner's views were also criticised. Another question is, How does the ovum get its food? The gist of Leopold's conclusion is that at the early stage a condition is found similar to that described in the fully formed placenta at the fourth month. But Leopold's description is lucid but not convincing. The difficulty is not as to the blood finding its way out of the vessels into this space in which the villi lie, but how it finds its way back again. The channel must be built before the water flows along it or the result is a marsh not a stream. It would seem that the maternal circulation of the placenta must commence in the gradual dilatation of the capillaries without rupture.—Professor SIMPSON remarked that there was now an earlier conception than Leopold's described by Peters of Vienna.—Dr. BERRY HART also discussed the paper.

Reviews and Notices of Books.

Neue Untersuchungen zur Pocken- und Impf-Frage. Von Dr. Med. H. BÖING. (*Some New Investigations of the Small-pox and Vaccination Question.* By Dr. H. BÖING.) Berlin: S. Krager. Glasgow: F. Bauermeister. 1898. Price 5s.

To those who are not already satiated by the mass of evidence, statistical and other which has accumulated around the subject of vaccination the perusal of this *brochure* may afford some enlightenment. It is not the first time that its author has written on the subject, and the position he assumes is that of the independent critic. He is apparently opposed to compulsion in vaccination as generally understood but not to stringent compulsory measures (including vaccination) of isolation, disinfection, &c., in times of small-pox outbreak, and he deprecates the decision of the German Government not to appoint a new Commission, composed of the two parties on the question, to reconsider the position. His studies of past records have led him to the conclusion that the share taken by vaccination in the decline in small-pox mortality during the present century has been over-estimated and he enters in some detail into the legislative aspect of the question. Not that he denies the efficacy of vaccination—indeed, he is struck by the altered age-incidence of cases of small-pox and of small-pox deaths, which is one of the most instructive lessons of the century—but he considers the period of its protective power to be very variable, often very brief. Although his pages teem with statistics he cites with approval the statement of a high authority as to the infinitely greater value to be set on the characters of the disease as exhibited in individuals in proof of the power exerted by vaccination in small-pox. Dr. Böing believes that the decline in small-pox which took place rather suddenly at the commencement of the century was owing to more than one factor, as, for instance, a wider recognition of the fact that small-pox is a preventable malady, the consequent greater attention paid to measures directed against contagion, the abandonment of inoculation, and the introduction of vaccination. He doubts if vaccination had not been discovered whether it would have been possible to have maintained such rigid and constant sanitary surveillance as would have sufficed to have stamped out small-pox, even if compulsory measures were adopted, much less so if the attempt had been made, as Juncker suggested, to enforce such measures by reason rather than by compulsion. However, Jenner's discovery came at the nick of time to confirm opinion as to the preventability of small-pox, to replace the baneful system of inoculation and to offer protection to the people against infection for a shorter or longer period. "On these grounds," says Dr. Böing, "was Jenner's discovery a great gain to humanity and science, for even those who do not rate its value in the suppression of small-pox so highly as its one-sided worshippers, but who recognise its drawbacks and deplore them, since it places in jeopardy the most precious right of the citizen and is a source of qualms of conscience to many—even such persons, who are convinced that at the present day small-pox may be combated by other means, vaccination being regarded merely as a powerful supplementary measure—even these, if they have only superficially glanced at the history of small-pox outbreaks and vaccination, will not hesitate to admit that the laurel with which many grateful nations have crowned the head of the English village doctor was well deserved and is still held to have been so to-day" (p. 1,6). We may take it that this long sentence fairly represents the author's own position. He pleads for individual liberty when the plague is not at the door, but on the approach of the enemy he becomes the sternest of autocrats. Yet if people cannot themselves perceive the benefits of vaccination and prefer the liberty to expose their children to the risks of this contagious disease in its unmodified forms, it is hardly likely that even when it has come to them or their neighbours they will be wise in time to prevent its ravages. The worst of the whole opposition is the denial that vaccination has any efficacy as an argument against its importance. Dr. Böing is, however, no anti-vaccinationist in this sense; he is too well versed in the history of small-pox and in the characters it exhibits to doubt its influence, but he doubts if compulsory measures are justifiable except when small-pox has broken out and individuals are in danger of infection.

Human Anatomy, General and Descriptive, for the Use of Students. By JOHN CLELAND, M.D. Edin., F.R.S., Professor of Anatomy in the University of Glasgow, and JOHN YULE MACKAY, M.D., C.M. Glasg., Professor of Anatomy in University College, Dundee. With 630 Illustrations. Glasgow: James MacLehose and Sons. Pp. 833. 1896. Price 28s.

THERE is an obvious convenience in having in one volume descriptions of both the macroscopic and the microscopic appearances of the structures constituting the body; and though the student will investigate the anatomy and the histology separately yet it is useful to him to be able to refer readily from one to the other. The account of the Histology of the Elementary Tissues is very satisfactory and it is followed by a somewhat brief chapter on Embryology. The anatomy is described systematically and not with regard to regions. The descriptions are good and not unnecessarily full and are certainly all that can be required by the average student. The illustrations are very numerous, 630 in all; on the whole they are very good and a large number of them, illustrating the vessels and nerves, are coloured. Many of the figures have been taken from the well-known works of Testut and Gegenbaur, but 257 are original. Most of these are excellent but we must take exception to some. There is a great tendency at the present time to utilise photography to illustrate works on anatomy and if used in moderation the method is valuable. In the case of bones and many parts of the brain photography gives very good results, but most attempts to reproduce by any photographic method such structures as ligaments, blood-vessels, and nerves lead to failure; for instance, Figures 157, 159, and 182 are certainly useless. Clear diagrams would have been of much more value to the student.

An appendix on the utilisation of the Roentgen Rays in Anatomy is of interest; in it is pointed out the help that may be gained by the aid of these rays in investigating the relative position of the bones in various movements of the joints. By the x rays, for instance, a much greater interval than was thought is seen to intervene between the head of the ulna and the pyramidal bone. The book is well written and we can recommend it as a useful text-book for all the ordinary examinations in anatomy.

A Manual of Obstetric Practice for Students and Practitioners. By Professor A. DÜHRSSEN, M.D., late First Assistant in the Obstetric Clinic of the Charité Hospital in Berlin. Translated and Edited from the Sixth Emended and Enlarged Edition, by JOHN W. TAYLOR, F.R.C.S. Eng., Surgeon to the Women's Hospital, Birmingham, &c., and FREDERICK EDGE, M.D. Lond., F.R.C.S. Eng., Surgeon to the Women's Hospital, Wolverhampton. With Illustrations. London: H. K. Lewis. 1897. Price 6*s.*

FROM the translators' preface it appears that this manual is a very popular one in Germany and has already passed through six editions. The translators believe that it will be acceptable to English students and "will tend to improve that standard of sound reason and aseptic practice which is still but imperfectly maintained in the ordinary routine of midwifery work." They insist that it is essentially a practical book, that nothing of fundamental importance is omitted, and that at the same time it contains no irrelevant matter. The conciseness with which the important divisions of the subject have been treated will be evident when we say that to extra-uterine pregnancy is allotted rather less than four pages. Although it is stated that extra-uterine pregnancy may be either tubal, ovarian, or abdominal, yet a little further on the author says, "No fully proved instance of primary abdominal pregnancy is so far known." On the important matter of antiseptics the advice given is generally reliable and the measures for securing asepsis are not essentially different from those usually employed in this country. As regards the management of the third stage of labour the placenta, we are told, is always delivered by Credé's method in Germany. It is here recommended that Credé's manipulation should only be employed from half an hour to one hour after the birth of the child during a pain and with the bladder empty. In connexion with this part of the subject precise directions are given as regards the course to be adopted when membranes are retained after the placenta has been expelled. The author says that retained membranes only require removal when they lie in the vagina unless decomposition or hæmorrhage occurs. If they lie in the uterus they are spontaneously expelled covered with blood-clot in a few days. Curiously we notice no mention in the index of symphysiotomy, of accidental hæmorrhage, or even of post-partum hæmorrhage or of the ring of Bandl. In the description of the treatment of retroflexion of the gravid uterus after incarceration we do not see any mention of the expectant method of treatment—that is, treatment by rest in bed and keeping the bladder empty by means of a catheter. As is well known, in many cases so treated the uterus rights itself spontaneously in a few days. With regard to the results obtained in the best managed lying-in hospitals and the results in private practice the author alleges that "the introduction of antisepsis into general midwifery practice has not lowered the mortality after obstetric operations ...... although this has been reduced to a minimum in hospital practice. This disparity is explained by two causes—namely, defective antisepsis and defective technical skill in general practice. ...... An improvement may be expected in the future because strict antisepsis or asepsis (I do not mean a pretence at either) will be the Commonwealth of all Obstetricians."

The book is convenient in size and we have no doubt will be found useful by those for whom it is intended. In some respects in places we are reminded of its foreign origin, while occasionally the translators have been less careful about the Latin than we may suppose them to have been in dealing with the German of the original, or they would not have passed "per vaginum" on page 53.

Studies in Psychical Research. By FRANK PODMORE, M.A. London: Kegan Paul, Trench, Trübner, and Co. 1897.

THE attitude of various sections of the scientific world towards the supernormal has somewhat changed during the past fifteen years since the founding of the Society for Psychical Research. Early in 1882 under the presidency of Professor Henry Sidgwick, of Cambridge, a group of men trained in philosophy and in the methods of science combined to investigate the evidences of "debateable" phenomena designated by such terms as mesmeric, psychical, and spiritualistic. The testimony of many apparently competent witnesses including scientific men of eminence in various countries such as Russel Wallace and Crookes, seemed to indicate that amid much manifest delusion and deception there was a residuum inexplicable by the generally recognised hypotheses. Mr. Podmore has been a prominent member of this society from the beginning and in this volume of studies an attempt is made to estimate the value of the work done by the society and recorded in its dozen volumes of proceedings. It is an individual expression of opinion as the author does not wish to implicate any of his colleagues in his conclusions. He is possessed of a keen critical mind and may be taken as an example of the modern spirit spoken of by Huxley "which works and will work without haste and without rest, gathering harvest after harvest of truth into its barns and devouring error with unquenchable fire." Many of the investigations have resulted in the detection of imposture and the discovery of unsuspected fallacies of sense and memory as well as in demonstrating the possibility of the unconscious communication of information by indications "too subtle to be appreciated by the normal self but readily seized upon and interpreted by the automatic or somnambulic consciousness." The author is much impressed with the investigations made in 1872 by the President-elect of the British Association, Sir William Crookes, F.R.S., and considers that his experiments constitute the most important body of evidence for the operation of an unrecognised force and the occurrence of physical phenomena which seem unexplained by any known cause. With regard to telepathy he holds that there are grounds sufficient to justify it as a working hypothesis, but the proof of its "transcendental nature" is still wanting. There are many subjects dealt with of supreme interest to psychological students, such as the automatic action of brain centres below the level of consciousness—in "the subliminal consciousness" of Myers—manifesting a wider range of activity than in the "supraliminal" or ordinary consciousness. The phenomena of trance, especially in the person of a Mrs. Piper, of Boston, have for several years occupied the attention of some of the most distinguished members of the Society, including Professor W. James of Harvard, Dr. R. Hodgson, Mr. F. W. H. Myers, Professor Oliver Lodge, and others. "The full evidence of this series of trance-communications has not yet, as I write these words," remarks Mr. Podmore, "been completed, and until this has been done it would be premature to deliver a verdict. But this much seems clear, that the trances of Mrs. Piper furnish the most important evidence which the Society for Psychical Research has yet adduced for the existence of something beyond telepathy and afford a sufficient justification, if any were needed, for the labours of the past fifteen years." Taken as a whole this book is of interest to students of psychology as showing what has been and is being done in the field of psychical research.

Hugh Wynne, Free Quaker. By S. WEIR MITCHELL, M.D. London: T. Fisher Unwin. Price 6s.

DR. WEIR MITCHELL has been hitherto only known, upon this side of the Atlantic at any rate, as a very able physician and as the author of various medical works. In "Hugh Wynne" however he comes forward as a writer of fiction of real merit. Books written in the style and manner of a bygone period have been often attempted, but the success of the experiment has in most instances been very doubtful. Two conspicuous exceptions will occur to everyone. Meinhold the humble Lutheran pastor deceived the first critics of his day with "Sidonia" and "The Amber Witch," while Thackeray, though of course not writing with any intent to make it appear that he really was an eighteenth century writer, produced that masterpiece of eighteenth century English, "Esmond." And for Dr. Weir Mitchell we can say that he has in places come within measurable distance of the charm of Esmond. The scene of "Hugh Wynne" is laid during and just before the Revolutionary War of the American Colonies, a stirring time at which every Englishman must confess the mother country did not shine. "Hugh Wynne" was born in the old Quaker city of Philadelphia, his father being one of the strictest of that sect who had married his very opposite in the person of one Marie Beauvais, who is thus described: "This sweet and most tender-hearted lady wore, as you may like to know, a grey gown and a blue chintz apron fastened over the shoulders with white bands. She had a great quantity of brown hair ...... it was all very silken and so curly that it was ever in rebellion against the custom of Friends which would have had it flat on the temples ...... In middle life she was still pliant and well-rounded with a certain complement of fresh prettiness in whatever gesture she addressed towards friend or guest. Some said it was a French way, and indeed she made more use of her hands in speech than was common among people of British race." Here is how she welcomed her son home from school at the end of his first day. "'I could scarce wait for thee! I wish I could have gone with thee Hugh; and was it dreadful? Come, let us see thy little book. And did they praise thy reading? Didst thou tell them I taught thee? There are girls I hear,' and so on—a way she had of asking many questions without waiting for a reply." From such opposite natures was "Hugh Wynne" descended, so that, each supplying what the other lacked, it is small wonder that he grew up a gallant gentleman and soldier. We have not space nor would it be fair to recount all his adventures, but we counsel everyone to read the book. The pictures of Washington, of the noble but unhappy André, and of Darthea Peniston, whom Hugh married after many weary trials, are all drawn with a sure hand and can be read over and over again.

# Analytical Records
FROM
THE LANCET LABORATORY.

(1) HAZELINE SNOW; AND (2) TABLOIDS OF CHEMICAL FOOD.
(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, E.C.)

IN the first preparation an important improvement has been made, since on its application to the skin it leaves no trace of greasiness, as is the case with preparations containing fats, oils, or glycerine. It is of a beautifully white colour and pleasantly scented. It is said to contain 50 per cent. of hazeline. As is well known, the extract of hamamelis bark affords an excellent application to the skin, as in chapped or abrased conditions, especially when applied in the bland form of the ointment just described. Hazeline possesses astringent, anodyne, and hæmostatic properties and is on that account also useful in hæmorrhoids. For this purpose a mouthpiece is provided which may easily be screwed upon the collapsible tube containing the hazeline snow. The tabloid of chemical food is an excellent introduction. Each tabloid of 5 grains contains the combined phosphates of iron, calcium, potassium, and sodium, in such proportions as to be equivalent to a fluid drachm of the compound syrup of phosphates of iron. In the tabloid form this excellent formula may be administered with obvious advantage and convenience.

MELEGAR (HONEY VINEGAR).
(MELEGAR WORKS, DARENTH, DARTFORD, KENT.)

The production of vinegar from honey is a decidedly novel step which according to our examination of a specimen submitted to us has been carried out with distinct success. The peculiar and attractive fragrance of the vinegar so made is doubtless in part due to the aromatics derived from the honey itself, their character being favourably modified by the fermentative process. Our analysis of the vinegar resulted as follows: acetic acid, 5·5 per cent.; alcohol, 1·06 per cent.; total solids, 2 0 per cent.; mineral matter, 0 09 per cent., phosphates, traces. The vinegar is admirably adapted for all culinary purposes, is of excellent strength, and possesses a pleasant fragrance and mild taste.

HUMANISED MILK (SAP BRAND).
(THE MILK PREPARATIONS CO., BRENTWOOD, ESSEX.)

The analysis of this milk was as follows: total solid matter, 11·33 per cent.; fat, 2 97 per cent.; ash mineral matter, 0·60 per cent. The specific gravity at 60° F. was 1030. The milk was perfectly sweet and sound while its flavour was satisfactory. The specimen was evidently carefully sterilised, this all important process having been carried out with a minimum effect upon the taste of the milk. As will be seen from the above analysis the composition of the milk is well in accordance with the standard requirements of infant feeding. We could obtain no evidence of preservatives having been added. A closed sample exposed to a temperature of 100° F. for several days developed no undesirable changes whether in regard to smell, taste, or, appearance.

EUGOL.
(BAYARD, SONS AND BAYARD, NEW YORK, AND 26, BRIDLE-LANE, GOLDEN-SQUARE, W.)

This is a practically colourless fluid with an agreeable aromatic smell like that of thymol. On distillation it yields alcohol while remaining behind is a fluid of the viscosity of glycerine. This residue contains boric acid and a peculiar gummy substance possessing a burning taste. The fluid is acid in reaction. It affords a very agreeable and powerful antiseptic and, moreover, is said to be non-poisonous.

SCOTCH WHISKY (THE FALL OF FOYERS BRAND).
(WILSON AND CO., 118, LEITH-STREET, EDINBURGH.)

The following analyses afford a means of comparing the chemical composition of various specimens of whisky which differ in respect to age. Whisky five years old: alcohol, by weight 41·80 per cent., by volume 49·29 per cent., equal to proof spirit 86·37 per cent.; acidity reckoned as acetic acid, 0·03 per cent.; extractives, 0·14 per cent.; mineral matter, *nil*. Whisky seven years old: alcohol, by weight 42·29 per cent., by volume 49·81 per cent.; proof spirit, 87·29 per cent.; acidity reckoned as acetic acid, 0·03 per cent.; extractives, 0·15 per cent.; mineral matter, *nil*. Whisky ten years old: alcohol, by weight 40·80 per cent., by volume 48·21 per cent., equal to proof spirit, 84·49 per cent.; acidity reckoned as acetic acid, 0·04 per cent.; extractives, 0·23 per cent.; mineral matter, *nil*. Whisky twelve years old: alcohol, by weight 39·30 per cent., by volume 46·59 per cent., equal to proof spirit, 81·64 per cent.; acidity reckoned as acetic acid, 0·05 per cent.; extractives 0·30 per cent.;

mineral matter, *nil*. In general these results are satisfactory, the amount of extractives in all being quite low as well as the degree of acidity, while the alcoholic strength is well up to the standard. It is interesting to observe how both the amounts of extractives and acidity increase with the age of the spirit while the alcohol correspondingly diminishes. The matureness of taste was quite in accordance with the statement as to the time the whisky had been stored.

DISINFECTANT NIGHT-LIGHTS.

(Palmer and Co., Limited, Victoria Oil and Candle Works, Stratford, E.)

In design these lights are precisely the same as ordinary night-lights and are to be employed in the same way. Incorporated with the wax is a compound phenol which on being drawn up into the wick gives up on ignition part of the carbolic acid in a free state. This is evident from the smell of carbolic acid which pervades the room in which the candle has been burnt for an hour or so. Part, however, of the carbolic acid must be lost since it is inflammable. The candles are suggested as likely to be of service in pulmonary affections. Night lights may also be obtained from which other disinfectants may be distributed in the air of the room by the same means.

A FEVER SEASON IN AN INDIAN GAOL.

By Surgeon-Captain W. J. Buchanan, B.A., M.B. Dub., &c., Dipl. State Med.,

SUPERINTENDENT CENTRAL GAOL, BHAGALPUR.

In the following article an endeavour is made to bring home to the minds of readers in Europe scenes which are very familiar to medical men serving in India. It matters little where the scene is located, whether in a regimental hospital, a civil dispensary, in the coolie lines of an Assam tea-garden, or in a large central gaol. The latter is chosen because the writer is most familiar with it.

In India it is customary to divide the years into those which are "healthy" and those which are "unhealthy." The causes which differentiate the one from the other may be summed up in one word—malaria. Other diseases such as cholera, enteric fever, and lately plague appear to loom large on the medical horizon in India, but none of them are so regularly destructive as are the effects of malaria. It is difficult for those at home to appreciate the difference between what is in India known as a "healthy" and an "unhealthy" year. It can best be understood by the difference between a year in England when influenza is raging and an ordinary average year. It is no exaggeration to say that an exactly similar difference is felt in India in an "unhealthy" year. To quote specific examples. Take the four years 1894 to 1897 inclusive. Of these the years 1895 and 1896 were pre-eminently healthy years. The year 1894 was raised to the "bad eminence" of being the most unhealthy year on record and the unhappy year 1897 bids fair to equal it.

Before going further it is well to state that the following description applies chiefly to the Province of Lower Bengal Speaking generally in a "healthy" year we have a scanty rainfall. The monsoon which begins in June is perhaps late, not setting fairly in till the end of that month; there are usually longish intervals of sunshine or "breaks in the rains" and the rainy season ends in September with a falling off of 15 to 20 inches from the average monsoon rainfall. The heat therefore is prolonged and very trying, but it is accompanied with but little sickness. Such a "bad rains" is usually followed by an increase of cholera in the following dry season. The water in the village tanks is scanty and easily polluted accidentally, as for example, by the washing in it of the excreta-stained clothing of some cholera-stricken wayfarer. This often suffices to start an epidemic which may spread through several districts. The scanty rains also result in either actual famine or scarcity with high prices, but the effects of this scarcity on the health of the people will not be marked for several months to come. On the other hand the history of an "unhealthy" year is very different. After a fierce, hot, dry season a violent setting in of the rains early in June brings much needed relief to all. The heat had become well-nigh unendurable. Fiery hot days with a shade temperature of from 103° to 109° F. are succeeded by no less dreadful nights. Not a breath is stirring, "there is a silence in the dumb dead air." On such nights we expect cases of heat-stroke or "heat apoplexy" as it is popularly called in India. On one such night I remember two cases of heat-stroke among prisoners in a half-empty ward and the same night the gaoler trying to sleep on the roof of his house in the open air succumbed to the same cause. After such heat the first burst of the rains is a welcome change. The rain will last perhaps for ten or twelve days followed by an interval or "break.' Before it has got too hot again down comes more rain. Thus pass June, July, and August, each month leaving its record of from eight to ten inches of rain. September is the most dreaded month in Northern India. In "unhealthy" years the rain continues, the air is fully saturated with moisture, the slightest exertion brings out perspiration, and chills are consequently very easily taken, and with malaria present a chill spells fever. The monsoon rains end either by lysis gradually or by crisis with a violent cyclone. Immediately begins the dreaded process of the "drying up of the rains."

To return now to our hospital. Taking the season of scanty rain first, the beginning of June finds the hospital almost empty, a few cases of febricula from sun exposure or fatigue, plenty of ulcers, abscesses, and boils, and a few more perhaps of sudden attacks of watery diarrhœa due often to eating raw grain or unripe fruit. For the first few weeks of the rains little change is to be noted only that an odd case of ague or intermittent fever comes in, especially in those who have suffered frequently from ague before. As July and August advance more such cases are met with and frequently a few cases of mild dysentery or diarrhœa. In September affairs are at their worst, but still the numbers in hospital for all causes (I refer to central gaols with over 1000 convicts) do not amount to more than 25 or 30 with about the same number of feeble men in the specially dieted gangs. By the end of October the "fever season" is at an end, the "cold weather" has set in, and except for pneumonia and a few chronic cases there are left no serious cases in hospital.

The picture is very different in a rainy "unhealthy" season. Up to the onset of the rains all has gone well. As the rainy season advances more and more cases of ague are admitted. Patients complain of having had fever at night, of ill-defined malaise, and disinclination for food; the gaoler reports that all the food is not being eaten as usual by the prisoners and reports to the superintendent of "short work" are more frequent. Such cases are at once sent to hospital and given a smart purge on admission. Calomel I prefer in stout, sturdy individuals and castor oil in ounce doses in the less robust. The fever is ushered in with languor and chilliness,[1] headache, constipation, and more or less severe pains in the back, joints, and bones. The eyes are suffused and heavy. There is an intolerance of bright lights. The skin is dry and burning hot. The urine is high-coloured. This condition lasts for several hours and under treatment or even without it the fever subsides and next morning the patient feels much better, his bowels having been freely moved. Quinine is given in accordance with individual views. I prefer to give a purge first and when profuse perspiration has set in or as soon as the patient is seen the next morning to give 15 gr. of quinine. Two such doses (=30 gr.) before 9 A.M. is my usual rule, to be continued so that the patient shall receive up to 60 gr. before the next paroxysm is due. Small doses of quinine are as useless in ague as small few-grain doses of ipecacuanha are in acute dysentery. Phenacetin is the best of all the antipyretic drugs in my experience. It acts rapidly when the temperature is high, bringing out copious perspiration and giving much relief. It however loses its effect if too frequently used on the same individual. I have never seen a single bad effect from phenacetin after using it a thousand times. If, however, I was in circumstances where only one drug was available for treating malarial fevers I would choose a purgative. Without the preliminary purge I have seldom seen quinine do any good. These attacks often cease after one day's fever, but many recur on the third day (tertians), though fevers of text-book regularity are of much less frequent occurrence than cases of an irregular or mixed type lasting two, three, or five days with but little remission.

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[1] Rigors of as severe a type as is commonly seen in England when Anglo-Indians on return home are attacked with their old ague are rarely seen in natives.

As the season progresses more troublesome cases become frequent; in addition to numerous ague cases others appear to which the convenient name of "remittent fever" is given for want of a better title. Whatever may be the true pathology of the types to be presently described the appearance of "remittent fever" in the records is an expression of the severity of the fever which is prevailing. Such cases are certainly not enteric fever. This disease is so rare in gaols as to be a curiosity and every case which dies in gaol has its post-mortem examination. I have come to roughly distinguish two types of bad cases during an unhealthy season. One set have fever of an irregular type: the range is not high but may be continued, remittent, or even intermittent This lasts for ten days or a fortnight, followed by an apyrexial interval of about equal duration, to be succeeded by another fever attack for a week or longer. Three or four such attacks or relapses are not uncommon. I have the charts of cases lasting for 90 and even 120 odd days. I have never been able to find any form of malarial organisms in such cases. The only cases which I can remember resembling these are the cases of Malta and Rock fever which I saw in Netley Hospital. Their characteristic is that they are almost symptomless: except that the thermometer records a raised temperature there is scarcely another positive symptom or sign. Even the patient's weight does not fall rapidly and the appetite remains for weeks excellent. The lungs and liver are normal. The spleen may or may not be enlarged. The urine is healthy. Quinine or any other drug known to me has absolutely no specific effect. In the course of a month or six weeks the patient begins to mend. This very negative kind of fever is, I believe, well known but has not been described.

The other type of cases met with at the end of an unhealthy season is very different. I call them cachectic cases. The patient has probably before suffered both inside and outside gaol from both ague and dysentery. During the previous few months he has had two or three mild attacks of fever (ague), and now he gets an attack which he cannot shake off. It begins either as low fever or low fever follows after a week of higher temperature. At any rate, the patient becomes weaker, loses weight, becomes anæmic, and his conjunctivæ are either pale blue-white or of a yellow, jaundice-like colour. The lips are pale. The tongue is either large, flabby, and indented, with black, pigmented spots,[2] or red and raw in patches and at the edges. The latter usually is the case later in the course of the illness. The gums are either blue-black in colour or red, swollen, or ulcerated, and, as first pointed out by Brigade-Surgeon-Lieutenant-Colonel Alexander Crombie, of Calcutta, an ulcerated patch is often found between the upper and lower last molar teeth on one or both sides. The feet and ankles are often œdematous, ascites often supervenes, and the spleen is enlarged. Nyctalopia is frequently complained of. As the patient becomes weaker a form of mucous diarrhœa or dysentery comes on or a low gangrenous condition of the great intestine as often found in cases of so-called "chronic dysentery." This is a common cause of death in these cases. Where this intestinal condition does not supervene the patient may linger on for weeks and months prostrate and emaciated till either pneumonia or a sudden œdema of the lungs puts an end to his long illness. All cases are not however hopeless. As to the merits of tapping in ascites in such cases opinions are divided. These cachectic cases are very common in our civil hospitals and paracentesis is very frequently performed Many medical officers are from experience opposed to it; nevertheless, when a patient receives the care and attention usual in a gaol hospital I have tapped (even at death's door) many cases which have completely recovered aided by good food and plenty of milk from our well-managed gaol dairies.

Mention has been made above of the condition of the mouth and gums in cachectic cases. This condition used to be and is still sometimes called scurvy, but to this view my experience is utterly opposed, and judging by reports of other medical officers I believe that the opinion of most is opposed to the scorbutic theory. The question is too long to go into here, but the following are among the reasons for attributing this well-known condition to malaria rather than to scurvy: 1. It is almost invariably found at the end of a feverish (malarious) season. 2 Fresh vegetables are plentiful at this time and at the time (in the dry, hot weather) when good anti-scorbutic vegetables are most difficult to obtain this condition is seldom if ever, seen. 3 In "healthy" (non-malarious) years this condition is absolutely unknown —e g., in 1895 and 1896—whereas in a malarious year like 1894 it was very common. 4. All the other symptoms of scurvy (extravasations, &c.) are absent. 5 Lime-juice has been tried over and over again and has failed to remove this condition. I have had lime-juice administered before my own eyes on parade to gangs of men for weeks at a time and have found it absolutely fail to improve their condition. 6 On the other hand, where quinine, arsenic, and iron are freely administered this condition is either absent or soon got rid of. 7. Again, so deeply has the scorbutic theory influenced practice that the greatest care is taken to provide good anti-scorbutic vegetables in our gaol gardens and animal food is freely issued when required, yet in a malarious year we see plenty of spongy and ulcerated gums; in a healthy year it is as conspicuously absent, *the conditions as regards food being absolutely the same.* It is not meant that cases of land scurvy are altogether unknown in our gaols but that the common condition above described is not scurvy. Real scurvy I have seen in Upper Burma among sepoys fed for long periods upon monotonous commissariat rations and among European officers who trusted solely for supplies to that department, but in such cases I have found lime-juice to act like magic 8. Moreover an identical condition of the gums, to a somewhat less extent, is far from uncommon in malarious seasons among European officials in India who have suffered from fever in whose cases the question of unsuitable diet could not arise.

Now for a word in conclusion as to the means taken to prevent or limit the effects of malaria on prisoners. In addition to good food, good water, warm clothing and suitable barrack accommodation the gaol codes give the prison medical officer ample discretion in the matter of extra and varied diets. That the food of prisoners is for 999 men out of every 1000 superior in every respect—quality, quantity, variety, and cooking—to that to which they are accustomed outside is the frequently recorded opinion of the visitors, official and non-official, the latter being usually native gentlemen well acquainted with the conditions of life among their poorer countrymen. In addition a gigantic experiment has been in progress for the past three years in the prisons of Bengal and the Punjab in the prophylactic issue of cinchonidine. This preparation of cinchona has been issued daily during five months of the rainy season to every single prisoner in Bengal and Punjab for the past three years to sick and to healthy alike in doses of from five to ten grains with or without iron (ferri sulphas). Opinion is still divided as to its value; its issue during 1895–96 coincided with two very healthy years. The present year, 1897, is unhealthy and will be a test year. The results of such an experiment on a daily average strength of 17,000 Bengal and 12 000 Punjab prisoners cannot fail to be of great interest to the profession and will go far to settle the important and vexed question of the value of the prophylactic issue of cinchona.

It has now been shown how great is the difference between a healthy and an unhealthy year in India. It cannot be said that gaol management is responsible for the bad effects of a bad year. Under the same officers, with the same food, water, clothing, housing, &c., one year will be bad and another year good. Individual attention to details on the part of the superintendent, medical officer, and prison officers generally can certainly do much, but so long as malaria remains so far beyond our control so long will much sickness remain in malarious years.[3] The theory that malaria is chiefly or sometimes a water-borne disease is not borne out by experience in India. Boiled and filtered water has not prevented malarial fevers. The time may years hence come when Bengal will be as free from malaria as England is to-day; should such a day come we may look forward to see the general death-rate of the people (now 42 per mille) drop by 20 per 1000. Meantime it is satisfactory to know that the average death-rate of Bengal gaols is 15 per mille below that of the province, and in some of our large central prisons the death-rate has been well under 10 per mille, which is about the average of the non-malarious prisons of England.

Baxar, India.

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[2] Black pigment patches are very frequently seen on tongues of natives of India of the lower castes or aboriginals Though often deemed to be malarial they are equally common at healthy seasons. See a note on this subject by Surgeon Captain F. P. Maynard, Indian Medical Gazette, October, 1897.

[3] The terrible after-effects of continued malarial poisoning are well described in Surgeon-Captain L. Rogers's just published report on *Kala-azar* (black fever) in Assam.

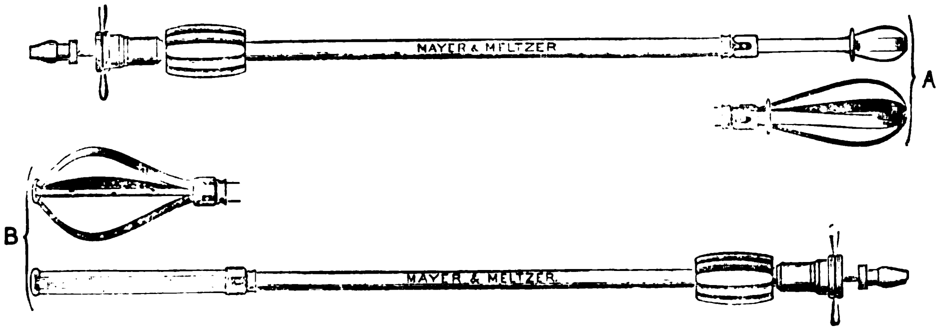
New Inventions.

ROTARY IRRIGATING CURETTES.

I HAVE often found in curetting the uterus the difficulty of removing the entire endometrium; likewise in cases of polypus or where portions of an abortion have been left behind with the ordinary curette one is apt to miss small fragments no matter how carefully one operates. With the instruments which I have devised, made for me by Messrs. Mayer and Meltzer, of Melbourne and London, such a thing is impossible. That with the long blades (Fig. B) is for the cervix and body of the organ, while the four-bladed one (Fig. A) is for the fundus. The thumb-screw is for altering the curve of the blades and for accommodating them to the size of the uterus. By turning the instrument to the right a sharp edge is brought to touch the surface to be operated upon and if turned to the left a blunt one. They are made with hollow stems so that a stream of water can be passed through them from a douche for washing out fragments removed by the blades. I have used them several times with the utmost satisfaction, in one case the endometrium coming away completely inside the blades of the instrument.

W. H. OVENDEN, L.R.C.S. Irel.

Christchurch, New Zealand.

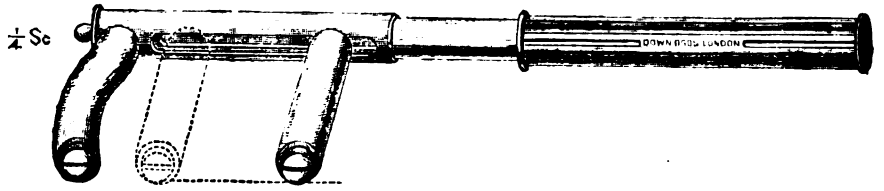


A MODIFIED WRENCH.

THE accompanying drawing illustrates a modification of Mr. H. O. Thomas's wrench which has been made for me by Messrs. Down Bros. The upper arm is curved so as to fit more completely the convexity of the dorsum of the foot than the straight arm of the ordinary wrench can do and so avoid slipping and abrasions of the skin. The arms on section are elliptical and not round, thus distributing pressure more equally at the spot where such is made. The wrench is made to open by means of a screw to the extent of five inches and closes up almost completely so that it can be used for both infantile and adult feet.

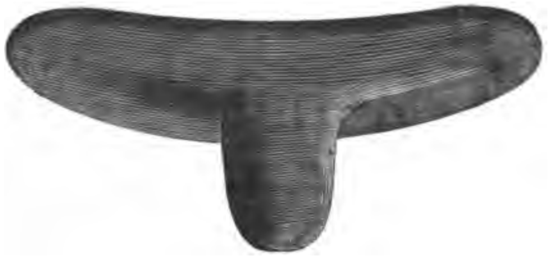
A. H. TUBBY, M.S., M.B. Lond., F.R.C.S. Eng.

Weymouth-street, Portland-place, W.



PESSARY FOR TREATMENT OF ACUTE PROLAPSUS ANI.

THE accompanying illustration represents the form of pessary recommended by Mr. Frank Elvy, of Eastbourne, for the treatment of prolapsus ani, as described in his paper which was published in THE LANCET of Dec. 11th, 1897, p. 1529. Mr. Elvy found that the pessary not only prevents descent of the bowel, but by its pressure it empties the engorged veins and favours absorption of the œdema; it should be inserted at night and retained until the following morning, being supported by cotton wool and a firmly applied T bandage. As already mentioned in Mr. Elvy's paper, the pessary is made by Messrs. Ferguson and Co. (Mr. R. Beauchamp), 40 and 41, West Smithfield, E.C.



ROYAL INSTITUTION OF GREAT BRITAIN.—The arrangements for the Friday evening meetings before Easter include lectures by Sir John Lubbock on Buds and Stipules on Jan. 21st; by Professor C. Lloyd Morgan, F.G.S., on Instinct and Intelligence in Animals on Jan. 28th; by Mr. Alan A. Campbell Swinton, M.R.I., on some New Studies in Cathode and Roentgen Radiations on Feb. 4th; by Professor Thorpe, LL.D., D.Sc., F.R.S., on Some Recent Results of Physico-Chemical Inquiry on March 4th; and by Mr. James Mansergh, F.G.S., &c., on the Bringing of Water to Birmingham from the Welsh Mountains on March 28th. Professor Dewar will lecture on April 1st. The Christmas lectures embrace the following subjects: Principles of the Electric Telegraph (now being delivered), on the Simplest Living Things, the Halogen Group of Elements, Some Italian Pictures at the National Gallery, and Recent Researches in Magnetism and Dia-magnetism. The Saturday lectures will deal with Cyprus, the Structure of Instrumental Music, and Portraits as Historical Documents.

THE LANCET.

LONDON: SATURDAY, JANUARY 1, 1898.

IT has been our not infrequent custom when standing upon the threshold of a new year to pass in review the leading facts which affect the position of THE LANCET in its relations to the medical profession. It is our aim to make THE LANCET the organ of professional opinion in its largest sense and a just reflection of sound professional sentiment, and we incur more than one liability towards our readers in our attempt to carry out the design. Not only do we propose to furnish our readers with information upon all matters of medical interest, but we also desire to register their own feelings upon various questions of importance, while we accept the grave responsibility of suggesting the courses that it would be wisest and best for them to take in many situations of difficulty and embarrassment, whether the dilemmas present themselves in public or private life. Such relations are of a character to demand from us an occasional account of our stewardship and the opening of a new year, when the gaze is alternately directed backwards on the past and forwards on the future, is clearly a fitting time for a few words with this intent. It is not egoism that impels us to write about ourselves but a deeply-rooted feeling that the close communication between our readers and ourselves, the existence of which is at once our greatest pride and pleasure, makes now and again a summary of work done a necessity.

The year that has just passed has witnessed no sensational development of scientific knowledge. Such advance as has occurred has been less evident than usual as it has taken place rather in experimental and literary directions than in the applications of theories and of laboratory work to the actual practice of healing. As we had occasion to remark last week in our summary of the year's medical work there have been important assemblages at all of which grave scientific questions have been discussed with vigour and detail; and there has also been an exceptional output of medical literature ranging from encyclopædic works, through handbooks and treatises, to small monographs—sometimes on very small points. We have endeavoured to keep our readers in touch with the work of the congresses by reporting at considerable length all the important proceedings which have taken place at them, while we have aimed at sifting for them the overwhelming masses of literature by selecting for particular review those works that contained either new matter or an improved method of saying old things. It must not be supposed that a year, concerning the scientific work of which there is no more to be said than that its progress has been much discussed at polyglot assemblies and much written about in divers tongues (and occasionally at inordinate length), has been an entirely wasted year. On the contrary it has been one of reflection, one in which the leaders of medical thought have given time to the sifting of evidence, to the proving of past words, and to the putting into actual practice some theoretical inferences. Such a period of rest has, to our thinking, been much required in our world. For investigation may be too keen and become feverish; while shrewd guesses, perhaps only partially true, may simulate discoveries that are much desired and that, perchance, may lie at the door of the guesser, but which have not yet been made. With these considerations before us we are disposed to think that the profession may congratulate itself on the scientific work of the year, although it has been marked by no startling development either in therapeutic or preventive medicine—at any rate, by no development which we have considered to call for much serious notice or detailed comment.

In the social medical world as distinct from the scientific medical world great activity has on the other hand to be chronicled, for which reason we have during the year given a larger amount of space than usual to the discussion of the many subjects of vital interest which fall under the head of medical politics. We hope that in the near future practical developments will follow upon the sense now deep-seated in the medical profession that there are crooked matters which could be set straight by resolution, by, perhaps, a little self-sacrifice, and above all by union. The general practitioner has as a whole class fallen, we regret to think, upon ill times. His work has grown no lighter, his responsibilities are no less exacting, but in many directions his remuneration has decreased. He is suffering in part from the overcrowding of the profession, in part from the competition of unqualified persons and lay associations, in part from the faulty administration of certain great medical charities, and in part from the rampant prevalence of quackery which enjoys in this era of our civilisation an immunity that is as perilous as it is astounding. Quacks there have ever been and quacks there will ever be, but never, we believe, in the history of the world have the mendacious statements of the charlatan enjoyed such credit or his worthless wares been bought so cheerfully and so universally at such exorbitant prices as now at the end of the nineteenth century. That these things are so readers of our columns know, and they may consider the large amount of space that we have devoted to the discussion of them a proof that we hold them to be subjects of the greatest urgency to all medical men—not only to those who have suffered but to their more fortunate brethren who have so far escaped, but whose security will not exist for long unless it be safeguarded. That we shall attempt to point out the paths leading to a better condition of things, as we have attempted in the past, goes without saying, but it is equally certain that nothing will be done unless the profession unites to work out its own salvation. We have placed before our readers many examples of hospital abuse. The modern developments of the out-patient department cheat the sick, cheat the honorary medical officer, cheat the general practitioner, and cheat the charitable public alike. This is the view which all medical men should keep prominently before the large public with whom they are in intimate relation. We have told and are still telling the Battle of the Clubs. The Medical Aid Association is in many places and in many of its workings a name for a scheme by which medical services are undersold to the public, who thereby obtain all the disadvantages which attend purchase in a shoddy market, while the advantages are reaped neither by the medical man whose position is exploited nor by the suffering poor in whose cause the association claims to work. This again is the view which medical men should enforce upon their numerous neighbours. Lastly, there must be some legislative restraint of quackery and if the General Medical Council cannot protect the public and help the profession by suppressing the charlatan the time has come when it should have larger powers.

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THERE is not an official report published of greater moment to the people of London than that issued on behalf of the London County Council by its medical officer, Mr. SHIRLEY MURPHY. It must record the position whether it be stationary, in arrear, or in advance, compared with recent returns relative to the administration of public health affairs in the metropolis. Its statistical columns afford proof that the last is generally the case. The last official year (1896) has certainly been a busy one for the County Council's medical staff, who have exhibited admirable zeal in compelling the observance of that excellent measure, the Public Health (London) Act, on the part of those vestries that are within the London County Council's jurisdiction. To begin with, the Council's inspectors are responsible for the control of the London milk-supply, for the prevention of the contamination of milk, and during the year no less than 21,284 inspections of dairies and milk-shops were made. Again, continued activity in watching offensive operations is manifest since 4631 inspections of premises upon which offensive trades were carried on were made and in eleven instances proceedings were instituted. Similarly, trade nuisances have been as far as possible suppressed, pressure having in most instances been brought to bear upon offal disposers, tripe boilers, gut scrapers, *et id genus omne*. Several cases of smoke nuisances arising from factories as well as from large habitable buildings have been dealt with, but we think still greater vigilance should be exercised with regard to offenders of this class so that at least some mitigation of the murky state of the metropolitan atmosphere might be effected.

In regard to the removal of house refuse there appears to be a very fair compliance all round with the requirement of the Council's by-law, that house refuse shall be removed from every house not less frequently than once a week. An exception to the house-to-house system of collecting garbage and house refuse appears to be in the case of Clerkenwell. Although here, as the medical officer of health of that district writes, the old, porous, filth-saturated brick-built ash pit has been largely replaced by non-porous metal bins of small size, yet the fact that these are not emptied frequently is a distinct source of nuisance, and a danger to the public health. As to the final disposal of the collected refuse there is evidently still room for improvement in many of the districts. Dust has not now the value which it had years ago when it was profitable to employ men to sort it and set aside materials worth recovering. Again, the dumping down of huge quantities of house refuse and garbage on the low-lying outskirts of London is objectionable, and not in accordance with public health requirements. Dust is a necessary evil, and as such must be effectually dealt with and demolished. It possesses of course only a slight value as fuel, but the difficulty of burning it without the formation of clinker has been hitherto an obstacle to this method of disposal. At the present time, however, not only has this difficulty been successfully solved but furnaces or destructors are in use in which the heat evolved is utilised for the production of electric power. In these appliances—which afford an excellent instance of science serving in the interests of sanitation—small coal, we believe, is used as an augmentary fuel. The recent installation at Shoreditch will be fresh in the memory of our readers. Here the profitable "converter" replaces the expensive "destructor," a result which is consistent with the time-honoured definition of dirt as being after all only matter in the wrong place. The inspection of bakehouses has been continued, but it seems clear that a biennial visit is insufficient. No department coming under the administration of the Council's officers needs greater vigilance, as the present report would show, than that dealing with the attempted sale of unsound food. A great many seizures have been made during the year and notably in Holborn, but since adequate punishment has been inflicted there have been very few seizures of diseased meat. Tinned foods occur amongst the articles so seized and it has been suggested that in order to prevent the sale of food that has long been contained in the tin it should have stamped upon it the date of tinning. We may justly take some credit to ourselves, we think, for the measures that are now taken for ensuring the better sanitary conditions under which ice-creams are made. It is now concluded, as we urged long ago, that a regular inspection of these premises and ice-cream shops should be made and, as we have suggested, that the ice-vendors should be registered.

The present report also deals with the London water-supply, the centre of interest in this section being perhaps Mr. SHIRLEY MURPHY'S remarks upon Sir EDWARD FRANKLAND'S yearly report. We ourselves had occasion to comment upon this report in relation to the results obtained by the County Council's chemists. In traversing some of the opinions of Sir EDWARD FRANKLAND Mr. SHIRLEY MURPHY is in practical agreement with the views which we expressed in a leading article in THE LANCET of Oct. 16th, 1897. Sir EDWARD FRANKLAND'S statement that zymotic diseases traceable to the water-supply have been absent in London since 1866 leads Mr. SHIRLEY MURPHY to pertinently point out that under the conditions which have existed, and still exist, there has been no sufficient opportunity for determining whether enteric fever has or has not been caused by water-supply. "It is no doubt true," he adds, "that there has been no mortality from this cause sufficiently large to manifest itself in the absence of a proper system of observation, but in view of the experience of 1894 I cannot assent to the statement as to the absence since the year 1866 of zymotic diseases traceable to the water-supply." Mr. SHIRLEY MURPHY concludes his remarks on these points by observing that the conditions of the present time may not always continue, that with the growth of population in the river valleys above the intakes there may be increase of pollution, and that as between the opposing forces of increase of pollution and the filtration of the water companies the former may become the more powerful. A reference to a leading article in THE LANCET of Sept. 30th, 1893, on the Report of the Royal Commission on the Metropolitan Water Supply (presided over by Lord BALFOUR of BURLEIGH) will show that these are exactly the apprehensions we expressed at that time. It is obviously not possible to deal at length with the great number of subjects comprised in this report, subjects which, after all, have been and are being continually discussed in every number of THE LANCET. In fact, in looking through the report we cannot help being struck with the similarity of the subjects treated with those which will be found reviewed in our Annus Medicus and included in the work of THE LANCET for the year. After all this must be so, since the report is essentially one concerning sanitary administration and the health and well-being of the inhabitants of the world's greatest city. The annual report of the medical officer of the London County Council is, in fact, an index of the health of London and as such is worthy the attention and careful perusal of all those interested in sanitary problems and the elucidation of the best conditions for maintaining the health of a community.

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THE address of Mr. VICTOR HORSLEY delivered before the South-West London Medical Society which we publish to-day goes to the root of all medical reform, for it discusses the Medical Acts and the position and privileges of the profession consequent upon their interpretation. We are not quite sure that Mr. HORSLEY'S reading of the law is right, but he raises the real points at issue between him and many others and he does so with a clearness such as tends to facilitate the work of members of the General Medical Council who have to administer the Acts and of legislators who are responsible for their efficiency. We may say at once that we do not agree with Mr. HORSLEY that the present Acts are efficient to protect the medical man if properly administered. We think on the contrary that they require amendment before they can be made to do what we expect of them; but though at variance with Mr. HORSLEY on this fundamental point we are none the less grateful to him for the untiring attention which he has given to the matter, or the less certain that his work is of the highest value to the profession.

Let us try to state briefly Mr. HORSLEY'S view of the present law as it affects medical practice. He tells us that the preamble of the Act of 1858 called members of the profession "qualified practitioners" and stated that it was expedient that persons needing medical aid should be able to distinguish qualified from unqualified practitioners. In the next sentences he emphasises the word "practitioner" and proceeds straightway to argue that the "Act was constructed not to protect a mere title but a person who practises his profession." We question the correctness of this view of the Act. It is not warranted by anything in the preamble, which distinctly sets forth that the protection contemplated is that of the public or rather that portion of the public "requiring medical aid." Certainly if the Act was designed for the protection of the profession it is one of the most ineffective pieces of legislature ever enacted. Mr. HORSLEY'S next and perhaps his principal point is that the Act provided a Register for medical men; that only persons on that Register are *qualified* practitioners of medicine; "and that a person who is not registered is not entitled to practice medicine and that if he does so he should be punished." He finds this view supported by the Act of 1858 as well as by that of 1886 and takes credit for having brought it into full light at the recent meeting of the General Medical Council. "The customary contention," he says, "has been that the Act only dealt with us as having a title and wherever you go you will find a rooted belief that the Medical Acts only protect our diplomas or titles and do not protect us in our practice." He bases his view chiefly on Section 34 which says "that a qualified medical practitioner is only a person registered under this Act," and adds, "the conclusion is obvious that any person who is not on the Register is within the punishment provided by Section 40," which is so familiar to the profession as imposing a penalty for falsely pretending to be a registered person. We wish that Mr. HORSLEY'S view of this clause in the Act of 1858 was beyond contention, but let us carefully consider the facts. On Mr. HORSLEY'S side is the fact that Section 40 contemplates the offender falsely pretending *to be registered* under the Act as well as using a title which would imply such registration. There are many devices for pretending to be a recognised or legally qualified medical practitioner short of using the titles which suggest registration, and doubtless if magistrates and judges had been as zealous in the cause of suppressing medical pretenders as the public interest required the first nine words of this clause would have given them ground for much more severity against quacks of all sorts than they have shown. But certainly this clause taken alone or in connexion with other clauses is but a weak ground for expecting punishment to be awarded to persons merely on the score of non-registration, as Mr. HORSLEY suggests. It is abundantly clear from Clauses 35, 36, and 37 of the Act of 1858 that registered persons alone can claim certain exemptions, hold certain medical appointments, and sign certain certificates. But we regret to say that it still is very doubtful whether the legislature ever seriously meant that all persons "practising" who are not registered were meant to be punished. What are the proofs of this? The preamble of the Act sets forth not that the public should not employ unqualified practitioners, but that it should have the means of distinguishing between qualified and unqualified practitioners. It seems here to recognise the existence of "practitioners" who are not qualified and not entitled to be registered. The same distinction is traceable in Clauses 31 and 32. The first of these provides that every person registered under the Act shall be entitled to practise according to his qualification and to demand and recover according to his qualification reasonable charges for professional aid. Clause 32 provides that no person shall be entitled to recover in any court of law for medical or surgical advice, &c., unless he shall prove upon the trial that he is registered under this Act. Besides it is unfortunate that HER MAJESTY'S Judges in the Court of Appeal have given some indications that they do not share Mr. HORSLEY'S view that non-registration is proof of non-qualification, still less that practice by a non-registered medical man can be construed into an offence that is meet for punishment. In the case of HENRY ARTHUR ALLBUTT, who appealed from the judgment of Baron POLLOCK upholding the action of the General Medical Council in erasing ALLBUTT'S name, Lord Justice LOPES delivered the judgment of the court. Insisting on the importance of the publication of accurate minutes by the Council which should convey information to the public not only of a man's erasure from the Register but of the cause of it he used the following remarkable words: "The medical man whose name is erased is not disqualified from practising and old patients and other medical men invited to meet him in consultation might reasonably desire to know the nature of the offence in respect of which the erasure was made in order to determine whether they would still continue to employ or meet him." It is only fair to the members of the General Medical Council to say that they do not share the views expressed in these words of Lord Justice LOPES. On the contrary, they have strongly maintained that a person removed from the Register is in fact and in law an unqualified person even if retaining a degree or diploma.

We need not now further discuss Mr. HORSLEY'S views with regard to the sufficiency of the Act of 1858. But there is one more witness to the necessity for an amendment of the Acts, and that is Mr. HORSLEY himself. He admits that the Medical Defence Union found great difficulty in obtaining convictions and says it would be expedient to get an amendment of the Act for the benefit of magistrates not gifted with clear perception. He adds that all that is wanted is a simple section stating that none but registered practitioners shall be entitled to practise and that breach of the section shall be punished with fine and imprisonment. But if this is wanted it is full proof that it is not yet provided and though a simple provision it is by no means so simple as it looks or one that will be gained without practical unanimity in the profession and complete admission of the insufficiency of the existing laws. Our belief is that the Medical Acts themselves are vague and ineffective. They do not protect the public and they do not secure justice to the profession which has the responsibility of treating disease. Let us clear the ground by demonstrating this to the public and to responsible statesmen and so establish our claim to be heard when we ask for amendment of the Acts.

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AMONGST the records of epidemics of typhoid fever due to infection through a contaminated milk-supply that of the outbreak at Clifton in the autumn of 1897 will rank as one of the best examples of this mode of dissemination of the disease. This, in our opinion and in the opinion apparently of the whole of the local medical profession with one solitary exception, has been proved beyond dispute by the admirable and painstaking inquiry undertaken by the medical officer of health of Bristol, Dr. D. S. DAVIES. In his interim report (of which a lengthy abstract appeared in THE LANCET of Dec. 4th, 1897) and in his remarks in the debate on the Prevention of Typhoid Fever now in progress at the Royal Medical and Chirurgical Society Dr. DAVIES presents the facts gained in his investigation in so convincing a manner that it would seem impossible for any alternative hypothesis to have been conceived, much less formulated. The manner in which it was shown that of all the infected households more than 90 per cent. were supplied wholly or partially with milk from the suspected source; that in those so supplied which escaped infection, inquiry proved that they owed their immunity to the wholesome routine of boiling their milk before consuming it; the subsidence of the outbreak with the removal of its causes and numerous incidental facts which all tell in the same direction constitute this Clifton experience an excellent example of the benefit to the community of a well-organised sanitary service as well as of the capabilities of preventive medicine. So complete has been the demonstration that it might seem hardly worth while to refer to the attempt by Mr. W. J. TIVY to proffer another explanation of the outbreak, as he did in his speech at the adjourned debate at the Royal Medical and Chirurgical Society, were it not for the fact that many well-meaning people always seem to prefer the most extraordinary solutions to those which are simple and direct. We can quite understand, too, that Mr. TIVY'S remarks should have at once been confuted by Dr. DAVIES and leading members of the profession in Bristol, whose letters, to which we shall presently refer, are now before us. For if Mr. TIVY were right and all his *confrères* wrong, Clifton could hardly be regarded as a safe place of residence.

The gist of Mr. TIVY'S contention is that the typhoid fever outbreak was rather of the nature of an endemic due to defective drainage and the invasion of houses by sewer-air from ill-ventilated and badly-flushed sewers, and that, singularly enough, the appearance of this fever almost coincided with or else closely succeeded an unusual prevalence of "influenza" of anomalous type marked by "abdominal symptoms" that occurred in the month of September. Impressed with this view of the question he minimises the alleged influence of contaminated milk in the causation of the disease, hinting at the inadequacy of the supply of milk to account for the distribution of the fever, pointing to the escape of houses that received such milk, and traversing the opinion that the contamination was effected by rinsing the cans with water that had been fouled by the dejecta of a farm labourer who was known to have been ailing with headache and diarrhœa about the time that the outbreak commenced. Mr. TIVY also pointed out that neither water nor milk had yielded typhoid bacilli, whilst he doubted the efficacy of WIDAL'S test as a diagnostic sign of typhoid fever. We may remark in passing that in his statements on WIDAL'S test he attributes to THE LANCET opinions formulated by a writer from whom we quoted. We admit that WIDAL'S test may not always be reliable apart from concomitant evidence, but if we were in doubt as to the true nature of a supposed case of "influenza" we should place much value on a positive result of the serum test as also we should upon that of EHRLICH'S diazo-reaction. And we think that in these Clifton cases Dr. DAVIES gained very material assistance by means of WIDAL'S test in the early diagnosis of cases of typhoid fever at first thought to be influenza.

In his letter Dr. DAVIES shows that Mr. TIVY himself had reported only three cases of typhoid fever, whilst from the confident way in which he speaks of the endemic influenza we may without impropriety suggest that possibly some of these cases too were examples of typhoid fever. One of the lessons of the outbreak has been that typhoid fever and influenza are very easily confounded and in view of what happened subsequently it is quite legitimate to infer that many a case of "influenza with abdominal symptoms" really owed its origin to infection with the typhoid bacillus. However, whether this be so or not, the great fallacy which Mr. Tivy has propounded is so well put by Dr. Davies that we cannot do better than quote his own words. He writes: "His [i.e., Mr. Tivy's] suggestion that the enteric fever, of which he had so little experience, was caused by the unventilated condition of the main drains of Clifton is absolutely untenable. In my interim report on the outbreak I showed that I had already traced 93·7 per cent. of the cases to infected milk. It seems inconceivable to any rational mind that sewer-gas forced indiscriminately into some 8000 houses containing over 47,000 people should attack with remarkable precision only those who obtained directly or indirectly a particular milk and should select so persistently those who consumed it raw."

Dr. Shingleton Smith also writes protesting against the unwarranted statements of Mr. Tivy and pointing out how the occurrence of cases of indefinite fever thought to be influenza preceded the apparently sudden invasion of declared typhoid fever, which only goes to confirm our previously expressed view as to the real nature of that so-called "influenza." Dr. Shingleton Smith adds that the Clifton profession "think that this unfortunate epidemic which has just occurred has in no degree shown that the city is in an insanitary condition as the epidemic is of a kind which might occur anywhere by contamination of milk-cans, and further it has shown that the civic authorities, whilst able and willing to do everything possible to maintain the sanitary reputation of their city, are not likely to be led astray." In every epidemic irresponsible persons are always found prone to proffer explanations which run counter to those arrived at by the patience and perseverance of the responsible authorities and that the only way for the latter to meet these critics is to show frankly, as has been so well done here, the reasons for their own conclusions. Another correspondent, Dr. Bertram Rogers, not only avers his and his colleagues' firm belief in the truth of Dr. Davies's "masterly report," but also teaches us a further lesson by suggesting that the sewer-air theory may be pushed too far and that hitherto the unventilated sewers of Bristol have not practically been injurious to health as judged by the death-rate. But, after all, the controversy, if so it can be called, is not one to be regarded seriously, and in spite of Mr. Tivy's forebodings the inhabitants of Clifton may rest quietly in their beds undisturbed by fears of their approaching decimation which, were his views substantial, would inevitably one day take place.

Vaccination at Swindon.—The Highworth and Swindon Board of Guardians at their meeting held on Dec. 22nd, 1897, decided by the casting vote of the chairman (Mr. A. D. Hussey-Freke) to prosecute all defaulters under the Vaccination Act. For some years past no action has been taken in the matter.

Annotations.

"Ne quid nimis."

GLYCERINATED CALF VACCINE LYMPH.

The first indications of the coming revolution in our method of vaccination are to be found in the recently issued Report to the Local Government Board on the Preparation and Storage of Glycerinated Calf Vaccine Lymph.[1] Amongst the recommendations of the late Royal Commission was one which urged that parents should not be required to submit their children to vaccination by means of any but calf lymph, whilst the evidence given by Dr. Copeman to the effect that the addition of glycerine to the lymph did not affect its efficacy whilst tending to destroy other organisms, suggested the desirability of further investigation. Accordingly Sir Richard Thorne together with Dr. Copeman visited Paris, Brussels, Dresden, Cologne, and Geneva with the view of ascertaining the measures there in force to secure supplies of calf lymph which in each of the countries concerned "has become the habitual if not the universal practice." Sir R. Thorne goes on to say in his introduction to this report that vaccination with humanised lymph though not definitely prohibited is yet officially discouraged by the Governments of these countries. Except in Paris, where provision is made for direct calf-to-arm vaccination, all the lymph is stored for distribution as glycerinated calf lymph. It appears that in Paris the practice of calf-to-arm vaccination arose to ensure confidence that the lymph used was really calf lymph and not humanised lymph, so that for the purpose calves are conveyed to the vaccination stations and to districts infected with small-pox. Of much interest are the details to be found in the body of the report as to the method of vaccinating the calves, the removal and storage of lymph after admixture with glycerine, and the extreme care taken to avoid contamination. At each institution the utmost cleanliness is observed and a well-equipped laboratory forms an essential adjunct, the latest and best of these institutions being the one at Cologne. Care is taken not to distribute any lymph until the animal yielding it has been slaughtered and reported to be free from disease, a precaution mainly adopted to insure against risk of conveyance of tuberculosis, although, as Sir R. Thorne observes, "such risk would under any circumstances be a very remote one, seeing that tuberculosis is extremely rare in young bovine animals and seeing also that the tubercle bacillus when experimentally added to a mixture of lymph and an aqueous solution of glycerine rapidly loses its vitality." The conclusions which he submits are so important that we give them verbatim:—

"1st. It is desirable that vaccination, both primary and secondary, carried out under the auspices of the Government should be performed exclusively with vaccine lymph derived from the calf.

"2nd. There will probably be advantage in retaining, for a time at least, the system of calf-to-arm vaccination at the Board's Animal Vaccine Station for such parents and others as may specially desire it and for the purposes of comparing its results with those following the use of calf-lymph preserved in one or another way.

"3rd. The distribution of calf-vaccine from the National Vaccine Establishment should be limited to glycerinated or similar preparations of lymph and pulp material in air-tight tubes or other glass receptacles.

"4th. To give effect to the above it will be requisite that the Board's Animal Vaccine Station should be reorganised both as regards construction and administration. Notably will it be requisite that it should include a properly equipped laboratory under the direct supervision of a bacteriological expert."

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[1] Report to the Local Government Board on the Preparation and Storage of Glycerinated Calf Lymph; with an Introduction by the Medical Officer. London, Eyre and Spottiswoode. 1897. Price 1s.

THE DISTRIBUTION OF THE MEDICAL PROFESSION.

The issue for 1898 of the invaluable Medical Directory shows, it is true, that there has been an increase in the number of registered practitioners over the number for last year, but the increase of 1898 over 1897—namely, 619—is less than the increase of 1897 over 1896, which was 958. The whole number of practitioners spread throughout the Empire for 1898 is 34,903, as against 34,284 in 1897, and they are distributed as follows, the numbers given in brackets being those of 1897 for comparison:—Number of practitioners in the London list, 6081 (5992); in England, excluding London, 15,400 (15,081); in Wales, 1081 (1062); in Scotland, 3412 (3369); in Ireland, 2615 (2598); practitioners resident abroad, 3770 (3652); naval, military, and Indian medical services, excluding those which appear also in other lists, 2521 (2510); too late list, 23 (20). During last year 599 members of the profession died, as against 497 in 1896. Besides the merely statistical part of the work there is every kind of information of value to the medical profession and the book is as usual indispensable.

IS IMPORTED MILK PURE AND SAFE?

In an annotation in The Lancet of May 4th, 1895, p. 1130, we wrote as follows: "The rapidly increasing importation of frozen milk from Holland, Sweden, and other places abroad opens a serious question, since as far as we can gather there is no guarantee of its being derived from an uncontaminated source. Our own centres of milk production are of course placed under strict sanitary regulation, so that as far as possible disease may not be disseminated by the means of so ready a carrier as milk has been proved to be. The efforts therefore of our sanitary authorities to keep milk-borne diseases under may, for aught we know, be seriously handicapped. We trust that the Government will make some inquiries into this important and, it may be, very serious matter." The importance of an inquiry in this direction being established has at any rate appealed to the Commissioners of Sewers of the City of London, who, at a meeting held at the Guildhall on Nov. 30th, 1897, received some instructive particulars from the sanitary committee appointed to inquire into this question. From the report it appears that in 1894 161,633 gallons, and during the eleven months of November, 1895, 124,915 gallons of milk and cream were imported into the United Kingdom from Sweden, Holland, Belgium, Norway, Denmark, and North Russia. Of the latter quantity Sweden contributed 109,428 gallons and Holland 14,103 gallons; of the balance—1384 gallons—one-half was imported from Norway, whilst the remainder came from Belgium, Denmark, and North Russia. The committee made it their business through the Foreign Office to obtain copies of the regulations in force in these countries for the prevention of the sale of possibly infected milk, and the despatches subsequently received from the English Consuls have been compiled and printed in *brochure* form. In Belgium the necessity for the special inspection of dairy farms is universally recognised, and the Belgian Government are considering the organisation of this service, but at present no regulations appear to have been publicly issued upon the subject. In the Royal decrees applying to the sale of milk there is no reference made to milk sent out of the country. In Sweden there are no regulations in force under which cattle are reared and kept, this being left entirely to the means and judgment of the agriculturist, nor are there any regulations providing for the inspection of milk and cream intended for export. With regard to the small quantity of milk exported from Finland no regulations are in force for insuring the purity of this supply. In Holland a recent decree has been published which contains all the regulations enforced by the Government with the view to insuring the purity of the milk-supply. In Denmark care appears to be enforced in dealing with infected animals but we find no marked reference to milk sent out of the country. On the whole, therefore, the apprehensions which we expressed over two years ago are justified, for we cannot find any sure and certain evidence in the report now before the honourable court of the Commissioners of Sewers that the milk imported into this country from abroad is of guaranteed purity and quality. Apart altogether from the serious issues which this may involve upon the health of the community it is a gross injustice to the milk traders at home. We trust that the Government will promptly consider this valuable document and act forthwith in accordance with the real and serious necessities of the situation therein indicated.

A TRAMWAY FOR THE THAMES EMBANKMENT.

It is earnestly to be hoped that strenuous opposition may be offered to the Bill shortly to be brought before Parliament for constructing a tramway along the Thames Embankment. It will be remembered that a similar scheme was promoted some ten years ago but was, in our opinion, most fortunately defeated. There is, however, always a danger that a project of this kind may obtain the sanction of Parliament merely through the unwillingness of private persons to take the requisite trouble to secure its rejection. What is everybody's business is no one's business. The competition of the projected tramway with the District Railway enables us to hope that that company will range itself against a project which threatens to draw off a considerable number of travellers from the section of its line between Westminster Bridge and Blackfriars. Our own objections to the scheme we may set down briefly. In the first place, on financial grounds it is obviously absurd to permit the Thames Embankment, on the beautifying of which tens of thousands of pounds have been spent, to be rendered hideous by processions of tramcars. Practical economy too often is at variance with æsthetic pleas, but in this instance it endorses them. The money has been spent actually with a view to purchase the beauty, so that to spoil the beauty is to waste the money. The Embankment with its unequalled prospect of river and shipping makes a beautiful driving road, almost the only one in the heart of London with any pretensions to beauty which is not too much crowded for pleasure. The construction of it was a costly undertaking and it has been invaluable as relieving the congested traffic of Fleet-street and the Strand. Here we come to a second reason why to cut up this fine roadway is a wanton waste. When cars run upon tram lines on the Embankment its use to relieve the Strand and Fleet-street will be well-nigh gone. It will itself become an inconvenient route. Anyone who doubts this need not go so far as Chicago or Toronto for a confirmation; he has only to pay a visit to the Old Kent-road or any similar road in south London, to the Kentish Town and Camden-roads in north London or to the Hammersmith-road in the west. He will then realise how great is the inconvenience caused by these vehicles. Were we writing in abuse of trams we might add that the horse-tram is very hard on the loins of the horses, that the vapours from the steam-tram are at least as cruel to the respiratory passages of men and women, and that the overhead wires of the electric-tram make a prospect that is hideous as well as perilous; but our intention is not so general—or so foolish. Trams have many reasons for their existence and serve a large body of citizens so well that for every fault to be urged against them we could find a virtue. But the projected tramway between Westminster and Blackfriars is a mistake because the locality is totally unsuitable, so that the advantages of the scheme, if any, are lost beneath the disadvantages which are obvious and weighty. We note also that a warning voice has been raised in the *Pall Mall Gazette* against the construction of any new tramways in London while vehicular traffic is in its present revolutionary state. The days of the horse are possibly numbered as far as much urban employment is concerned. Many believe that in twenty years all our omnibuses and cabs and most of our carts, vans, and drays required for town use will be worked by electric motor power and that the horse will retire to a fitter sphere in the country. When the horse is no longer to be considered asphalte pavement can take the place of wood in all our city thoroughfares to the great advantage of the health of the communities, and the motor cab or omnibus with its rubber tires running more smoothly and much more silently than any car on its lines, will not be the serious hindrance to traffic which the tramcar must always be. The extent to which the immediate future will see our streets pervaded by auto-motor vehicles we do not attempt to guess, but that the horse will be superseded to some extent is undoubted. It may therefore soon become a question whether the various tram lines which at present deform our suburban streets should not be removed to make room for their more cleanly and convenient rivals, and if they are removed the companies will rightly put in a claim for compensation. Is it wise under these circumstances to permit any more lines to be laid down in our streets with the possibility that some few years hence the ratepayer may have to pay for having them taken up again? We think not and we trust that the projected line on the Embankment may come to nothing.

THE FREE USE OF ISOLATION HOSPITALS BY THE WELL-TO-DO.

A SOMEWHAT warm but very interesting discussion has been going on at Hull in reference to the use of municipal isolation hospitals by people who are not poor. This discussion has extended over a year or two and the practice as to charging has varied from time to time. At first it was resolved to leave the question of charging to the medical officer of health. It was found that the charges so made were constantly appealed against and caused much dissatisfaction and irritation. The free system was then tried till February last when the system of charging was again introduced only to give rise to more discussion which has again ended in the passing of the following resolution: "That in future the corporation make no charge for the expense of maintaining patients in the fever hospital." The arguments by which this proposition was supported were as follows: that isolation is in the interest of the community and that as the ratepayers are taxed to build and maintain the institution it would be morally wrong to ask them to pay for their own maintenance therein. Such flimsy arguments may satisfy those who think any reasoning good that saves their pocket. But they are not worthy of strong and independent men. Isolation is a duty binding on the citizen whether he is at home or in an isolation hospital. But that it is right for him to pay his own expenses if he can in an isolation hospital seems to us very clear. It would never be thought morally right for a comfortable ratepayer to betake himself in an emergency to the workhouse which his rates have helped to build and maintain and to be kept there as a pauper. A pauper he would be all the same because he was evading his own personal liabilities under an arrangement meant for the poor and not for him. The fallacies with the use of which Mr. Parrett carried his resolution have been well exposed in the local papers by Mr. Holder, whose manly defence of the principles of independence must commend it to all generous people. No doubt infectious disease is a trying experience to comfortable people, but they should meet it at home where this is possible and not at other people's expense. Where this is not possible the community is rightly called on to provide isolation. If the richer classes take to using the isolation hospital they will simply exclude the poor, for, as Mr. Holder says, there were 8000 cases of infection last year in Hull of which only 300 or 400 found accommodation in the isolation hospital. Mr. Parrett admits that the law is against him. We venture to think that morality is against him too. If the comfortable classes want accommodation for their infectious cases let it be provided in separate wards with their own medical attendant in charge.

HOSPITAL ABUSE AT NEWPORT INFIRMARY.

As will be seen by the correspondence which we publish in another column the house committee of the Newport Infirmary have taken up a ridiculous attitude. They met the honorary medical staff to consider the matter with regard to Mr. Ensor and then wrote to that gentleman enclosing for his signature an unqualified form of apology. To this Mr. Ensor replied that he did not regret what he had done and that he therefore declined to apologise. So here we suppose the affair will rest and the Newport Infirmary will lose the services of a valuable officer. It seems to us that the house committee's position is the reverse of enviable now that they have sanctioned the silly letter to Mr. Ensor. They do not seem to care for the efficiency of the infirmary or for the real good of the patients; the fact that the charity which they are supposed to direct is abused does not concern them, at least they do not discuss this side of the matter; but the dignity of the lay governors must be maintained at all costs and some balm applied to their wounded feelings—that is how their recent epistle must be construed. For a mere surgeon to say that he does not consider a patient a fit object for charity is an insult to them and one not to be borne. He must be dismissed or lick the dust. We very much doubt whether these stately persons will find it as easy as they think to fill Mr. Ensor's place and it is quite possible that they will not retain the services of his former colleagues unless they can contrive to temper their sense of their own worth with a little feeling for other matters, trifling in comparison may be, but still of some importance to the subscribers to the Newport Infirmary as well as to the charitable world at large.

THE MIDDLEMORE LECTURE.

THE annual lecture under the Middlemore trust was delivered at the Birmingham and Midland Eye Hospital on Dec. 16th, 1897, by Mr. Eales, who dealt with the causes of exopthalmos. Having described the various conditions underlying it together with their differential diagnosis and treatment under the head of "Tumours," he drew special attention to the importance of early diagnosis and to the great facility afforded to this end by resection of the external rectus which allowed complete digital examination of the orbit to be made by introducing the little finger into Ténon's capsule behind the globe, in which way the presence or absence of tumour, not capable of detection in the ordinary way, could be easily and certainly determined and delay in dealing with it prevented. He narrated a case where by this means a tumour of the optic nerve was at once diagnosed though there was no interference with ocular movements. Vision was normal, equalling $\frac{6}{6}$. The perimeter showed the field of vision to be normal and the optic disc appeared normal, proptosis being the only obvious symptom. The patient and the specimen were shown. He also referred to another case where, no tumour being found in the orbit, the muscle was replaced and the patient subsequently died with symptoms of intracranial disease without further evidence of growth in the orbit. Several interesting cases and specimens were shown in illustration of the lecture.

A WORD OF THANKS.

"PATERFAMILIAS," in whose behalf we recently appealed to the profession under circumstances which will be found on page 1608 of THE LANCET of Dec. 18th, 1897, wishes to express through our columns "his deep gratitude to those good, kind friends who have so generously and so promptly helped him out of what was to him an insuperable difficulty." We wish to add to this a few words of thanks from ourselves. The whole of the thirty pounds was made up at once and a cheque was sent to "Paterfamilias" to reach him on Christmas Eve, while later subscriptions have been returned. The generosity which has been displayed in this matter has been as delicate as ready, for in every case the donor has stipulated that his name should not appear.

A GODALMING MYSTERY.

THE inquiry in this case brought forward some interesting medico-legal points. On Nov. 3rd a girl named Edith Wiles, twelve years of age, was missed from her home, and the fate which had befallen her remained a mystery until Nov. 22nd, when the body was found in the river a little below Unsted iron bridge. The medical man who was first called said that on examining the body he found what he should call three marks of violence; one on the right eye, which completely blackened it, might have been caused by a fall or a blow, and was inflicted before death, there was another on the left side of the middle of the throat, there being a faint line also on the right side which was caused during life or immediately after death by, in his opinion, something being tied tightly round the neck, and on removing the scalp he found a large bruise about half an inch from the centre of the skull. There was a large clot of blood between the scalp and the skull. In his opinion this injury was caused by a blow. In view of this evidence the coroner adjourned the inquest and one of the county divisional police surgeons examined the body. This witness stated that the "signs of strangulation" on the right side of the neck described by the other medical witness were, in his opinion, due to the skin from the other side of the neck having been accidentally pulled across in the process of sewing up the post-mortem incisions. The other signs of supposed strangulation were uncertain owing to the decomposed state of the body, but the witness thought that they were most probably caused after the body had been immersed in the water. With regard to the black eye and the bruise on the top of the head he thought that the body was too much decomposed to form any opinion as to whether they were caused ante mortem or post mortem. We are inclined to agree with the views of this second witness. Injuries very similar to those produced by assault are frequently found on bodies which have lain three weeks in running water, as was the case in this instance; portions of trees may knock against the body or contact with the bottom of the river or objects on the bank may produce injuries which by reason of post-mortem decomposition may become indistinguishable from those caused by personal violence. Numerous cases are on record corroborating these statements. Another point to which attention was called was that the stomach was full of water and food and this might have been adduced as strong evidence that the deceased was alive on entering the water. Experience has shown, however, that this test is open to many fallacies, Liman's experiments particularly throwing much light on this subject; he concludes that the occurrence of water in the stomach may be simply a post-mortem accident.

THE MAIDSTONE EPIDEMIC AND THE MEDICAL PROFESSION.

THE claims of the medical profession for attending the necessitous cases among the 1900 cases of typhoid fever at Maidstone are now being considered. It is in the nature of medical claims to come in late for attention when the services exacted and cheerfully rendered in a time of strain cannot well be realised. We commend this fact to the attention of the Relief Committee. It would be better to postpone the settlement of these claims till the town has recovered itself than to treat them lightly and inadequately. Had the visitation been one of cholera instead of typhoid fever there would have been no question of properly rewarding medical men for work involving special risk to their own lives as well as an enormous amount of care and skill. It would be difficult to exaggerate the value of the medical man in the time of such a calamity and it will be hard if he is to be appraised superficially as an ordinary creditor.

THE ECONOMIC AND HYGIENIC DISPOSAL OF CONDEMNED MEAT AND ANIMAL CARCASSES.

THE satisfactory disposal of offensive matters is one of those troublesome problems with which medical officers of health, sanitary authorities, and others are constantly confronted. Cremation is expensive and it yields no return except a practically valueless mineral residue. The subject is one of the first importance to the health of the community since with the increasing quantity of animal food consumed by an ever-increasing population the amount of waste and loss must expand in the same proportion. The question has been taken up seriously by the health authorities of the city of Nottingham, who a short time ago appointed a deputation to visit the working of an apparatus in Essen in Germany, where three machines were stated to be in full work in the well-appointed public abattoirs of that town. The apparatus referred to is known as the Otte apparatus and consists essentially of a big jacketed cylinder in which animal refuse, carcasses, flesh, and other organic materials are reduced by means of superheated steam. Attached to this revolving cylinder are receivers for containing the fat and gelatin separated during the process. The residual fibrous mass affords an excellent manure after it has been desiccated. The fat commands a fair price and the gelatin, &c., can be used for making size but not, it appears, for glue. The dried residue, it is said, makes also wholesome and rich food for pigs and poultry. There is no perceptible smell or offence connected with these operations. It would appear therefore that the process has a business value apart from the hygienic function which it apparently carries out effectually. The medical officer of health of Nottingham, Dr. Philip Boobbyer, has drawn up an interesting and valuable report upon the results witnessed at Essen. It is remarked in this report that while the members of the deputation cannot but feel that the Otte apparatus is one of great value for the means it affords of disposing innocuously and profitably of material which commonly gives rise to much nuisance, they are also of opinion that the purchase of the plant by the Nottingham Corporation at the present time would be altogether premature, for they cannot but realise that it is only when used in conjunction with public abattoirs that its full utility could be manifested. At the same time it is suggested that if any private persons are prepared to establish an installation of such plant at their own charge and risk upon a suitable site in Nottingham the deputation are of opinion that a licence for such establishment should be granted. We learn later that an installation of the apparatus is about to be commenced in Nottingham.

POISONING BY TYROTOXICON.

AT this time of the year cases of ptomaine poisoning are comparatively rare, although in the summer they occur much more frequently. Some interest therefore is attached to an inquest recently held at Halifax on the body of a child, aged four years, who was put to bed on Nov. 27th apparently in her usual health but was taken ill at seven o'clock the following morning and died in a few hours. A post-mortem examination was made by Mr. Strickland, who deposed that death was due to some poisoning the exact nature of which he was unable to specify. It was suggested that the girl might have sucked the colouring from a doll which she took to bed with her, but it was also further mentioned that she had partaken of some ice-cream which might have caused the symptoms. The coroner directed Mr. W. Ackroyd, the borough analyst, to make an analysis, and he expressed the opinion that the symptoms and post-mortem examination pointed to poisoning by tyrotoxicon, a substance derived from unwholesome milk. He examined the ice-cream for tyrotoxicon but found none present. He gave some useful hints, however, that duly found their way into the press—namely, that this substance was destroyed by a temperature of 90° C. and consequently, if milk were boiled, should tyrotoxicon be present it would be destroyed. This adds another warning to the community at large against drinking milk that has not been boiled, and points the necessity that farmers and milk dealers should scald out the utensils in which they place milk.

THE TYPEWRITER AND HEALTH.

THE typewriter has won its way so completely wherever much writing is done that any evidence of the influence which it may exert upon health deserves attention. The *Phonetic Journal* publishes a note from a correspondent who, in response to the question "Has anyone ever known of a genuine case of typewriters' cramp induced in a normal constitution by the use of any standard machine?" replies that he suffers from cramp so produced and has heard of two other cases. The *Phonetic Journal* was in the first instance disposed to doubt the existence of typewriters' cramp, but admits that the case of its correspondent is a genuine example of the affection. Typewriters' cramp belongs to what Dr. Poore calls the professional impotencies, and its occurrence after the nimble, oft-repeated movements of the typewriter's hand and fingers is a thing no more to be wondered at than pianists' cramp, compositors' cramp or tailors' cramp. In the course of time it is but too probable that typewriters' cramp will become, if not as well known, at least as recognisable as ordinary writers' cramp. But if the spread of the typewriter brings to its user the risk of cramp there is, if an American journal is to be believed, a balance of advantage to be set down in its favour. "The death-dealing corset," we are told, "has found in the type-writing machine and the bicycle two implacable foes." No expert can manage either the typewriter or the bicycle while she is held in "a close-fitting cage of whalebone and steel." If the wheel and the typewriter have done much for woman not the least of the blessings they may bring is in helping to set her free from what *The New Education* describes as "the cramping, uncomfortable, health-destroying, ugly, and barbarous mediæval invention called the corset." This is vigorous language, but if the contention is good and capable of proof then the influence of the typewriter on the health of at least the female section of those who use it must, in spite of the risk of typewriter's cramp, be regarded as beneficial.

A CASE OF CORYZA APPARENTLY OF DENTAL ORIGIN.

AT a recent meeting of the Manchester Odontological Society Mr. E. P. Collett brought forward an interesting case of coryza due apparently to dental irritation. The patient in question, a medical man, had suffered from persistent coryza, mainly unilateral, for three or four weeks. He consulted a colleague who carefully examined him and was unable to find any physical cause except some stigmata on the middle turbinated bone associated with general vaso-motor dilatation of the membrane. A 4-per-cent. solution of cocaine was prescribed for local use together with general treatment. The coryza, however, did not lessen, and neuralgic pain in the region of the temple, over the malar bone, and subsequently behind the right ear, supervened. He then consulted Mr. Collett, who removed the first maxillary premolar which showed signs of chronic periodontitis. No pus was evacuated. The pain had entirely gone by the morning following the removal of the root, the coryza completely disappearing in the course of three days.

THE PERSHORE GUARDIANS AND THEIR MEDICAL OFFICERS.

ONE of the many unfortunate results of the present over-worked and underpaid state of the profession is that it is unrepresented on the various public bodies which are the employers of medical knowledge in different capacities. When a medical man is asked to stand for the vestry or the board of guardians or county council of his district he naturally replies that he has not the time to devote to these matters. The grocer or other tradesmen who calls for his orders each morning can leave the counter in charge of an assistant to attend the board meetings. But if the medical man is out of the way at any moment he may be wanted, his patient does not hesitate to send for another practitioner just round the corner whose fees perhaps are a trifle less. The consequence of this unhappy state of things is that the medical officials of a board of guardians, for example, lack representation on the board, and our friend the grocer, or some other member of the board who seeks for cheap notoriety, moves a resolution that the advertisement for candidates for the vacant post of district medical officer shall stipulate that the person appointed must give an undertaking not to claim a pension under the recent Poor-law Officers Superannuation Act (1896). Something of this kind has, as a matter of fact, happened at Pershore. Surely such an act of palpable injustice as this would never have commended itself to a majority of the Pershore guardians if someone had been present to point out that the fund raised under that Act from which pensions are awarded is formed mainly, if not altogether—as it certainly will be in the future—by contributions compulsorily deducted from the salaries of Poor-law officials, including that of the parish medical officer, and not from the rates, as the guardian who moved the resolution seems to think. We sincerely trust that no member of the profession will so far forget the duty he owes to the profession as to apply for the post at Pershore under such unjust conditions. The salaries attached to these posts are at all times wholly inadequate to the work done, and the new Act which, as we have pointed out, is not without flaw, does but very imperfectly compensate an official in his declining years—i e., when he reaches sixty or sixty-five—for all the time he has to spend in the service of the guardians. We trust that this matter will receive the attention of the Local Government Board; and the moral to be derived from the whole is this—that wherever a medical man can see his way to take a more active part in local affairs he ought to do so, not only because his medical knowledge is often of special value on many points concerning the public weal which have to be decided, but also in order that he may indicate, when occasion arises, that such parsimonious acts as these, besides being unjust, inevitably tend to lower the status of the candidates coming forward, even if any can be found, and are really detrimental to the public service.

THE WATER-SUPPLY OF TORQUAY.

The Town Council of Torquay have decided to purchase the catchment area of their water-supply. This course has long been recommended by their medical officer of health, Mr. Karkeek. It was necessary to obtain an Act of Parliament to enable the corporation to buy the land, and the Act was obtained during the past year. The water sub-committee of the Torquay corporation decided in October last to advise the council to avail themselves of the new Act and forthwith to acquire the whole of the land with the primary object of removing all human habitations from the water-shed and of effecting such other alterations for safeguarding the water as might be found necessary. There was some local opposition to carrying out the purchase scheme and it was urged that the corporation should first obtain expert advice with regard to the filtration of the water. By a large majority the council have decided that the purchase of the land shall be completed without further delay. We heartily congratulate the corporation of Torquay on the wisdom of the course they have adopted.

SUBJECTIVE SENSATIONS IN EPILEPSY.

In a paper in the December number of the *Practitioner* Dr. Campbell Thomson in the course of some remarks on the importance of these "warnings," both in reference to their usefulness to the patient and their significance as indicating the probable seat of the discharging lesion in the brain, refers to some cases which have come under his notice. The first case was that of a man thirty-seven years of age who had been subject to fits since the age of twenty-one years. Preceding a fit there was usually considerable psychical disturbance which began about twelve hours before the fit and was characterised by strange weird presentiments, quite indefinable, often accompanied by sudden recollections of trifling things that had happened in childhood and loss of memory for things connected with his everyday life of the present. The second case was that of a man of thirty years of age who had suffered from fits since childhood. In his case the "warnings" commenced with a startled feeling followed by cramp-like pains in the left hand and arm, sometimes extending to the left side of the face and sometimes associated with a bitter taste. He also nearly always heard at these times a monotonous ticking in the left ear and at the last moment just before losing consciousness he experienced a choking sensation. This somewhat elaborate aura lasted as a rule for about half an hour. The former case, Dr. Campbell Thomson remarks, probably illustrates the condition described by Dr. Hughlings Jackson as the "dreamy state" or intellectual aura. The third case described is that of a young man admitted to the Middlesex Hospital, under the care of Dr. Kingston Fowler, complaining of severe pain in the head. He had had since childhood a chronic discharge from the right ear, and although he had never had any fits he stated that he occasionally felt giddy and at the same time experienced peculiar sensations of smell which he could not accurately describe except that they were very unpleasant. A few hours after admission he became delirious and died suddenly, and at the necropsy he was found to have an abscess situated in the anterior part of the right temporo-sphenoidal lobe. In more than one case a lesion in this region has given rise to an olfactory aura similar to that here described.

THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON.

H R.H. the Prince of Wales, after consultation with the Council of the Fund, has decided to distribute the funds at his disposal for the year 1897 in the following way. A sum of £22,050, representing the annual subscriptions promised plus the amount of interest on investments already made, will be divided among the hospitals where more than 100 beds are in constant occupation. The moneys received from the sale of stamps, probably about £38,000, will be divided among such institutions "as come under the classification of hospitals"; but the secretaries in their statement give no information as to the plan upon which the distribution will be made. The most pressing wants of the larger hospitals will thus, it is expected, be relieved for this year, and the Council hope that "it is only reasonable to suppose that in future years the income of the Fund will be sufficient to meet their requirements." Wards which for want of funds have been closed at Guy's, St. Thomas's, and other places will be at once re-opened and certain of the requirements of other hospitals will be met which neither annual subscriptions nor Hospital Saturday and Sunday Funds have hitherto been able to deal with. The Fund for this year will remove much anxiety from hospital managers, and it is to be hoped that when the public see the good work that it has accomplished in the first year of its existence they "will subscribe to it annually and will endeavour by organised and systematic contributions to render its future secure." This hope of the Council we cordially re-echo, for the Prince has had a noble idea and has spared no personal pains whatever to transform his idea into practical and beneficent reality. We have a few words to add in the hope that our readers will take every opportunity to point out the truth of them to all with whom they come into contact. To abstain from a wonted subscription in order to subscribe to the new fund will be a poor compliment to His Royal Highness and a bad imitation of charity. The honorary secretaries of the Fund have received from Sir Edward Lawson 755,599 shillings and sevenpence (£37,779 19*s*. 7*d*.), being the amount received up to Dec. 24th, 1897, in answer to the appeal on behalf of the Prince of Wales's Jubilee Hospital Fund, only the cost of collection out-of-pocket expenses being deducted, no charge whatever having been made on account of the *Daily Telegraph* itself or any member of its staff.

FACIAL NUCLEUS IN FACIAL PARALYSIS.

In the November number of the *Journal of Experimental Medicine* Dr. Adolf Meyer records an interesting condition. The patient was a general paralytic admitted to an asylum in November, 1894. He died on March 26th, 1896, but ten days before death he was noticed to have complete left-sided facial paralysis. The examination of the medulla is all that is described in the paper under notice. This was carried out by Nissl's method and the cells of the facial nucleus showed the characteristic changes described by Nissl in his experiments on rabbits—viz., swelling of most of the cells, dust-like decay of granules, in many cells an almost homogeneous swelling of part of the cell body, dislocation of the nucleus to the surface in many cells, and irregular contour of the nuclear membrane. The homogeneous swelling in many places seemed to form a firm, yellowish pigment-like substance. The nuclei in most cells showed a diffused bluish colour and many nucleoli little vacuoles or notches. There was no evidence of decussation of elements of the seventh nerve. The terminal nuclei of the eighth nerve, both dorsal and ventral, showed well circumscribed neuroglia cell infiltration, whereas the nucleus of Deiters was almost completely free. Examination of the contents of the internal auditory canal showed that there were a number of hæmorrhages and round cell infiltration of the periosteum, compressing both nerves and ganglion, the ganglion being infiltrated also with leucocytes. Dr. Meyer remarks that the case does not support the doctrine of a decussation of the facial roots but points rather to a relative independence of the nucleus of Deiters from the auditory nerve endings, and it illustrates how an affection of one fibre system may involve the cells of another system with which it comes in contact.

THE TOWN AND THE MEDICAL PROFESSION OF BATH.

A VERY large and interesting meeting of nearly the whole profession of Bath has lately been held on the invitation of the mayor to discuss and formulate schemes for the coöperation of the profession and the corporation in developing the usefulness and prosperity of Bath and its spas. Bath is to be congratulated on having a mayor who appreciates the importance of such coöperation. He paid a high compliment to the late Mr. Freeman which was echoed by other speakers. He then proceeded to explain his desire to have a strong committee of medical men representative of the whole profession in Bath to which the baths committee of the corporation could look for advice and guidance when professional questions arose touching the efficiency of these baths. The meeting was addressed by Mr. Beaumont (honorary secretary of the Bath and Bristol Branch of the British Medical Association), Dr. McDermott, Dr. Weatherley, Mr. Craddock, Dr. Kerr, Mr. Coppinger, Dr. Hardyman, Dr. Wohlmann, Mr. Trevelyan, Dr. Wigmore, Dr. Field, Mr. Cowan, Mr. Scott, Mr. White, Mr. Hopkins, Mr. Terry, and Mr. Davies. Mr. Beaumont suggested various schemes for a committee representative of all practitioners in Bath, so as to do away with anything that might create the feeling of favouritism or exclusiveness in relation to the baths or the baths committee. The mayor interposed from time to time with excellent suggestions and in the end the meeting agreed unanimously to his worship's suggestion that the whole medical profession of Bath should constitute a committee for the above purpose and that the general committee should appoint an executive committee and a sub-committee. The harmony of the meeting and the unanimous acceptance of the practical proposal of the mayor, with his assurance that the question shall be viewed in all its aspects by the corporation, are the best assurance that Bath will not be behind other places at home and abroad which have lately shown remarkable energy in making themselves as health resorts at once efficient and attractive.

THE EXMOUTH URBAN DISTRICT COUNCIL AND THE MEDICAL OFFICER OF HEALTH.

THE Exmouth Urban District Council seem to have curious views on the subject of sanitation. On Dec. 8th, 1897, a letter appeared in the *Times* from Dr. Kempe, the medical officer of health, pointing out that the Exmouth death-rate was only 6 per 1000, and adding that "a little sanitary energy on the part of the council would elevate this health resort into a place of envy. It is to be hoped that the council will now give the surveyor the necessary assistance and re-lay the old street sewers and attend to the other matters reported upon without delay." This very temperate and sensible letter stirred up the bile of the council, and at a special meeting held on Dec. 16th, 1897, Dr. Kempe was solemnly censured, told to apologise, and asked to resign. One councillor, a Mr. Ley, is reported in the *Exmouth Chronicle* of Dec. 18th as saying: "It was not a part of the duty of the medical officer to report on drains at all. He was not an engineer and it was not his duty to report anything outside his work." Our readers will doubtless remember that in our issue of April 3rd we quoted the following from an article which appeared in an evening contemporary relative to a hypothetical village called Sureton-in-the-Mud. An eminent rural councillor was there represented as saying: "'No, my young sir, I don't say but what the doctor 'asn't performed 'is dooties satisfact'ry; I don't say but what 'e is hequal to 'is job, but what I do say is that being medical orficer 'e 'as no call to go a-snuffling about the drains for to raise the rates of the parish.' 'But the outbreak of typhoid?' 'That's what 'e's there for. If there wasn't no typhoid we shouldn't want no medical horficer, should us? It stands to reason.'" This article must have been written in a prophetic spirit. To turn to present facts Dr. Kempe has been asked to resign merely, so far as we can see, because, having reported upon the condition of the sewers and requested their relaying, nothing has been done and Dr. Kempe has had the audacity to say so. As for it not being the duty of a medical officer to look after the drains the remark of Mr. Ley is so silly that it needs no further comment. If the Exmouth councillors will not do their duty it remains to invoke the Local Government Board—a body which grinds slowly, but, as the recalcitrant councillors will find grinds exceeding small.

THE British Institute of Public Health will be styled in future the Royal Institute of Public Health, and Her Majesty the Queen has been graciously pleased to accept the office of patron. The council of the Institute has conferred the Harben Gold Medal for 1898 upon Lord Playfair and has appointed Dr. W. R. Smith the Harben Lecturer for the year 1899. The offices of the Institute have been removed from 20, Hanover-square to 197, High Holborn, W.C.

WE understand that Dr. J. C. Thresh, the medical officer of health to the Essex County Council, is a candidate for the appointment of Professor of Hygiene in King's College, London. As practical sanitarian, successful author, and sound man of science alike Dr. Thresh possesses very high qualifications for the post he seeks.

THE Sydney meeting of the Australasian Association for the Advancement of Science (seventh session) will commence on Jan. 6th, 1898. Professor A. Liversidge, M.A., LL.D., F.R.S., who is the permanent honorary secretary, will act as President.

THE Queen has approved of the appointment of William Carnegie Brown, M.D. Aberd., to be an Unofficial Member of the Legislative Council of the Straits Settlements.

THERE will be the usual half-yearly meeting of Fellows of the Royal College of Surgeons of England on Thursday next, Jan. 6th, 1898, in Lincoln's-inn Fields at 4 P.M.

AT a special meeting of the President and Fellows of the Royal College of Physicians of Ireland held on Friday, Dec. 17th, 1897, Sir William Richard Gowers, M.D., F.R.S., &c., was elected an Honorary Fellow.

THE Local Government Board have determined to direct inquiry into the causes of the recent outbreak of typhoid fever at Maidstone.

H.R.H. PRINCESS LOUISE, Marchioness of Lorne, has consented to become Patroness of the Nurses' Coöperation, New Cavendish-street.

Pharmacology and Therapeutics.

TINCTURE OF MYRRH IN DIPHTHERIA.

DR. STRÖLL, writing in the *Allgemeine Medicinische Central-Zeitung*, very strongly recommends tincture of myrrh in diphtheria. The mixture he uses is composed of tincture of myrrh 4 parts, glycerine 8 parts, and distilled water to 200 parts. This is given very frequently—every hour or even every half-hour in the day-time and every two hours at night, infants up to the age of two taking a large teaspoonful (seventy-five minims), older children double that quantity and adults three times as much. This is continued until the membrane has nearly disappeared, when the doses are only given every two hours. After all the membrane has gone the treatment is continued for a couple of days, the interval between the doses being increased to three hours. This, of course, is with the view of preventing any recurrence. Usually the fever and lassitude disappear in twenty-four hours, so that a child may frequently be found within that time sitting up in bed playing. He says that there does not seem to be any need for local treatment but in the case of older children and adults a gargle containing one half per cent. resorcin may be employed every hour or oftener in the day-time and where it is desired the tonsils may be painted every hour with the tincture of myrrh undiluted. Where the larynx is involved Dr. Ströll prescribes the myrrh and glycerine mixture in an inhaler or spray to be used every half hour. By the employment of this method Dr. Ströll states that he has only lost one case out of eighty and he has collected reports from several other practitioners in various parts of the world who have treated altogether 182 cases with 22 deaths. No mention, however, is made in his own or in the other cases of bacteriological verification of the diagnoses. The *rationale* of the efficacy of myrrh is supposed by Dr. Ströll to be that this drug increases the phagocytic elements in the tonsils.

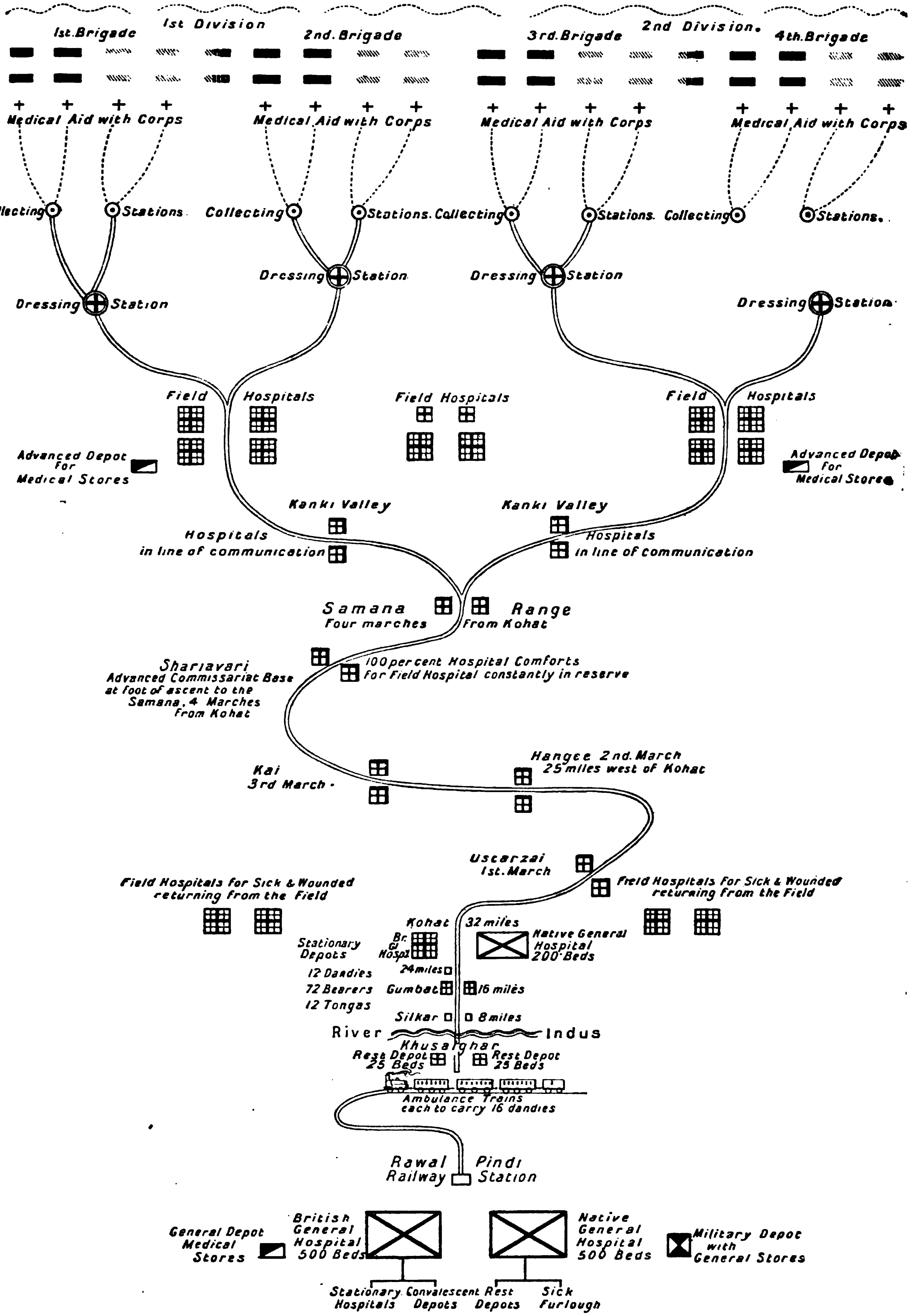
ESSENCE OF NATURAL WINTERGREEN AND ESSENCE OF ARTIFICIAL WINTERGREEN IN THE TREATMENT OF RHEUMATISM.

Mr. Vida writes that he has substituted since the month of July, 1896, the application of compresses soaked in essence of wintergreen for the ingestion of salicylate of soda in rheumatic patients whose digestive tubes and nervous systems it was important to consider. "I noted," he says, "at the onset in a certain number of patients some cutaneous manifestations varying from simple temporary erythema to the reappearing papulous eczema. In all the rheumatic patients the essence of wintergreen was applied according to the process become classic of 50 to 100 drops poured upon a double fold of aseptic gauze and covered by an impermeable material applied for some hours either to the forearm or to the leg and renewed twice every twenty-four hours. Surprised at these cutaneous accidents which manifested themselves, especially in a series, and which could not be imputed to an exaggerated susceptibility of the integuments of these patients, I sought for their cause and arrived at the following conclusions. There exist now in commerce two essences of wintergreen indifferently utilised in the drug business, and differentiated only by their price, varying from the single to the double. The one, the natural essence of wintergreen, is of a reddish yellow colour, having an oily odour, essentially extracted by distillation from the gaultheria procumbens or palommier, and is a mixture of hydrocarburets not yet perfectly defined and of methylic salicylate in the proportion of nine-tenths. The other, the artificial essence of wintergreen, is colourless, with an acrid odour, empyreumatic, recalling the odour of coal smoke, is pure methylic salicylate, and is obtained synthetically. On simultaneously applying to the two forearms of a rheumatic patient according to the method already described some compresses, the one soaked with the natural essence and the other with the artificial essence, it may be easily noticed that no reaction is produced upon the section of the member in contact with the pure methylic salicylate. The part treated with natural essence of wintergreen is, on the contrary, more or less red, painful, and covered sometimes with a rubeoliformic eruption. Methylic salicylate cannot have a different action according to the product employed. It is, then, necessary to conclude that the irritating action of natural essence of wintergreen is due to resins of an undetermined nature (gaultherilline, &c.) mixed with the salicylate. It is important, in order to avoid all irritating action appearing to counterbalance the excellent effects of this cutaneous medication to renounce the vague appellation of 'wintergreen,' which leaves to the preparer the choice of employing the natural or artificial essence, and often of mixing the two essences delivered by the producer and to prescribe the pure methylic salicylate deprived of all irritating action and not leaving any doubt upon the product to be employed."

THE MEDICAL ARRANGEMENTS FOR THE TIRAH EXPEDITIONARY FORCE.

THE accompanying diagram illustrative of the medical arrangements made for the main column of the Tirah expeditionary force will it is hoped prove interesting and instructive to medical officers of the army and volunteer forces and possibly to other members of the medical profession. It will serve to show the method adopted in modern warfare by which the fighting force in front is left to pursue its course untrammelled by sick and wounded, who are systematically relegated in the direction which they must take when found unfit for field service—viz., the rear. Under the conditions which obtained in the days of Wellington and during the Peninsular War, when the forces engaged were smaller and campaigns were conducted with less celerity and vigour and arms of precision with rifled quick-firing artillery had no existence, a very different system of army medical relief and hospital organisation existed. The corps-unit was then the basis of all organisation and every regiment and battery was in all respects complete in itself and was respectively provided with its separate hospital, stores, medical and surgical equipment and regimental staff of medical officers. The system of bearer columns, medical staff corps, first aid to wounded, and field hospitals as they now exist had not then been organised. The regimental hospital system was in force during the Crimean War and the siege of Sebastopol; the large attacking army represented a sedentary force which did not serve to bring out the defects incidental to this system. But the big wars of later years in America and the Franco-German and other campaigns in which very large bodies of men were engaged and everything depended upon rapidity of movement led to the inauguration of another system. The principles which have governed the organisation of the field medical service in India since the date of the last Afghan war have had the object of providing for the immediate requirements of the force and of relieving it of non-effectives, the systematic transfer of the sick and wounded from the field of operations to the hospitals at the base, and the apportionment of the medical establishments and equipment to the requirements of the force as a whole. It is sought nowadays to appropriate medical officers and establishments, stores and equipment, to positions in which they are most needed in actual warfare instead of to healthy men of regiments and batteries of Royal Artillery, and to disencumber the fighting columns in front of all unnecessary impedimenta. Briefly described the line of surgical and medical assistance for an army in the field, if traced from front to base, will be found to consist of (1) medical officers doing duty with corps; (2) bearer companies; (3) collecting and dressing stations; and (4) moveable field hospitals, stationary field hospitals on the lines of communication, general hospitals at the base of operations with attached military depôt and base medical store depôts, together with hospital ships where these are provided. With this clue to the scheme we do not apprehend

DIAGRAM ILLUSTRATING THE MEDICAL ARRANGEMENTS MADE FOR THE MAIN COLUMN OF THE TIRAH EXPEDITIONARY FORCE.



that any of our readers interested in the subject of field service will have any difficulty in deciphering the diagram of the arrangements that were planned and provided for the Tirah expeditionary force during the late operations against the border tribe population of that district. Separate provision is made for the hospital accommodation of British and native troops respectively.

THE LANCET
Special Analytical Commission
ON THE
QUALITY OF THE MILK SUPPLIED
TO THE
METROPOLITAN HOSPITALS.

The high rate of milk adulteration in the first city of the world is maintained to the present day and still the State affords little assistance towards effectually reducing this rate. In the past official year (1896–97) the rate was 17·7 per cent. as against 9·1 per cent. for the rest of the country, and the authorities of the Local Government Board in their recent annual report remarked that "it is a matter of regret that London has not yet been successful in bringing down its high rate of adulteration." That the quality of the milk-supply is a reproach to the metropolis is thus very clearly acknowledged by those who are responsible for the working of the Sale of Food and Drugs Act, an Act which was framed to protect the public against fraud and adulteration. How quickly the opportunity is seized of perpetrating fraud in the case of milk is well illustrated in the recent results brought to light when samples taken on Sundays were examined. No less than 47½ per cent. of these—i.e., nearly half—were found to be adulterated, one sample being certified as skimmed to the extent of 90 per cent. and also to have had 23 per cent. of water added. "As soon, however, as the local authorities *seriously* took the matter in hand the Sunday rate of milk adulteration was reduced." The italics are ours, inasmuch as we venture to think that the high rate of milk adulteration prevailing in London could be very materially reduced if the provisions of the Act were more "seriously" taken in hand than is the case in general.

It is superfluous for us to point out the extreme importance of the milk-supply to our hospitals being absolutely free from reproach in every particular. In this instance the well-being and perhaps life of a patient may depend entirely upon this natural food because all else is unsuited to his needs and his enfeebled physical condition. To tamper with milk dedicated to such purpose can only be justly described as an act of wickedness of an exceptionally bad kind. The quantity of milk consumed at our great hospitals is necessarily large and accordingly it is delivered in bulk from carts coming direct in the majority of cases from the railway station. It is thus likely to escape the notice of the official inspector. We are aware that samples are occasionally taken for analysis from the churns at the railway station, but such a proceeding is rare compared with the number of samples taken at the milk-shops. On the face of it, it would appear therefore that the public at large have greater protection against adulteration than have our great charitable institutions. We have therefore been led to make a practical investigation into the quality of the milk supplied to the hospitals with the view of deciding whether or no the inferences just indicated are in any degree justified.

One of our Commissioners, having first obtained the sanction of the authorities of the hospitals concerned, proceeded to secure samples. As far as possible an exact appointment was avoided and in the majority of cases he was able to take the sample direct from the can as it was delivered to the hospital by the milkman. The list of hospitals (general) includes all the well-known ones with two exceptions. The authorities of St. Thomas's Hospital wrote in the first instance that "the proposal opens a wide field of consideration"; but at a committee of almoners the treasurer was directed to reply to us "relative to the examination of the milk-supply to this hospital being placed under County Council inspection," that "being satisfied with the milk supplied and our own course of inspection they hardly saw the advantage of the course you propose." We did not suggest, of course, as is here implied, that the milk-supply of London should be placed under the control of the London County Council. The Local Government Board is the proper authority in the matter. Also we failed to receive the sanction of the Westminster Hospital authorities although we applied to them at or about the same time that we applied to the rest. We therefore cannot speak of the quality of the milk supplied to St. Thomas's Hospital or to Westminster Hospital.

The results recorded below relate to samples of milk taken from the following general hospitals:—St. George's Hospital, University College Hospital, King's College Hospital, Great Northern Hospital, West London Hospital, Middlesex Hospital, London Hospital, St. Bartholomew's Hospital, Charing-cross Hospital, Guy's Hospital, and St. Mary's Hospital. In the analyses which follow the several hospitals are distinguished by a letter.[1]

Results of Analysis of the Milk supplied to the Metropolitan Hospitals.

Hospital A.

Specific gravity	1032·0
Total solids	12·06 per cent.
Fat	3·50 ,,
Non-fatty solids	8·56 ,,
Mineral matter	0·70 ,,
Preservatives	None

A milk of good average quality with a fair proportion of fat.

Hospital B.

Specific gravity	1031·0
Total solids	11·95 per cent.
Fat	3·61 ,,
Non-fatty solids	8·34 ,,
Mineral matter	0·67 ,,
Preservatives	Small quantity of borax.

Like the previous specimen this milk is of fair average quality with a percentage of fat well above the limit. There was distinct evidence, however, of the presence of boric acid.

Hospital C.

Specific gravity	1031·0
Total solids	11·14 per cent.
Fat	3·02 ,,
Non-fatty solids	8·12 ,,
Mineral matter	0·64 ,,
Preservatives...	None

The amount of fat is within the mark, but on general consideration this milk cannot be regarded as of excellent quality. The non-fatty solids are decidedly low, which is in accordance with the comparatively low percentage of mineral matter.

Hospital D.

Specific gravity	1033·0
Total solids	10·80 per cent.
Fat	2·46 ,,
Non-fatty solids	8·34 ,,
Mineral matter	0·60 ,,
Preservatives	None

This milk is decidedly below normal quality. The low figure for fat indicates the abstraction of at least one-sixth of the cream, while the amount of non-fatty solids is below the standard of genuine milk. Milk showing this poor composition is clearly not in accordance with the requirements of a hospital.

Hospital E.

Specific gravity	1032·0
Total solids	11·90 per cent.
Fat	3·21 ,,
Non-fatty solids	8·69 ,,
Mineral matter	0·66 ,,
Preservatives	None

This milk had been scalded, in spite of which it showed a uniform composition. It is of good average quality and gave no evidence of preservatives.

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[1] We propose to communicate privately this week to a member of each hospital staff the letter corresponding to the hospital with which he is concerned.

Hospital F.

Specific gravity	1029·0
Total solids	10 55 per cent.
Fat	2·91 ,,
Non-fats	7 64 ,,
Mineral matter	0·70 ,,
Preservatives	None

This milk is of decidedly inferior quality. Some preliminary indication of this was afforded by the comparatively low specific gravity. The fat again is just below the minimum and the amount of non-fatty solids suggests attenuation. The milk yielded a beautiful mauve pink colour on heating with hydrochloric acid which may be due possibly to proteids or perhaps to foreign colouring matter. This reaction was at any rate not obtained with any other of the milks examined.

Hospital G.

Specific gravity	1032 0
Total solids	11 51 per cent.
Fat	3·05 ,,
Non-fats	8·46 ,,
Mineral matter	0·65 ,,
Preservatives	Boric acid in slight but distinct quantity

The composition of this milk borders closely upon the limits of what may be regarded as genuine milk. It cannot be described as a rich milk. Distinct evidence of boric acid was obtained.

Hospital H.

Specific gravity	1032·0
Total solids	11 82 per cent.
Fat	3·30 ,,
Non-fatty solids	8 52 ,,
Mineral matter	0 71 ,,
Preservatives	None

A good average specimen of milk with a satisfactory proportion of fat and free from preservatives.

Hospital I.

Specific gravity	1033 0
Total solids	12·03 per cent.
Fat	3 47 ,,
Non-fatty solids	8 56 ,,
Mineral matter	0·71 ,,
Preservatives...	None

A milk of good quality with satisfactory proportion of fat and no preservatives.

Hospital J.

Specific gravity	1032 0
Total solids	11·95 per cent.
Fat	3 43 ,,
Non-fatty solids	8 52 ,,
Mineral matter	0 67 ,,
Preservatives...	None

Like the previous specimen this milk is of good quality with a satisfactory proportion of fat and free from preservatives.

Hospital K.

Specific gravity	1032·0
Total solids	11·41 per cent.
Fat	3 00 ,,
Non-fatty solids	8 41 ,,
Mineral matter	0·71 ,,
Preservatives	Boric acid in distinct quantity

This is a milk of fair average quality, the amount of fat being, however, close upon the minimum of genuine milk. The milk contained boric acid but not in excessive quantity.

The results may be summed up shortly as follows. Of the eleven samples examined we regard seven as of good average quality, two as of indifferent quality, and two as decidedly poor and in all probability diluted. These conclusions are based upon the standards adopted by the Society of Public Analysts, which seem to us to be perfectly justifiable on the grounds of common experience. For fat the limit adopted is 3 0 per cent., for non-fatty solids it is 8·5 per cent. Three specimens contained distinct though, be it remarked, not excessive quantities of boric acid.

It is pretty safe to assert that had the samples been taken in the summer months the number of specimens borated and the amount of boric acid used would have been greater. Whatever may be the views taken as to the employment of preservatives in food for general purposes, their addition to the milk-supply to hospitals each and all will agree is very objectionable and should be vigorously protested against. A great injury may thereby be unwittingly done to invalids and children and especially to patients who suffer from enfeebled digestive functions or in whom disturbance is easily set up at any point along the alimentary tract.

It is interesting to observe that in this inquiry, which was necessarily limited in scope, the percentage number of samples which we think deserve rejection is 18 2 against 17·7 per cent., the rate of milk adulteration in London as brought to light in the returns of the Sale of Food and Drugs Act. We may add, however, that on the whole we have, we think, placed a somewhat liberal construction upon the results. But they have at least established the important fact that the milk supplied to London hospitals is no better—not to say worse—than that supplied to the public, whereas for hospital purposes it should be absolutely beyond reproach. It matters comparatively little whether the milk we add to our tea is watered or deficient in cream, but in the hospital this may mean depriving the patient of his only means of nourishment, while to add chemical preservatives to the same milk should be counted a distinct offence in such a case. The public to some extent are protected against fraud and adulteration by the Sale of Food and Drugs Act, but our great charitable institutions, which receive milk in large quantities, do not share it is evident in the same measure in this protection, although they are in much greater need of it. We trust that the Government will strengthen the hands of the officials appointed to take samples under the Act that they may be empowered to take samples at frequent intervals from the cans of the milkman as soon as they are set down at the hospital, both in the case of the morning and the afternoon supply. This would relieve the hospital authorities, as we think they should be relieved, from all anxiety, responsibility, and expense in the matter and would secure a milk-supply fully in accordance with hospital requirements. In many of the hospitals, but not in all, a system of control is adopted, but this is generally limited to observing the amount of cream by a "creamometer" and the specific gravity by a hydrometer. This is no doubt useful, but it is not sufficient since the volume of cream is not found to bear a constant relation to the fat, on the amount of which depends a very important quality. The fat of a milk may be below 3 per cent. and yet it is possible for that milk to show a volume of cream equal to 10 per cent. The quality of milk may to some extent be controlled in this way, but the presence of chemical preservatives would be lost sight of.

Everyone must admit the necessity of a pure and unadulterated supply of milk to the sick and debilitated. That such a supply is not universal is evident to us in the present inquiry as well as from the testimony of hospital physicians who have been in communication with us upon the subject. There is, we fear, some tendency on the part of administrative authorities to decide upon buying milk for hospitals at the lowest possible price and milk of the lowest possible quality is accordingly supplied. A fair price should be paid and a pure, unimpoverished article of excellent quality may then justly be demanded.

MR. J. A. PICTON AND VACCINATION.

MR. J. ALLANSON PICTON, ex-M.P., has become an anti-vaccinationist. By most people this announcement will be read with the same kind of surprise as would fill them if they were told that Lord Salisbury had become a Conservative or Mr. Healy a Home Ruler. But the statement is not published as a new joke. It is made with every outward evidence of seriousness by the organ of the league in the following words: "We are sure all our friends will be glad to learn that Mr. J. A. Picton, of the Vaccination Commission, and formerly member for Leicester, has formally notified his adherence to the anti-vaccination cause and has joined the National League." Mr. Picton's relationship to anti-vaccination has for some time been a very curious one and merits at least a passing notice.

In the *Times* of Nov. 4th he wrote thus regarding his membership of the Royal Commission: "I declare that I entered on the inquiry with a belief in Jenner's alleged discovery. It was the evidence laid before the Commission and that alone which after seven years' study of it convinced me that as a prevention of small-pox vaccination is absolutely futile." There are here two main declarations—first, that Mr. Picton was a believer in vaccination when the Commission began; and, second, that he was a disbeliever when the Commission closed, his disbelief being solely due to the evidence he had heard.

The first assertion was traversed without delay by two correspondents in the *Times*. One, signing himself "M.D.," pointed out that in 1889 in the *Contemporary Review* Mr. Picton had said that he was "rapidly approaching" the conclusion that "vaccination is of no use." The other letter, by Dr. John C. McVail, was partly as follows:—

"Referring to the inquiry by the Royal Commission of which Mr. Picton was a member he says: 'I declare that I entered on the inquiry with a belief in Jenner's alleged discovery.'—(The *Times*, Nov. 4th, 1897.)	"In moving for the appointment of a Royal Commission in the House of Commons on April 5th, 1889, Mr. Picton is reported thus: 'In fact, he believed vaccination to be just as ineffective as baptism.'—(The *Times*' Parliamentary Reports for April 5th, 1889.

"Further, in the *Contemporary Review* for January, 1889, referring to the view 'that vaccination is of no use,' Mr. Picton wrote: 'I am rapidly approaching that conclusion myself.' Thus in January, 1889, Mr. Picton was rapidly approaching the conclusion that vaccination is of no use; by April he had definitely arrived at that conclusion; in May he was appointed a member of the Royal Commission on Vaccination; and now he declares that he entered on the inquiry with a belief in vaccination."

Mr. Picton appears to have thought it not inconsistent with his reputation to allow these letters to remain unanswered. That is primarily his own affair and so far as believers in vaccination are concerned the position in which the point is left by his silence is perfectly satisfactory. Out of his own mouth and from his own pen he stands convicted of declaring with regard to his own opinions in 1889 not merely what is inconsistent with fact but what is diametrically opposed to fact.

His attitude towards the vaccination laws in the earliest months of the Commission's inquiry is easily seen in the minutes of evidence. In July, 1889, in cross-examination of Sir Richard (then Dr.) Thorne, Mr. Picton said (Q. 943), "My point (and I make no concealment of it) is that if you follow the line of official vaccinations and follow the line of the growth or decrease of small-pox you find that as the official vaccinations increase small-pox increases and as the official vaccinations decrease small-pox decreases. ......" In the course of the next question he says, "My point is that the operation of the vaccination laws does not decrease small-pox."

All this bears on the question of Mr. Picton's opinions in 1889, but it seems to us that the reply to his letter in the *Times* may be carried a good deal further. After "declaring" that he "entered on the inquiry with a belief in Jenner's alleged discovery" he continues as above quoted: "It was the evidence laid before the Commission and that alone which after seven years' study of it convinced me that as a preventive of small-pox vaccination is absolutely futile." Seeing that, notwithstanding his own declaration to the contrary, it is proved that in 1889 he was already convinced that vaccination is as useless as baptism, it is obvious that this conviction did not rest on evidence which at that time he had never heard. That, however, is not all. We are strongly of opinion that Mr. Picton has in the *Times* misstated the opinions which he held at the end of the inquiry almost as seriously as he has misstated the opinions which he held at the beginning of the inquiry. With regard to his later views there is of course no such direct evidence of misstatement as with regard to his earlier views. Here we must proceed partly by inference. His conclusions regarding vaccination are set forth at great length in the "Statement by Dr. Collins and Mr. Picton of the Grounds of their Dissent from the Commission's Report." In the first paragraph they write: "...... it is necessary to review in some detail the history of small-pox and the various preventive measures which have at different times been in vogue and to scrutinise the grounds on which one alone of these preventive measures has been relied upon to the exclusion of others. We desire also to give reasons for thinking that other more effective and practicable (as well as less objectionable) modes of stamping out small-pox or protecting communities from its introduction are available. We venture to think that the report of our colleagues, in the preparation of many portions of which we have borne our part, has approached the consideration of the behaviour of small-pox and the means of preventing it too exclusively from the standpoint of vaccination ......" Unless the English language has lost its meaning there is no getting over the fact that vaccination is here acknowledged to be an "effective" and "practicable" mode of stamping out small-pox or protecting against its introduction. The note which characterises this introduction to the dissentients' Statement is not wanting in what follows. In Section 185 Dr. Collins and Mr. Picton say, referring to vaccinal risks, that vaccination should not be compulsory "even if its value were greater than it is." In Section 82 they say: "We are unable, therefore, to infer from the statistics of the London small-pox hospital that vaccination has any very marked effect in reducing the liability to attack by small-pox. ......" Sections 90, 93, and 101 might also be quoted, but we content ourselves with giving the first sentence of Section 113: "A relatively low fatality rate in vaccinated children under ten is, as shown in the report, a remarkable feature in recent epidemics, and this, if it were constant, might well be urged as a ground for encouraging the practice of infant vaccination when small-pox is prevalent, if no other means for controlling the disease were available." Surely all this is not the language of a man who had been "convinced" by "seven years' study" that "vaccination is absolutely futile." The two positions taken up by Mr. Picton, first in the Statement of Dissent and second in the *Times* are in effect about as contradictory as his speech in the House of Commons in 1889 is to his declaration in the *Times* in 1897.

But the question of Mr. Picton's opinions may be argued from another standpoint. Leaving his belief as to the value of vaccination, let us turn to his belief as to the dangers of vaccination. Here are a few quotations. "We are deeply impressed with the sad cases of severe illness and suffering and death .... We are also struck with the fact that under the circumstances which must obtain in the houses of the poor additional risks to health and life are encountered and that the operation cannot be regarded as free from even the more avoidable risks except under conditions and precautions it is perfectly impossible to secure." (Section 185). "The evidence leads us to believe that vaccine lymph or the vaccine process is not infrequently proximately related to erysipelas, inflamed arms, ulceration, sloughing and axillary abscess" (Section 198). "Not only is the danger of vaccine syphilis now admitted to be 'real and very important,' but the safeguards which have been laid so much stress upon are now known to be illusory" (Section 208); and "we are bound to conclude that it is possible in the act of vaccination to convey any disease whose cause can reside in the inflammatory lymph of a vaccine vesicle" (Section 220). Vaccination, therefore, in the opinion of Mr. Picton is a very dangerous proceeding. If any sane man holds these views and at the same time holds that "vaccination is absolutely futile" it is surely impossible that he can for one moment suggest that the State shall continue to provide vaccination and vaccinators for all and sundry who choose to avail themselves of the provision either for themselves or for their children. Yet this is exactly what Mr. Picton and his colleague advise. Having urged the abolition of compulsion and the adoption of further precautions against attendant risks the dissentients "suggest that in other respects the law should be left as it is" and that "all machinery" be "left intact" so that "vaccination would continue to be provided as at present for those who desire to avail themselves of it." Nothing but a belief in vaccination can reasonably account for such advice seriously given to Her Majesty and Parliament. The case is all the stronger in the fact that at the same time Mr. Picton declares that he believes other means—sanitation and the like—to be effective against small-pox. In short, we hold it proved that in the *Times* not only has Mr. Picton misstated his opinions of 1889 but also his opinions of 1897. He declares that when the Commission began he believed in vaccination and that when the Commission ended he disbelieved in vaccination. His own statements, oral and written, show on the contrary that he disbelieved in vaccination when he joined the Commission and that he believed in it when he signed the Statement from which we have quoted.

In the face of his own recommendation that vaccination should continue to be provided as at present Mr. Picton has now become a member of a league whose objects include "the entire repeal of the Vaccination Acts" and "the disestablishment and disendowment of the practice of vaccination." In other words, he has engaged to do his best or his worst to ensure the rejection of his own deliberate recommendation to Queen and Parliament. It is possible to gather from the organ of the league the excuse that is to be made for this astounding attitude. "We trust," says the *Inquirer*, "his example may be followed by many other men of position who may have hitherto held aloof in the idea that the doctors and the doctors' friends would have loyally accepted at least the conclusions and advice of their own packed Commission and who are revolted at the strength of the persecuting spirit whereby that idea has been falsified. If so—and we have little doubt that it will be so—the existence and tactics of the Jenner Society will have done unexpected good." This helps to throw light on the concluding passage in Mr. Picton's letter to the *Times*, in which, after saying that he has never yet been a member of an anti-vaccination society, he adds that "if any attempt at a more rigorous enforcement of the law is made in the face of the Commission's recommendations I suspect I shall only be one unit amongst hundreds of thousands, as many of them believers as disbelievers in vaccination, who will help to resist a cruel and monstrous tyranny." It almost seems as if when he wrote the letter he was preparing himself and those of the public who may take any interest in his doings for the *volte-face* he was about to perform. And if his declaration had been allowed to go unchallenged—that he believed in vaccination in 1889 and disbelieved in it after hearing seven years' evidence—it is obvious that his joining the League could have been advertised as the formal sealing of the conversion which had taken place. We have seen, however, that the facts are just the reverse and even the *Inquirer* remains silent regarding the declaration in the *Times*.

A curious intolerance characterises this latest vagary of the ex-M.P. for Leicester. The Commission's recommendations may be taken as standing midway between those of Mr. Picton on the one hand and those of the Jenner society, as represented by its secretary, on the other. Briefly, the Commission desires in its report that the State should continue to use pressure in favour of primary vaccination, but that a declaration of conscientious objection should be accepted under proper conditions. Mr. Picton in his dissent desires that the State should continue to provide vaccination, but should not use pressure. The Jenner Society desires that pressure should be applied both as to vaccination and re-vaccination. Mr. Picton's dissent came first, and for it he was lauded to the skies by anti-vaccinationists. The Jenner Society's dissent came next, but it was in the opposite direction. How it has been received by Mr. Picton and the *Inquirer* we see in the passages above quoted. The right of dissent is to be confined to Mr. Picton and his friends. Their example is not to be followed excepting on the same side, and if Dr. Bond and his friends take any step in the opposite direction it is to be denounced in unmeasured terms. In the case of Mr. Picton dissent does not amount even to "a choleric word," but in the mouth of Dr. Bond it is to be counted as "rank blasphemy."

We have said that Mr. Picton's silence in face of the exposure of his misstatement in the *Times* is of primary concern to himself alone. Secondarily, however, it is of interest to the society with which he is now formally associating himself. And here we must not be misunderstood. Not for one instant do we suggest that Mr. Picton should be expelled from the league of anti-vaccination. On the contrary, he should be heartily welcomed. He has fully qualified himself for its membership, and no qualifications could have been more appropriate than misstatement and intolerance. Even on this subject of his own belief Mr. Picton is not breaking new ground in the way of erroneous assertion. The official organ of the society has been before him. In October, 1896, it asserted "that Mr. Picton entered the Commission a believer in this same power" of vaccination. There is, indeed, a curious resemblance between the line taken by the *Inquirer* and that followed by Mr. Picton, for the *Inquirer* made this statement notwithstanding the fact that it had quoted in its own columns Mr. Picton's previous statement in the *Contemporary Review* that he was rapidly approaching the belief "that vaccination is of no use." It had gone further, for before Mr. Picton's article had appeared in the *Contemporary Review* the *Inquirer* in the course of its advocacy of the appointment of a Royal Commission, wrote thus: "An able member of Parliament, who is opposed to compulsory vaccination and has no faith in the practice itself, has promised to move the House if he can obtain promises of adequate support." The member who "moved the House" was Mr. Picton.[1]

It is obviously most appropriate that he should now formally ally himself with a crusade the official organ of which had not only preceded him in misstatement but had done so even whilst its own pages furnished the refutation of its own assertion. Mr. Picton's letter to the *Times* may indeed be looked upon as equivalent to the test which aspirants to knightly honours had to undergo in days of old—the lonely vigil beside the armour which was afterwards to be donned by the crusader. The weapons are well known in the anti-vaccination camp, and Mr. Picton should be welcomed as a brother in arms or even a leader in a warfare which, if it were successful, would spread death and devastation in many an English household.

THE BATTLE OF THE CLUBS.[2]

THE EMPIRE MUTUAL SICKNESS, ACCIDENT AND GENERAL ASSURANCE ASSOCIATION, LIMITED.

THE association with the above florid title is evidently one of those that, like humble Allen, try to "do good by stealth and blush to find it fame." It has sent certainly to one medical man and probably to a great many more a circular marked "private and confidential" offering them the option of becoming local directors by taking £50 debentures. The circular proceeds: "We are offering them in the first instance to medical men and those who apply we intend to appoint our sole medical examiners for a district convenient to them and in addition to the examination fees they will receive 5 per cent. interest on the amount they have paid up besides bonuses; by doing this each appointment will be a really valuable one." In addition to this the management "propose to issue a printed booklet of boards of reference mentioning each local director therein and causing them to be widely known. Should you be desirous of acting as our sole medical examiner and local director in your district on the conditions named I shall be glad to have your application on the accompanying form. Should it be inconvenient to you to subscribe for fifty debenture shares the directors will be prepared to consider application for a smaller number.—I am, yours faithfully, H. Ludlow Croft, Managing Director."

In our opinion the sending of such a circular to medical men is totally unjustifiable. The medical examiner to an insurance society should certainly not have a direct pecuniary interest in such society and nothing more need be said as to the proposal to advertise the names of such medical men by means of a "printed booklet." The association, we may add, hails from Nottingham.

MEDICAL AID ASSOCIATIONS AT MANCHESTER.

Manchester is waging war apparently against a very army of medical aid associations. A new one we gather from the local papers has recently been started by the minister of Cavendish Chapel. We have not seen his official circular, but from sundry passages quoted we see that "persons of any station in life and of any age from two to sixty years" are to be eligible as members. Thus there is no wage limit. On the other hand Mr. Leach, in a letter written by himself, says "the directors agreed to give a minimum fee of 4*s.* per annum per member to the medical man and this was not to include midwifery operations or chronic cases. For all these the medical officer was free to charge his own fees." It seems to us that the absence of a wage-limit is a fault which cannot be set aside. If the principle of "collective bargaining" for which Mr. Leach pleads is such a panacea for evils let us have it all round. Why should not everyone pay 4*s.* a year to plumbers, gas-fitters, slaters, carpenters, and others, the payment of such a sum making it justifiable to have them out of bed at all hours of the night or summon them on Sundays or Bank Holidays to put right some real or fancied defect? Or why should not a medical man make it a principle to begin an operation and then go away for an hour or so to fetch an instrument or some ointment, "man's time" to be duly charged for? Plumbers and gas-fitters very often do this. To be serious, though, we do not consider that one penny per week is sufficient although the Medical Guild of Manchester are said to have fixed this as the minimum. As Dr. Sawers Scott writes: "While a man is willing to give in the sacred name of charity he calls by another name the demand of the 'sturdy beggar' who presents the pistol of 'public opinion' at his head."

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[1] THE LANCET, Nov. 14th, 1896, p. 1404.

[2] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from THE LANCET Office, price 1*s.*

With reference to the National Deposit Friendly Society, concerning which, as noted in our issue of Dec. 11th, the Medical Guild issued a pronouncement, it is true that there is no wage limit, but it seems to us that this society is to be commended for one thing. Its members have to pay in monthly to the sick fund the amount they wish to draw daily as sick pay. This must be not less than 6*d*. and not more than 10*s*. The fees paid are as follows: one visit with medicine for two days 2*s*. 6*d*.; members entitled to over 5*s*. daily sick pay for every 1*s*. above 5*s*. extra per visit 6*d*. So that in the case of a member drawing 6*s*. daily sick pay his medical man would receive 3*s*. per visit, and so on in proportion. This is in our opinion a good rule, but of course the main objection still stands. There is no wage limit and therefore nothing to prevent a well-to-do but miserly individual from joining the society, paying up for 5*s*. a week sick pay and getting medical attendance at 2*s*. 6*d*. per visit. A wage limit is an absolute necessity.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5424 births and 3730 deaths were registered during the week ending Saturday last, Dec. 25th, 1897. The annual rate of mortality in these towns which had been 20·8 and 20·6 per 1000 in the two preceding weeks further declined last week to 17·7. In London the rate was 18·2 per 1000, while it averaged 17·4 in the thirty-two provincial towns. The lowest rates in these towns were 9·0 in Croydon, 10·7 in Brighton, 11·8 in Oldham, and 13·6 in Derby; the highest rates were 19·8 in Manchester, 19·9 in Nottingham, in Preston, and in Sheffield, 25·8 in Blackburn, and 26·5 in Swansea. The 3730 deaths included 480 which were referred to the principal symotic diseases, against 552 and 561 in the two preceding weeks; of these, 199 resulted from measles, 102 from whooping-cough, 89 from diphtheria, 33 from "fever" (principally enteric), 30 from scarlet fever, 27 from diarrhœa, and not one from small-pox. The lowest death-rates from these diseases were recorded in Portsmouth, Norwich, Bolton, and Gateshead; while they caused the highest rates in Swansea, Leicester, Cardiff, and Blackburn. The greatest mortality from measles occurred in London, Brighton, Barnsley, Halifax, Swansea, Bristol, and Blackburn; from scarlet fever in Huddersfield and Swansea; from whooping-cough in Gateshead and Plymouth; and from "fever" in Derby. The 89 deaths from diphtheria included 56 in London, 6 in Cardiff, 6 in Leicester, and 4 in West Ham. No fatal case of small-pox was registered last week in any of the thirty-three large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 3619, against 3818, 3812, and 3806 on the three preceding Saturdays; 222 new cases were admitted during the week, against 328, 319, and 280 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London which had been 468 and 457 in the two preceding weeks further declined to 352 last week, and were 128 below the corrected average. The causes of 54, or 1·5 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Leeds, Newcastle-upon-Tyne, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Preston, Bradford, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns which had increased in the five preceding weeks from 18·5 to 20·3 per 1000 declined again to 18·6 during the week ending Dec. 25th, 1897, but was 0·9 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·8 in Leith and 15·8 in Aberdeen, to 19·6 in Paisley and 20·7 in Glasgow. The 554 deaths in these towns included 26 which were referred to whooping-cough, 11 to measles, 10 to diarrhœa, 9 to scarlet fever, 5 to diphtheria, and 4 to "fever." In all, 65 deaths resulted from these principal symotic diseases, against 76 and 72 in the two preceding weeks. These 65 deaths were equal to an annual rate of 2·2 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough which had been 20 and 29 in the two preceding weeks declined to 26 last week, of which 19 occurred in Glasgow. The 11 deaths referred to measles corresponded with the number in the preceding week and included 8 in Glasgow and 3 in Greenock. The fatal cases of scarlet fever which had been 12 and 10 in the two preceding weeks further declined to 9 last week, of which 6 were recorded in Glasgow and 3 in Dundee. The 5 deaths referred to diphtheria exceeded by 2 the number recorded in the preceding week and included 2 in Glasgow and 2 in Edinburgh. The 4 fatal cases of "fever" showed a slight further decline from recent weekly numbers, and included 3 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 129 and 138 in the two preceding weeks, further rose to 149 last week, but were 28 above the number in the corresponding period of last year. The causes of 44, or nearly 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin which had increased in the three preceding weeks from 25·4 to 28·5 per 1000 declined again to 21·8 during the week ending Dec. 25th, 1897. During the past twelve weeks of the current quarter the death-rate in the city has averaged 23·9 per 1000, the rate during the same period being 18·8 in London and 18·8 in Edinburgh. The 146 deaths registered in Dublin during the week under notice showed a decline of 45 from the number in the preceding week, and included 13 which were referred to the principal symotic diseases, against 15 and 19 in the two preceding weeks; of these, 5 resulted from "fever," 4 from diarrhœa, 3 from scarlet fever, 1 from diphtheria, and not one either from small-pox, measles, or whooping-cough. These 13 deaths were equal to an annual rate of 1·9 per 1000, the symotic death-rate during the same period being 2·9 in London and 0·9 in Edinburgh. The deaths referred to different forms of "fever" which had been 7 and 10 in the two preceding weeks declined to 5 last week. The 4 fatal cases of diarrhœa exceeded the number recorded in any recent week. The deaths from scarlet fever which had been 4 in each of the two preceding weeks, declined to 3 last week. The 146 deaths in Dublin last week included 22 of infants under one year of age and 44 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Four inquest cases and 4 deaths from violence were registered, and 41, or more than a fourth, of the deaths occurred in public institutions. The causes of 12, or more than 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

FLEET-SURGEON GEORGE BELL MURRAY has been placed on the Retired List, with permission to assume the rank of Deputy Inspector-General of Hospitals and Fleets.

The following appointments have been notified:—Fleet-Surgeons: G. D. Twigg to the *Flora*, and R. G. Brown to the *Clyde*. Staff-Surgeons: E. C. Wood to the *Mersey*, and A. M. French to the *Cæsar*. Surgeons: J. C. Wood to the *Vivid*, additional; A. A. J. McNabb, M.B., to the

Northampton, additional for Curacoa; E. J. Miller, M.B., to the *Flora;* W. E. Mathew to the *Repulse;* J. E. H. Phillips to the *Cæsar;* and W. M. Keith, M.B., to the *Prince George*.

ARMY MEDICAL STAFF.

Brigade-Surgeon-Lieutenant-Colonel Anthony L. Brown is placed on retired pay. Surgeon-Lieutenant-Colonel Scott is appointed to the medical charge of troops at Yarmouth. Surgeon-Major E. L. Maunsell has left Woolwich for India.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Captain Thomson, A.M.S., is appointed to officiate as a Civil Surgeon, second class, and to be posted to the Etawah district. Brigade - Surgeon - Lieutenant - Colonel Condon (Retired List) is appointed to be Special Health Officer, Cawnpore. Dr. E. C. Pettifer is appointed to be Special Health Officer, Fyzabad and Ajudhya. Surgeon-Lieutenant-Colonel Gordon Price (Bengal), Civil Surgeon, Murshidabad, and Surgeon - Lieutenant - Colonel Henry Adey (Bombay), 10th Regiment of Bombay (Light) Infantry, retire from the service subject to Her Majesty's approval.

The following promotions and retirements have been Gazetted:—To be Surgeon-Major-General: Surgeon-Colonel George Bainbridge, Bombay Establishment. To be Surgeon-Colonel: Brigade-Surgeon-Lieutenant-Colonel George Hutcheson, Bengal Establishment. Surgeon-Majors to be Surgeon-Lieutenant-Colonels: *Bengal Establishment:* Samuel John Thomson, Robert Neil Campbell, Edward Salisbury Brander, Fakir Chundra Chatterjie, and George Augustus Emerson. *Madras Establishment:* Charles Henry Bennett, William Henry Thornhill, and Maneckjee Eduljee Reporter. *Bombay Establishment:* Alfred William Frederick Street, D.S.O., Henry Pruce Jervis, David Charles Davidson, James Charles Harding Peacocke, and Kaikhosro Sorabji Nariman. Surgeon-Captains to be Surgeon-Majors: *Bengal Establishment:* Henry Robert Woolbert, George Henry Baker, Thomas Grainger, M.D., Joseph Rosamond Adie, Arthur Charles Younan, Alfred William Alcock, and John Macfarlane Cadell. The retirement of the under-mentioned officers have received the Queen's approval: Surgeon-Lieutenant-Colonel Arthur Tomes, Bengal Establishment, and Surgeon-Major Framji Ruttonji Divecha, Madras Establishment.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Lieutenant T. W. G. Kelly, M.D., to be Surgeon-Captain; Surgeon-Lieutenant John Edward O'Connor, M.B., from 1st Volunteer Battalion Leicestershire Regiment, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Royal Engineers: 2nd Gloucestershire (Bristol): Surgeon-Captain J. M. Thomas resigns his commission. *Rifle:* 1st Volunteer Battalion Royal Fusiliers (City of London Regiment): Surgeon-Lieutenant W. H. R. Forsbrook, M.D., resigns his commission. 1st Volunteer Battalion Royal Scots Fusiliers: William Maccall Boyd, M.B., to be Surgeon-Lieutenant. 1st Volunteer Battalion the Northamptonshire Regiment: Surgeon-Lieutenant E. P. Dickin, M.D., to be Surgeon-Captain. 1st (Renfrewshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Charles McBryde, M.B., to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

Manchester Companies: Surgeon-Captain W. H. B. Crockwell resigns his commission.

PRESENTATION OF CHITRAL MEDALS AT MALTA.

On Dec. 8th His Excellency the Governor of Malta presented the Chitral Medals to Captain Baillie and the non-commissioned officers and men of the Seaforth Highlanders who took part in the expedition in 1895 for the Relief of Chitral and the operations in the Swat Valley. Among those present were Colonel Murray, C.B., in command of the troops, Major-Generals Lord Congleton and Owen Rear Admiral Harris, Surgeon - Major - General Maunsell, C.B. (who himself took a prominent and distinguished part in the campaign), Colonel Wynne, C.B., Colonel Wood, C.B., and a number of other staff officers. Lady Freemantle, Lady Congleton, Mrs. Maunsell, and Mrs. Murray pinned the medals upon the breasts of the recipients. It would be interesting to know why the name of Mrs. Maunsell was omitted from the telegrams announcing the ceremony which appeared in at least two of our prominent London daily papers.

THE SOUDAN.

The transfer of Kassala from the Italians to the Egyptian Government has taken place and the Egyptian flag has been substituted for that of the Italians. Kassala has an elevated position, is some 250 miles from the Nile valley, and is a place of considerable trade. Its possession gives Egypt a sanitary station of some stategical value and from a trading point of view is of much importance and capable of future development, especially when railway communication has been established between it and the Nile. As regards the intended expedition to Khartoum there is every reason to believe that it will start towards the end of the summer of this year and that a considerable addition of British troops will be made to the Egyptian expeditionary forces beforehand. This will also necessitate, of course, the presence of a number of officers of the medical staff and an increased hospital service to take part in the expedition.

RETIREMENTS IN 1898.

The Army Medical Department retirements in 1898 will be: Surgeon-Major-General J. B Hamilton, M.D., Oct. 3rd; Surgeon-Major-General A. A. Gore, M.D., Dec. 1st; Surgeon-Colonel F. B. Scott, M.D., C.M.G., Dec. 9th; Brigade-Surgeon-Lieutenant-Colonel A. Anderson, Oct. 1st; Brigade-Surgeon-Lieutenant-Colonel R. H. Robinson, Oct. 16th; and Brigade-Surgeon-Lieutenant-Colonel J. F. Supple, Dec. 14th.

THE PLAGUE IN INDIA.

Medical officers and others are still having a great deal of hard work in connexion with plague duty. The epidemic shows as yet no signs of terminating. The disease is still prevalent in Bombay, at Poona (where it is very bad), at Sholapore, in the Punjab, and in Sind.

As was announced in another column last week, Mr. Arthur Trehern Norton, F.R.C.S. Eng., Surgeon-Lieutenant-Colonel, Volunteer Medical Staff Corps, has been appointed by Her Majesty a Companion of the Bath.

Correspondence.

"Audi alteram partem."

"THE COMPARATIVELY STATIONARY DEATH-RATE IN PRIVATE OBSTETRIC PRACTICE."

To the Editors of THE LANCET.

SIRS,—"M. D." in THE LANCET of Dec. 18th, 1897, undoubtedly enlightens us as to some of the causes of the stationary death-rate in private obstetric practice as compared with that in the maternity hospitals. We in the country have very much more to put up with if we decide to become the pioneers of aseptic midwifery than have our more favoured brethren of the towns. In the first place we commonly meet with patients who, backed up by the local "Gamp," persist in refusing to take off their ordinary work-a-day habiliments whilst being delivered; neither entreaty nor invective seems to have the slightest effect in inducing them to divest themselves of their septic skirts, petticoats, boots, stockings, &c. More often than not no enema is administered prior to the passage of the presenting part over the perineum, and when the untrained attendant is "cleaning" (?) the patient after delivery fæces and other dirt are wiped right into the vagina. When the temperature goes up if the medical attendant says that the womb must be washed out again the "Gamp" steps in and suggests that "Mr. Blank never does anything of that kind and that he is a very lucky man with his patients." The patient gets worse, rigor succeeds rigor, the thermometer shows the existence of septic infection, still does the "Gamp" shriek, "It is only the milk going all over her," and when at last the vital forces succumb to the overwhelming power of legions of pathogenic micro-organisms and their ptomaines, can it be believed that medical men can be found who will certify that the patient has died from "*lacteal fever*"?

Yet such, alas, is the case. I have with my own eyes seen a certificate in which the cause of death was assigned to such a hypothetical disease. Can one then marvel why it is that aseptic midwifery does not make due headway in rural districts? The very existence of puerperal septicæmia is called into question by those who are supposed, in such matters at least, to be the instructors of the laity. The ancient customs of untrained and self-styled midwives, no matter how filthy or how prejudicial to the health of the patient, are allowed to go on without rebuke for fear perhaps lest those dames should speak badly of the accoucheur and thus damage his future prospect of midwifery practice. There is undoubtedly a strong temptation in the way of the young obstetrician to let things go on in "the bad old way." He sees his elder colleagues doing a large practice on the ancient lines, with perhaps a death-rate of 5 per cent., but then the patients, poor things, "died in child-birth," so that no stigma is attached to the attendant. He knows that if he endeavours to adopt rigid principles of asepsis he will be termed "fussy," if not ignorant, and that if he trys to show the nurse (in 90 cases out of 100 altogether without training) any of the modern methods of conducting a normal labour she will tell him that she has attended as many confinements as he has and that she has never done and never shall do any of "them there new-fangled things." The reformer, it is said, never reaps the benefit of his work and the saying holds quite as good with regard to the obstetric reformer as it does to pioneers of reform on any other social abuse. So that if the young practitioner in the country decides to adopt the new methods he must be prepared to calculate the cost. If half the care were to be taken by medical officers of health in ascertaining the cause of individual cases of puerperal sepsis which is invariably taken in tracing a case of typhoid fever to its source I believe that we should soon hear less of "deaths in child-birth." "Acute sepsis" is, according to Henry Jellett, "directly due to the infection of the uterus with *streptococcus pyogenes which has been introduced by the fingers or instruments of the medical attendant or nurse*"; therefore, it is a preventable disease and if the medical attendant or nurse introduces the poison in the large majority of cases it is undeniable evidence of his or her having neglected to take the necessary precautions.

If puerperal sepsis is to be stamped out we must take the laity into our confidence and teach them what it really is, what its etiological factors are, and show them how it can be prevented. Then alone, when they learn that it is a disease as infectious as typhoid fever or scarlet fever and very much more easily obviated than either one or the other of them, will they appreciate our efforts in procuring asepsis in midwifery.—I am, Sirs, yours faithfully,

Belper, Dec. 19th, 1897. MAURICE MCELLIGOTT.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 18th in a letter on the above subject "M.D." gives as the causes of the above (1) too frequent vaginal examinations; (2) stretching the cervix with the finger; and (3) too frequent use of forceps, and refers to the difficulty of carrying out asepsis. Now while opposed to the stretching of the cervix with the finger as routine practice and the too frequent use of forceps I myself can see no harm in frequent examinations provided our hands are aseptic. During the surgical operation our hands and instruments are in constant contact with the wounds and yet if aseptic no harm accrues. Why should it be more likely in making vaginal examinations in labour? I am certain that we can only produce puerperal fever by contamination from without provided no bits of placenta or membranes are retained.

My experience, though small, is that patients are inclined to think more of a practitioner who carries out the principles of asepsis than of one who does not. Even if it were not so a little conversation with them would soon put matters all right. "M.D." certainly overlooked one of the causes of the comparative stationary death-rate—namely, the constant custom of nurses and midwives to make vaginal examinations before the arrival of the medical attendant and even to syringe without our orders to do so and in spite of our orders to the contrary. Another cause is the attendance upon labour and the vaginal examination without removal of the coat and turning up the sleeves. This many of the older practitioners are in the habit of doing. I have been in the unenviable position of having to attend a patient in labour soon after making a necropsy. After the post-mortem examination was over I went home, changed every article of clothing, had a hot bath with carbolic soap, and before making each examination soaked my hands and arms in 1 in 20 carbolic lotion. The patient went through an aseptic puerperium without any bad symptom. If we are careful to take off our coats, turn up our shirt-sleeves, wash our hands and nails (which should be cut as short as possible) with soap and hot water and nailbrush, and make free use of 1 in 1000 perchloride of mercury or 1 in 20 carbolic lotion, and if we prevent nurses making examinations or syringing without our orders we shall see all our patients going through their puerperium without rise of temperature. Then will the stationary death-rate diminish both to the credit of ourselves and to the advantage of our patients.

I am, Sirs, yours sincerely,

Croydon. ROBERT HENDERSON.

To the Editors of THE LANCET.

SIRS,—May I say a few words to answer, or rather to supplement, the interesting and charmingly written letter of "M.D." in THE LANCET for Dec. 18th? Apart from the possible previous attentions of the "Wise Woman" in private cases as a source of infection there is the septic condition of the air in many cottages. When we remember that non-intervention was the rule in maternity hospitals when the death-rate was so high is it not highly probable that septic air and not septic fingers and instruments is the commoner source of puerperal septicæmia?

I have seen but three cases of the fatal puerperal fever described in books. The first I only saw post mortem by the coroner's order. She had been attended by a woman who made no pretence to any knowledge or obstetric skill and who left everything except tying and dividing the cord to nature. The patient had died on the eleventh day and there were no abrasions of the os or other obvious sources of infection, but the lying-in room was unbearably close. The second was the case of "born before arrival," the whole labour being completed before even the nurse arrived. The regular medical attendant thought there had been scarlet fever infection, but there was very little evidence of such; the room, however, was ill-ventilated and in a crowded quarter. The third was attended by a most careful and generally successful obstetrician, who took all reasonable care, but the room was very small and ill-ventilated. One man's experience is worth but little but these three cases have impressed on my mind the importance of clean air as well as clean hands and I have often suspected that a temperature of 102° F. or more on the third day is due to bad ventilation. They also taught me to be very chary of suspecting my professional brethren of carelessness in cases of this sort. The third case more especially brought this home to me, for the medical attendant, dreading the unmerited blame that threatened him, committed suicide before even the patient died. As to forceps I was taught by the late Dr. Palfrey at the London Hospital never to put them on until the os was either dilated or freely dilatable, and I believe the neglect of this rule is as bad an error as an obstetrician can well commit and deserves all the reproach your able correspondent "M.D." heaps upon it.

I am, Sirs, your obedient servant,

Dec. 24th, 1897. M.B.

"CYANOSIS IN CONVULSIONS."

To the Editors of THE LANCET.

SIRS,—In the *Edinburgh Medical Journal* for July, 1897, Dr. Alexander Robertson reported a case of alcoholic convulsions, the patient being "deeply cyanosed and unconscious." The treatment adopted was "an almost constant full stream of water from a large jug poured on his head which was held over the side of the bed." "About ten minutes after this application the convulsive movements stopped in the face and he was less cyanosed." The subsequent history of this case is not to my point except that he recovered.

A short report of a paper read at the Edinburgh Medico-Chirurgical Society on Cyanosis in Convulsions, by Dr. Foulis, is in THE LANCET of Dec. 18th, 1897. Dr. Foulis does not recommend the cold douche but advocates a method which he has employed for many years. He "introduces the handle of a spoon far back in the mouth and by means of it compresses and brings forward the root of the tongue." "By this means air is allowed freely to enter the lungs" and the cyanosis disappears.

When two such apparently different lines of treatment are beneficial in exactly the same condition it is surely necessary to ascertain the common remedial element in each. Dr. Robertson expresses his belief that "the cold water probably produced its beneficial action by stimulation of the nervous system" through the sensory fibres of the fifth nerve. The exact height of this remedial stream is eighteen inches above the head and to prevent wetting the bed the head is held over the side of it. The patient is therefore put into a lateral or semi-prone posture. Dr. Foulis by means of frozen sections "demonstrated very vividly that cyanosis is the result of the base of the tongue falling against the posterior wall of the pharynx and thus mechanically obstructing the entrance of air." This well-known fact is equally vividly demonstrated in the living patient by Dr. Robertson, for he remarked that "on putting a teaspoonful of water into the mouth it seemed to pass into the windpipe." There is very little doubt that the explanation given by Dr. Foulis is the right one. As the subject is of great importance, and as one cannot always command either a spoon long enough and strong enough to carry out Dr. Foulis's method, or jugs of water to follow out Dr. Robertson's injunctions, it might be useful to suggest the following out of a line of treatment which is at hand on every possible occasion, is always effectual, and was the outcome of original experiments made in this country over forty years ago. These investigations were carried out for the late Dr. Marshall Hall in 1855 and 1856 and were communicated to THE LANCET by him. These experiments were the foundation of the method of artificial respiration now known as that of Marshall Hall and conclusively showed the influence of the position of the body over that of the tongue in cases of loss of consciousness from any cause. In a certain number of cases pulling forward the tongue forcibly by forceps is followed with benefit, but it is a moot point whether this results from a direct mechanical or an indirect nervous action. Dr. Bowles, who conducted many of the investigations just alluded to, has, however, clearly shown by a number of carefully recorded clinical cases in his book on "Stertor and Apoplexy" that the lateral or semi-prone position is *the* first and best line of treatment in all such cases of unconsciousness whether with or without convulsions. If this postural treatment be carried out cold douches or long spoons will not be required in all probability, for by it gravity acts on the tongue, which falls forward from the posterior pharyngeal wall, and there is no further obstruction to the air entering the chest. If Dr. Robertson will analyse his own case he will perhaps see that the embarrassed breathing was due to the falling back of the tongue and not to any laryngeal or respiratory spasm. This is proved practically by the passage of the teaspoonful of water into the windpipe and by the benefit the patient received by being held over the side of the bed to allow of water to be poured on him. The cold douche could not possibly have proved remedial through stimulation of the nervous system if the patient had remained in the recumbent attitude. His recovery is therefore a *post hoc* not a *propter hoc* so far as the douche is concerned.

As to Dr. Foulis's method, though mechanically satisfactory in some cases, it cannot be applied to all, and when the same beneficial result can be obtained by simply placing the patient in a lateral or semi-prone posture the spoon seems to be superfluous. The importance of a lateral position in some cases of embarrassed respiration has lately been remarked on by me,[1] more especially in relation to avoiding danger from anæsthesia during thoracic operations, and is merely an application of this cardinal point. Before concluding may I also refer to certain experiments lately made in Germany by Brosch?[2] They are in connexion with the danger of aspiration of gastric contents into the air passages during artificial respiration by Silvester's method and they completely confirm those performed in St. George's Hospital already alluded to and which resulted in the Marshall Hall method.

I am, Sirs, yours faithfully,

J. CHRISTIAN SIMPSON, M.D. Edin.

Cambridge, Dec. 28th, 1897.

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[1] Medical Press and Circular, July 28th, 1897.

[2] Brit. Med. Jour. Supplement, Oct. 23rd, 1897.

TYPHOID FEVER IN BELFAST.

To the Editors of THE LANCET.

SIRS,—There is much in the reports of your Special Commissioner on the above subject with which the medical profession in Belfast is in entire accord. That the death-rate in the city is too high, that typhoid fever is unduly prevalent, that there has been carelessness in the construction of many of the houses of the artisan population, and that the corporation has not shown in sanitary affairs the same energy which it has exhibited in other departments—all this is true and should be freely admitted. Your Commissioner did not see fit to mention that all these points have been repeatedly insisted upon and the necessary reforms indicated by Dr. Whitaker, medical superintendent officer of health, in his annual reports, and that a deputation from the Ulster Medical Society some time ago waited upon the corporation and gave expression to the same views. While some progress has been made in the right direction, much, undoubtedly, yet remains to be done. But no good cause can ever be helped by exaggeration, and it is because I fear that the work of sanitary reform in Belfast is likely to be hindered, rather than promoted by your Commissioner's reports that I venture to address you. A city which has recently completed a vast scheme of main drainage at a cost of £300,000, and which is at present engaged in bringing a new water-supply from mountains thirty-eight miles distant at a cost of over £600,000 does not deserve to be held up to public odium as guilty of every species of sanitary sin. The attempt to represent Belfast as standing at the head of European cities in bad pre-eminence for its high typhoid rate is inaccurate and misleading.

What are the actual facts? The average death-rate for Belfast for the quinquennium 1891–95 was 24·8 per 1000—no doubt too high, but how much better is Manchester or Liverpool or Glasgow? I venture to affirm that the average death-rate of these cities, which are fairly comparable as regards their economic and industrial conditions with the Ulster capital, will be found quite as high as that of Belfast. In estimating the significance of any particular death-rate we must have regard to the social condition—above all, the occupations—of the people. Belfast has at least 60,000 persons engaged in flax-spinning and its allied industries which are necessarily somewhat unhealthy. Further, the town is built to a large extent upon the alluvial soil at the mouth of the River Lagan and satisfactory drainage is exceptionally difficult. When the significance of these two facts is perceived it will not seem in any way surprising that the death-rate in Belfast should exceed the general average.

The special *gravamen* of your Commissioner's attack relates, however, more particularly to typhoid fever and he gives figures for the first nine months of the present year to show that Belfast has actually much the worst record of the eighty-two chief cities of Europe as regards this disease. It is certainly a novelty in statistical inquiry to have a sweeping generalisation drawn from the returns of a few months. Typhoid fever has, unhappily, been epidemic in Belfast as in so many other places during 1897, but the prevalence of the disease has been altogether exceptional. What are the facts as regards the normal average of typhoid fever in Belfast? Taking the last quinquenium I find that the figures are as follows:—

Deaths from Typhoid Fever in Belfast.

1892	108 deaths.
1893	122 ,,
1894	145 ,,
1895	184 ,,
1896	136 ,,

Average annual number of deaths 139.

The population of Belfast according to the census of 1891 was 255,922. It is now computed to exceed 300,000. The typhoid fever mortality rate is therefore between 4 and 5 per 10,000. The rapid growth of the population makes it impossible to state it more precisely. Again I admit freely that this rate is too high, but is there anything particularly exceptional about it? The mean annual mortality from typhoid fever in England and Wales is stated by Hirsch[1] to be 3·7 per 10,000 inhabitants, but in some districts the rate is much higher. It is 4 per 10,000 in Northumberland, 4·4 in Lancashire, 5·4 in the West Riding of Yorkshire, and 6·5 in Durham. It is evident that if we in Belfast are in a bad way as regards typhoid fever, some of our neighbours across the channel are in even a more parlous state.

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[1] Geographical and Historical Pathology, vol. i., p. 625.

Your Commissioner states that "Belfast well deserves to be called to order by the united voice of civilisation." This is a good phrase. Let us see what the proposed call to order would amount to. I shall select for the purpose of comparison three representatives of civilisation—viz., France, Belgium, and Italy—a selection which will be admitted to be a fair one. The average annual death-rate from typhoid fever in 192 French towns is 5·93 per 10,000 inhabitants,[2] considerably over the Belfast rate. It is evident that France would not be able to join in the proposed call to order. In Belgium the deaths from typhoid fever are estimated by Hirsch[3] at 4·1 of the total mortality. In Belfast they are under 2·5 per cent. (e.g., 1895, total number of deaths 7168, deaths from typhoid fever 184; 1896, total number of deaths 6953, deaths from typhoid fever 136). It is clear that in the proposed call to order the voice of Belgium would give an uncertain sound. Italy shows a death-rate from typhoid fever of 9·63 per 10,000 inhabitants,[4] about twice the Belfast rate. Evidently Italy would be much better employed in setting her own house in order than in instructing us in Belfast. It is needless to pursue the subject further. We have a great deal too much typhoid fever in Belfast. The need for sanitary reform is great and urgent. No one is more sensible of these facts than the members of the medical profession here, but our efforts to bring about a more satisfactory state of affairs will not be helped by rhetorical exaggerations. There has been much careless and hasty construction of cheap houses, which the rapid growth of population explains but does not excuse. The Corporation has been so busy with the many problems presented by the phenomenal progress of Belfast that it has certainly devoted insufficient attention to sanitation. There is reason to hope and believe that our city councillors are awaking to a better sense of their duty in this matter. The time is opportune for endeavouring to direct and encourage their efforts, rather than for holding them up to public odium and ridicule. Dr. Whitaker is manfully struggling with the many difficult problems which the administration of his department presents, and he is ever ready to listen to the views of the members of the medical profession. His hands should be strengthened and not paralysed by wholesale fault-finding. Belfast has given many proofs of energy and public spirit. That she will successfully grapple with the question of sanitary reform cannot be doubted.

I am, Sirs, yours faithfully,

J. A. LINDSAY, M.D. R.U.I., M.R.C.P. Lond.,

Physician to the Belfast Royal Hospital, President of the Ulster Medical Society.

Belfast, Dec. 27th, 1897.

THE UNQUALIFIED ASSISTANT AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—The decision of the General Medical Council with regard to unqualified assistants appears to me to be cruelly unjust. In my opinion, which I believe will be shared by the majority of your readers, the unqualified assistant should be allowed to disappear gradually instead of being put to a violent death. There are two precedents for this. I remember that when I first entered the professional world of London forty-one years ago the Medical Directory of that time contained the names of a number of practitioners whose only qualification was that they were "in practice prior to 1815." They have now all joined the majority and where is the harm? Again, when the Pharmacy Act was passed chemists then in actual practice were allowed to continue dispensing for the rest of their natural lives without having undergone an examination. I would propose, then, that all unqualified assistants who can be shown to have been in practice for five years or more should be allowed to continue to act in the same capacity, but that all others should have to undergo an examination.

I am, Sirs, yours faithfully,

JULIUS ALTHAUS, M.D. Berlin.

Queen Anne-street, W., Dec. 15th, 1897.

To the Editors of THE LANCET.

SIRS,—As it would be extremely difficult to obtain a complete list of the names of unqualified assistants in any other way, and as some advantage might possibly accrue to them by organisation, may I be kindly allowed through the medium of your valuable columns to ask all my fellows in misfortune to send me their names and addresses, also full particulars of their own peculiar circumstances? It will be necessary for all who avail themselves of such an opportunity to enclose (for reply) a stamped directed envelope. It would be advisable for each one to state whether he would be willing to subscribe towards the inevitable expense of such coöperation. There are many registered practitioners who probably sympathise with us in our doleful calamity and would like to render us practical aid. If my surmise is correct their help is cordially invited and will be thoroughly appreciated by all the sufferers.

I am, Sirs, your obedient servant,

GRAHAM WINMORE.

Care of H. Fawssett, Esq., solicitor, 20, Cullum-street,
Fenchurch-street, London, E.C., Dec. 18th, 1897.

To the Editors of THE LANCET.

SIRS,—Is no attempt to be made to modify the somewhat hasty and imperative order just passed by the General Medical Council to take away without any notice the employment of men who have not (either for want of funds or some other unforeseen circumstances) been able to pass the examinations for a qualifying certificate even though they have seen some hospital practice? I have had practical experience for over a quarter of a century of assistants, some with a diploma and some without, and have no doubt there are hundreds upon hundreds of medical men who have received most valuable assistance from this unfortunate class who without a notice are to be thrown into the wide world, many unfit for anything in the way of other work.

Why cannot the ruling powers have the same mercy as was allowed in 1815 to the medical men of that year? Could not the men who can satisfy the Council of their medical education by means of certificates of proficiency as assistants be allowed a certificate, and these would of necessity in a few years die out. This would be mercy indeed to many oldish men with families to support. My experience of the legal assistant is that he is a man green from college with a very little knowledge of prescribing or use of drugs who remains with you to pick up a little of the routine of practice and in a very short time leaves you to practise on his own account. I had an assistant seven or eight years and through a letter written by me he obtained a situation which he has held for fourteen years. He was at one of the large hospitals in London but from no fault of his own had to return home. He is married and has four children; he is an honourable, steady, and practical man with a perfect knowledge of every branch of his art, but now at nearly fifty years of age has to leave a happy home, and I would most earnestly ask those who are in power to stay their hands for a while. A committee of those who are in general practice should debate the question in an open manner. Many of our so-called great men know but little of the hardships and ups-and-downs of the general practitioner in country mining districts. In the town and district in which I have spent my life, prescribing chemists and quacks do a big trade to the injury of the medical man, they go on and will continue to do so, and can we wonder if the ranks of these people are still further added to by the unfortunate men now about to lose their only means of living? I would earnestly say, pray spare your hasty dictum, and I would suggest that a circular should be issued and it would be found that in the list of assistants are men worthy of a little sympathy. Something should be done and that quickly, and I am certain we should discover that a majority of the general practitioners would ask for some mercy to these poor fellows. I enclose my card.

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[2] Davidson: Geographical Pathology, vol. i., p. 173.
[3] Geographical and Historical Pathology, vol. i., p. 624.
[4] Davidson: Geographical Pathology, vol. i., p.

I am, Sirs, yours faithfully,
AN OLD G P.

To the Editors of THE LANCET.

SIRS,—Having opened a discussion in THE LANCET regarding the action of the General Medical Council towards registered practitioners employing unqualified assistants, perhaps you will kindly permit one of the hundreds of men who have thus come under the ban of this all-powerful body to give expression to his views on the subject.

I will premise my remarks by stating that I think it is desirable, not only for the interest of the profession but also for the common weal (and hereby be it understood that I am not acknowledging my own incompetency), to put an end to unqualified work. I protest, however, against the arbitrary and harsh manner in which the General Medical Council propose to carry it into effect. The medical profession is eminently one holding humanitarian principles. Now, Sirs, to take the bread and butter out of the mouths of the medical lepers without making the least provision for them and theirs is sheer barbarism; it is, moreover, an undue and improper application of power. Mr. Bryant's resolution to give us breathing space was humane. The appendix, which was carried "almost unanimously," is a species of cruel vivisection without the all-merciful administration of an anæsthetic. Doubtless there are many like myself who have always worked in a regular manner under the direct supervision of their principals. Surely a distinction should be drawn between us and those who have been guilty of "branch" irregularity. May an outcast inquire what was the position of the medical profession a hundred years ago? Until the passing of the Medical Act of 1858 how many of them were surgeons or physicians by examination? Since that time the unqualified practitioner has been in evidence and his existence has been perpetuated and indirectly sanctioned by the General Medical Council. Now with one stroke of the pen this august body seals our doom. For more than a decade I have held my present engagement to the satisfaction of my principals and their *clientèle* and it is a well-known fact that I am an unqualified man; there has been no sailing under false colours in my own particular instance. There are many in an exactly similar position. After leading thoroughly respectable lives are we to starve in the streets, to be peripatetic market quacks, or to become dangerous criminals? Surely men who have been engaged in this work and had serious responsibilities for many years have a moral and equitable right if not a statutory one? Surely we are worthier of a better and more kindly fate? I implore the General Medical Council not only for myself but for my fellow sufferers also for a more humane consideration—a consideration in keeping with the noble profession to which they belong. Are we unworthier of provision than those men who practised dentistry or the pharmaceutists prior to the passing of the Dental and Pharmaceutical Acts? Be it remembered that many persons were admitted even to the Medical Register itself upon signing a declaration and giving satisfactory evidence. Why turn us out of house and home without having the least prospect of subsistence? Prevent any further addition to our numbers, but—show some mercy to those who are already depending for their daily bread on this sort of employment. Many of us are competent accoucheurs, experienced in clinical work, and skilful in minor surgery and bandaging. Our knowledge of obstetric practice must be, and is, infinitely greater than that possessed by the certificated or trained midwife. Why deprive us of a privilege accorded to them? Are the ignorant village dames to continue while we are to be relegated to the past? Then, again, why should one class of unqualified men be exterminated and another unqualified species—dispensers, to wit—be allowed to ply their illegal avocation? That to my mind shows an utter absence of that splendid quality so dear to English hearts—fair play. This medical "muzzling order," if it is to efficiently protect the public, should apply all along the line! Why, again, should an unqualified man even *in statu pupillari* exist? If the medical schools are incapable of completing the education of their pupils why do not the General Medical Council insist upon a better system in that direction?

And, in conclusion, is there no member of the General Medical Council to speak on our behalf? Are they all entirely free from the stigma of having at some time or other engaged in unqualified help? Is there not one of them who has had the small day of grace given to him and thus enabled him to soar to his present height? If such there be, I ask him, by the remembrance "of the days that are no more," to use his influence in the exercise of clemency—to help to temper justice with mercy.

I am, Sirs, yours faithfully,
UNQUALIFIED.

"HOSPITAL ABUSE AT NEWPORT INFIRMARY."

To the Editors of THE LANCET.

SIRS,—I beg to enclose copies of the correspondence which has taken place with the directors since the publication of my statement in THE LANCET of Dec. 18th, 1897.

I am, Sirs, yours faithfully,
Windsor-place, Cardiff, Dec. 25th, 1897. HENRY C. ENSOR.

[COPY]

Newport and Monmouthshire Hospital, Newport, Dec. 20th, 1897.

DEAR SIR,—At the request of the hon. medical staff the house committee met them in consultation on Saturday evening and it was then arranged that, subject to your writing and publishing the accompanying letter, the chairman wonld call a special meeting to reconsider the resolution passed by the directors at their meeting on Dec. 7th and give you an opportunity of explaining matters.

I am, yours faithfully,
Dr. H. C. Ensor, Windsor-place, Cardiff. J. K. STONE, Secretary.

[ENCLOSURE.]

To the Chairman of the Newport Infirmary.

DEAR SIR,—I much regret having refused to comply with the instructions of the directors as to certain cases and also that I should have published statements detrimental to the Newport Infirmary instead of asking for an interview with the directors. I now ask for such an interview in the hope that after explanation had the decision of the last board meeting will be reconsidered. I withdraw all aspersions against the board and agree to this letter being published.

I am, yours truly.

23, Windsor-place, Cardiff, Dec. 24th, 1897.

DEAR SIR,—I beg to acknowledge receipt of your letter of Dec. 20th. I have no reason to regret the action which I have taken and therefore decline to make any apology.

I am, yours faithfully,
HENRY C. ENSOR.
To the Secretary, Newport Infirmary, Newport.

"WATER-SUPPLIES AND SANITARY AUTHORITIES."

To the Editors of THE LANCET.

SIRS,—In your leading article under the above heading in THE LANCET of Dec. 18th, 1897, you remark in reference to the catchment area of the Stockport water company that from my recent report thereon to the town council "it would appear that the state of things existing there was most unsatisfactory," and further on you refer to "the gross impurities which at present are alleged to corrupt the catchment area." As it is the wish (which I am sure you share) of the Sanitary Committee and myself to be perfectly fair in dealing with the water question I venture to point out that as regards the water company you have, I think, adopted a somewhat unfavourable interpretation of my report. The condition of the ground up to about the middle of 1894 fully merited all you have now said about it, but at that time, in consequence of the vigorous action of the Water Inquiry Committee of the town council, the company commenced in earnest to set their house in order and my recent report contains a cordial acknowledgment of the very marked improvement they had effected, of the systems of periodical inspection and scavenging instituted and of the company's evident desire to protect their ground. The conditions to which the recent objection was taken were (1) the overflow on to an underdrained field of a cesspit on the very edge of the gathering ground and a mile from the reservoir; (2) the practice by farmers of "top-dressing" with a mixture of privy and cattle manure; and (3) the alleged deposit of some six loads of privy contents, &c., annually on a field half a mile from the reservoirs. These objections are, as anticipated in my report, receiving the careful attention of the company and I think it right that this should be stated.

Inspection of the farms on the catchment area was made by permission of the individual tenants, but the inquiry did not include the filtration works, as when previous notice to, and consent of, the owners is a necessary preliminary the result of an investigation is of questionable value. Full

powers of entry and inquiry in regard to all gathering grounds and waterworks "as a matter of right and not as a matter of courtesy" are, as you say, vitally necessary to all sanitary authorities and periodical inspection should be made by their health officers to ensure the enforcement and maintenance of wholesome methods and conditions.

I am, Sirs, yours faithfully,
CHARLES PORTER, M.D. Irel., D.P.H. Camb.,
Medical Officer of Health.
Health Office, Stockport, Dec. 21st, 1897.

HENOCH'S PURPURA.

To the Editors of THE LANCET.

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I am, Sirs, yours faithfully,
JOHN ROBERT WILLIAMS, M.B. Edin.
Penmaenmawr, Dec. 20th, 1897.

LUNG SURGERY.

To the Editors of THE LANCET.

SIRS,—In your very excellent summary of the surgery of the year the writer unaccountably omits lung surgery, that branch of the profession which offers the most promise in cases of pulmonary troubles. Those who take an interest in this subject will find a valuable paper telling of a successful operation in a bad case of abscess of the lung by Dr. Northrup and Dr. McCosh in the 1897 Report of the Presbyterian Hospital, New York. It is one of those papers which would have enhanced the value of the recently published volume of the New Sydenham Society.

I am, Sirs, yours faithfully,
GEORGE FOY.
Cavendish-row, Rutland-square East, Dublin, Dec. 25th, 1897.

THE PLAGUE IN BOMBAY.

(FROM OUR SPECIAL CORRESPONDENT.)

SINCE the active operations of the Plague Committee appointed by the Government which commenced its work last March the weekly number of cases has been gradually decreasing in Bombay, although the total mortality has increased during the past few months owing to the prevalence of cholera. The organisation of lay assistance, particularly of native justices, with due regard to the feelings of caste, with a minute division of labour for every district, has enabled a thorough house-to-house visitation to be carried out, prompt removal of the sick to be effected, together with a segregation of all those who have in any way been exposed to infection. Every infected house is practically emptied and thoroughly disinfected. Private hospitals under the supervision of the district medical officers have been established by the generosity of the rich, enabling the Government to overcome to a great extent the many difficulties concerning caste and creed. Rewards for notification have facilitated very considerably the discovery of fresh cases and the collaboration of well-to-do citizens has overcome the preliminary dread of the hospital. By all these means isolation of the sick has been securely effected, but it was necessary to take the work away from the hands of the municipality and place it with an enlightened and energetic committee. With the full powers bestowed upon it the system above outlined is working well. Many fresh cases are still reported at Surat as well as other places and further medical assistance will shortly be despatched to Bengal and Madras.

The plague which broke out in Mandvi in August, 1896, made comparatively little progress until December. Then a sudden rise in the total mortality occurred, for the whole month the excess being over 4500. During January and February it continued at this frightful height, from which time until June it gradually declined. During this period of about nine months it is estimated that at least 20,000 persons died from the plague. The difficulties of registration are enormous and it is probable that the official figures are much below the truth. The first measures taken were directed mainly to the disinfection of houses in which the plague had occurred. They were apparently without the slightest avail. Then some attempt was made at segregating the sick, but this was done before proper accommodation had been provided; the consequence was that thousands were brought to the hospital only to die without due attention, for that could not be possibly paid to them by the few attendants who were overwhelmed with work. Imagine one small hospital intended for about 150 patients as the sole provision in a city where the cases of plague were dying at the rate of 1000 a week. About a twelvemonth ago the various committees began to provide themselves with hospitals, the lead being taken by the Parsis. The plague was nevertheless allowed to get ahead of all possible provision for meeting it and the natural history of the epidemic gave a large decline in the mortality before hospital accommodation for more than 300 cases had been provided. During the summer fifteen Government hospitals besides hospitals provided by the various castes for their own members were constructed, but by the time these were all ready the mortality had sunk of its own accord to 300 or 400 deaths a week. But the mere aggregation of the sick in hospitals appears to have little effect on the spread of plague. Experience seems to prove that contagion from one person to another is not by any means the chief cause of its spread, but that a house becomes in some way infected and is the source from which case after case subsequently proceeds. Whether rats or other animals known to be infected are the means of polluting a house is not definitely known, but the spread of the disease is noted to be gradual and as it were along adjacent districts rather than with the rapidity which follows the course of human beings.

The epidemic in Bombay took three months to develop, remained about three months at its greatest intensity, and took about three months to decline to the minimum yet recorded. Its decline was followed by a considerable rise in the mortality from cholera and all forms of fever. There are now (December, 1897) indications that the mortality from plague has again begun to rise and it is possible that a natural recrudescence is at hand. The moral of the experience obtained is that houses in which plague has occurred must not only be cleaned and disinfected but be left absolutely tenantless for some considerable period or else completely destroyed, the inhabitants displaced by this course being provided for in segregation camps. In addition frequent house-to-house visitations must be adopted to discover cases and those cases must be removed to hospital at the first possible opportunity. The large number of hospitals distributed about the most crowded parts of the city might be said to act as centres of infection, but this arrangement was looked upon as a measure of mercy to avoid the inconvenience and danger arising from having them at a distance from the houses of the people. The measure has been justified by experience as there is not the slightest evidence to show that the hospitals in any sense could be looked upon as centres for the spread of the disease. So slightly contagious appears the malady that of the number of attendants who have been employed on plague duty comparatively very few have taken the disease. Again, in upwards of 246 instances at one hospital where the friends of the patients attended their sick (and in twenty instances scarcely ever left the bedside) in not a single instance did the disease spread to the friends. On the other hand are numerous cases where houses have been disinfected from top to bottom, vacated, and shut up and then very shortly after the families returned plague cases broke out amongst them. These facts seem to show that plague is not one of those virulently contagious diseases like small-pox or measles (in a new community), but that the contagion attaches itself in some way to the buildings. In large numbers of instances therefore the authorities have at last marked certain buildings as unfit for human habitation

(U. H. H.). If this continues to be done on a sufficiently large scale it may be hoped that considerable impression may be made on the returns. In Surat, where the people are more crowded than in Bombay and where there are no drains or general water-supply, the disease has made great havoc; but the authorities have become alive to the necessities of the occasion and learning from the experience of Bombay of the measures required are now clearing whole quarters of the town, segregating the healthy in camps and removing the sick to hospitals.

With regard to treatment the inoculations of M. Haffkine are still under consideration. They consist of injections of a culture of the plague bacilli after the bacilli have been destroyed by heat. Dr. Yersin's antitoxin serum treatment has now been almost entirely given up. Many observers speak highly of the administration in full doses of the perchloride of mercury, plague patients showing a peculiar tolerance to this drug. It has been noted that syphilitics who have been more or less saturated with mercury at some time or other have borne the disease much more successfully than others, this observation having been frequently made among the prostitutes of the city. Twenty-two medical men specially sent out have just arrived from England. Three more are to follow as well as an increase to the trained nursing staff. The report of the Plague Committee up to June 30th has just been issued. It is very elaborate and markedly statistical, but increases our information of the disease in many points of detail. The more recent and purely scientific investigations of M. Haffkine and others into the bacillary treatment are looked forward to with great interest.

In Bombay there were 83 deaths from plague during the past week and 172 persons remain in the hospitals under treatment. In the observation camps 2577 persons are detained.

Dec. 10th, 1897.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Cremation.

THE annual report of the Manchester Crematorium, Limited, states that there is a profit balance over the working expenditure and that there is a fair prospect of a deficiency in the revenue account being nearly wiped out during the coming year. Since Nov. 30th, 1896, fifty-four cremations have taken place, making a total of 238 since the opening. One source of revenue is derived from visitors and the result of their somewhat gruesome curiosity amounts, it is said, to a considerable sum, showing, as the report states, "that the general interest in cremation has been well sustained." But the directors are not without that happy possession, a grievance. They have "certain knowledge" that deaths have occurred of persons favourable to cremation, but because they have not left written directions—before death, as the report puts it—for their cremation they have been buried and the directors feel "very strongly" that the supporters of cremation owe a duty to the cause that nothing should be left undone (probably during life) as to the course to be pursued afterwards. There is no doubt of the enthusiasm and earnestness of the crematoric cult. In Manchester "the whole of the management and conduct of the crematorium continues to be done gratuitously, neither the directors nor the secretary accepting any remuneration." The chairman, Mr. H. Simon, thought there was a distinct movement in the country in favour of cremation, evidenced by the fact that thirty-nine towns, ninety-four urban district councils, and twenty rural district councils had pronounced in favour of erecting crematoria where there was a call for them. It must be owned, however, that cremation, in spite of its real and supposed advantages, has not as yet roused any enthusiasm in the multitude and that it progresses slowly. No doubt this is due very much to sentiment and association, for there is nothing to call up the affectionate and reverential feelings raised by the thought of the village churchyard with, perchance, its ancient yews, and at present it would seem grotesque to make a pilgrimage to the furnace by the help of which "some village Hampden" has been cremated.

The Nursing of the Sick Poor.

The annual meeting of the Manchester and Salford Sick Poor and Private Nursing Institution was held in the Lord Mayor's Parlour on the 13th inst. Dr. T. A. Helme read the thirty-second annual report. Four new districts have been added during the year to those already supplied with district nurses and four additional nurses provided. The Diamond Jubilee was marked by the establishment of a home for the district nurses of Salford. But the report spoke of increased work, with increased expenditure, without corresponding increase of income, which, unless help came, would cripple and probably lead to the curtailment of the work. In supporting the adoption of the report Dr. Harris said the medical profession knew that the nurses were well trained and efficient. He made some startling remarks on some of the "so-called" nurses' homes in Manchester, in which he said there was too much sweating, and gave an instance in which a nurse was receiving 15*s.* a week for twelve weeks at a case of typhoid fever while the "home" with which she was connected was paid two guineas weekly for her services. He said some of these homes were merely registries and there was no guarantee of the efficiency of the nurses. Their own institution provided proper homes for the nurses and only employed those who had received a proper training. Sir Forbes Adams drew attention to the comparatively small number who supported the Manchester charities and it is to be feared that the same statement might be made of many other places. He said that only some 2000 people kept the Manchester charities going. "There were 20,000 able to contribute and 18,000 did not, not because they would not give or begrudged the money"—as he kindly put it—"but because the cases had not been brought sufficiently near home for them to ponder over and consider." We all know that "evil is wrought by want of thought" and the idea of duty as to the support of charities does not come readily to a large proportion of the comfortable classes. It may be, too, that all we hear and read of the abuse of charities tends to encourage the non-giver to keep his money in his pocket lest it should be misused. This, however, only supplies another argument in favour of a strict and just, but if possible merciful, dealing with the candidates for hospital or other relief.

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Dec. 28th, 1897.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Water-supply.

AT a recent meeting of the Water Committee a report was submitted from Professor Boyce respecting his bacteriological examinations of samples of water taken from Vyrnwy, Rivington, Dudlow-lane, Green-lane, and Windsor

powers of entry and inquiry in regard to all gathering grounds and waterworks "as a matter of right and not as a matter of courtesy" are, as you say, vitally necessary to all sanitary authorities and periodical inspection should be made by their health officers to ensure the enforcement and maintenance of wholesome methods and conditions.

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Dec. 28th, 1897.

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(FROM OUR OWN CORRESPONDENT.)

Liverpool Water-supply.

AT a recent meeting of the Water Committee a report was submitted from Professor Boyce respecting his bacteriological examinations of samples of water taken from Vyrnwy, Rivington, Dudlow-lane, Green-lane, and Windsor

Wells. The report showed that the waters from a bacteriological point of view were all in a highly satisfactory condition and remarkably free from germs. In the light of recent experiences in other towns as to the unhealthy condition of water supplies this cannot but be considered as a matter for congratulation.

New Infirmary for the Aged Poor of Liverpool.

The select vestry, with the approval of the Local Government Board, have purchased a portion of the Highfield estate, Knotty Ash, as a site for an infirmary for the aged poor of the parish at a cost of £10,000.

Death of Mr. Henry R. Powell.

Mr. Henry R. Powell died at his residence, St. Domingo-grove, Everton, on Dec. 20th, 1897. Mr. Powell, who was only forty-two years of age at the time of his death, enjoyed a large practice. He represented South Walton in the City Council of which he proved himself a diligent and conscientious member. He also occupied a seat on the West Derby Board of Guardians for several years.

Liverpool Medical Institution.

Dr. William Macfie Campbell has been nominated by the council as President for the ensuing two years. Dr. Campbell's selection is a very popular one. He has always taken a great interest in the management and transactions of the society, of which he has been twice vice-president; he has also filled the offices of honorary librarian, treasurer, and general secretary and on several occasions has been a member of council. Dr. Campbell is consulting surgeon to the Liverpool Northern Hospital, of which he was for ten years honorary surgeon.—By the will of the late Dr. James M. Turnbull the Liverpool Medical Institution has lately received a legacy of £50.

The New Head-master of the Charterhouse School.

By the appointment of Dr. Gerald H. Rendall to the headmastership of the Charterhouse School, University College, Liverpool, loses a principal who has proved himself in every way a scholar and an efficient administrator. Possessed of pleasing manners and a polished address Dr. Rendall was particularly happy in his relations with the governing body as well as with all the other departments of the College. The flourishing financial condition of the College has been largely due to his tact and diplomacy in enlisting the sympathies of our wealthy merchants in furthering the cause of education within its walls. Dr. Rendall, who has had a distinguished classical career at Trinity College, Cambridge, was appointed the first Principal of University College, Liverpool, in 1881, occupying at the same time the professorship in Greek. The medical faculty of the College, between whom and Dr. Rendall there existed the most cordial relations, will be particularly sorry to lose his valuable assistance, and one and all unite in wishing him a happy and prosperous career in the scene of his future labours.

Christmas Festivities at the Hospitals.

The Christmas festivities, which are an annual feature of much interest at the local hospitals and workhouses, were marred by a lamentable accident which occurred at the Mill-road Infirmary whereby one of the nurses, Miss Edith Ashcroft, lost her life. The deceased was engaged in a rehearsal for some amateur theatricals for Christmastide when her clothing came into contact with one of the footlights enveloping her in flames. She was so severely burnt that she succumbed within forty-eight hours.

Dec. 29th, 1897.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Site of the Royal Infirmary, Newcastle-upon-Tyne.

IT was hoped that this knotty point was settled and that no further impediment would be placed in the way of Mr J. Hall's wish to build a new infirmary for his native town, but it is not so. The stewards of the freemen and the town council both agreed to place at the disposal of the infirmary a site on the Leazes—a very suitable one in the opinion of the staff and of the Infirmary Committee—and one of the two selected by Mr. Hall. The next step was to promote a Bill in Parliament to make the transfer legal. At the town council meeting a fortnight ago power to promote this Bill was not obtained and the matter came up at a special meeting of the council on Dec. 15th. At this meeting a strong protest against the transfer was handed in by a deputation of freemen representing 639 out of a possible total of 888 freemen. In spite of this protest the council by a majority of 40 to 12 gave the town clerk authority to promote the Bill. The freemen will oppose the Bill in Parliament and it is an open secret that a very considerable sum of money has already been subscribed for the purpose. The senior member for the city, Sir Charles F. Hammond, himself a freeman and a Conservative, has publicly announced that he will oppose the Bill and so has another very influential member of the council, so that it is quite possible the Bill may have to be withdrawn. It is possible that the sick and lame poor of the northern counties may be deprived of the gift of £100,000 promised them by Mr. J. Hall, but it is sincerely to be hoped that better counsels will prevail and some arrangement arrived at by which such an unfortunate result will be avoided. It is not unreasonable to ask that an area equal to the extent it is proposed to take from the Leazes should be added to the Town Moor at the expense of the infirmary or of the town. There would be no difficulty in doing this and under the circumstances the freemen should be content with such an arrangement.

The General Medical Council and Unqualified Assistants.

The determination of the General Medical Council to somewhat abruptly put a stop to the employment of unqualified medical assistants will press in some cases in the north very harshly upon some men. There are several persons who have acted under the immediate direction of qualified men as assistants without any legal qualifications in the counties of Northumberland and Durham for many years, and these men have acquired a considerable amount of skill in the treatment of disease and are capable, steady, and reliable assistants. It would be a cruel thing to turn them adrift and it would certainly defeat the object the Council has in view—which is, it is to be presumed, to check unqualified practice. These men, turned adrift, would continue to practise without the supervision of a qualified man and in opposition to them. Some very hard cases indeed could be brought under the notice of the Council. Some of these men have been practising as unqualified assistants for twenty years and longer and they should not be treated by the Council with greater severity than unqualified practitioners were treated by the law in the year 1815. They deserve consideration at the hands of the Council, for the Council has winked at the employment of unqualified assistants for a long time.

Dec. 28th, 1897.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Edinburgh.

THE following are the numbers of students who attended the several courses of lectures in the Medical Faculty of the University of Edinburgh during the winter and summer sessions of 1896–97: Zoology, 200; Botany, 217; Physics, 241; Chemistry, 256; Anatomy, 226; Physiology, 449; Materia Medica, 199; Pathology, 162; Medical Jurisprudence, 222; Midwifery, 188; Surgery, 199; Practice of Physic, 225; Mental Diseases, 193; and Ophthalmology, 84.

Western Infirmary, Glasgow.

The official intimation that the dispute between th managers of the Western Infirmary and Professor Macewe has been brought to a termination has been receive with general satisfaction among both the medical profession and the public. The question actually decide refers only to the retention of the third ward unde Professor Macewen's charge, the other matters at issu the most important of which are the allotment the new operating theatres and the nursing arrangements, remaining at present unsettled. These, mo especially the former, are not without their thorn aspects, but there is a general anticipation that the too, will terminate in a satisfactory agreement. It understood that the retention of the third ward b Professor Macewen is to be accompanied by a withdraw of the beds which had been offered to Professor Stockm for "the clinical teaching of materia medica and therapeutics." This is no doubt a somewhat awkward step considering that the appointment had been formally made, but there are not wanting those who will welcome it, looking at the comment to which the allotment of beds for such a purpose gave rise and the neglect of the claims of the younger members of the infirmary staff which it necessarily involved.—The following appointments have been made in this institution:—Dr. D. Macartney to be assistant surgeon; Dr. W. R. Jack to be dispensary physician; Dr. G. B. Buchanan to be dispensary surgeon; and Dr. G. H. Edington to be extra dispensary surgeon.

Chair of Medical Jurisprudence in the University of Glasgow.

It will be learned with regret that owing to continued ill-health Professor P. A. Simpson is about to retire from the above mentioned chair. Already there are at least three local candidates in the field.

Glasgow Royal Infirmary Building Scheme.

There has just been published a sketch of the block plan (or ground plan) of the design to be adopted in reconstructing the Royal Infirmary. This proceeds on the idea that the new infirmary will be built on the pavilion principle. The blocks run from east to west and are connected from north to south by a central one-storey covered way; they are three in number, that in front being somewhat shorter than the other two. In rear of all stands the present "north surgical house," which is apparently to be left untouched. For the kitchens, engine house, &c., space will be found at the eastern boundary which is on a lower level than the remainder of the site. Unfortunately the plan gives no indication of the proposed height of the buildings, of the number of wards, or of the number of beds to be provided. The absence of such information probably accounts largely for the somewhat meagre response so far made to the appeal for subscriptions, there being a widespread feeling that the site is at present overcrowded and that accordingly any new buildings should provide accommodation for a decidedly smaller number of patients.

St. Andrews University.

The election of two assessors to represent the General Council on the University Court has resulted in the success of Dr. Dow, Dunfermline, and the Rev. Robert Scott, minister of Craig, each of whom has been re-elected. These gentlemen were the nominees of what is known as the "Bute party" in the Court, and their election means a triumph for the policy of that party and a continuance of opposition to the position and claims of University College, Dundee. Thus the prospect of a settlement of the dispute between St. Andrews and Dundee seems as far off as ever. It is announced also that the Scottish Universities Commission is to terminate with the close of the present year, and as the Commission has recently existed almost entirely with a view to attain a settlement of the dispute its demise means failure in this respect. Possibly some more powerful and imperative influence may now be invoked to close what is recognised as nothing less than an educational scandal. The termination of the Commission will certainly be an advantage to the other Scottish Universities which will now be free to utilise various powers conferred upon them, these powers being in suspension during the existence of the Commission.

Dundee Royal Infirmary.

In connexion with the erection of a maternity hospital in Dundee the directors of the Royal Infirmary are about to apply to the Privy Council for a new charter, which will confer upon them power to manage the new institution as well as the infirmary. Last week the governors met and discussed the matter, when it was ascertained that there was a desire to enable the honorary medical staff to act as directors, a privilege which they do not at present enjoy. Another meeting of the governors was held, when the question of medical representation on the directorate was discussed for several hours. After a very lively discussion it was agreed that an arrangement should be made enabling the hospital staff to act on the directorate, but that the number of such representatives should be limited to three. Edinburgh Royal Infirmary is the only other institution of the kind in Scotland on the governing board of which such representation is permitted and there it was secured only after a stiff fight. In all the hospitals in Glasgow without exception the staffs are expressly and by rule excluded from the directorate, a state of affairs which is giving rise to considerable friction and heart-burning.

Enforcement of Vaccination Acts in Aberdeen.

The parents of about forty children have been notified by the Aberdeen inspector of poor that unless the operation of vaccination be performed before Jan. 4th, 1898, the necessary steps will be taken to bring them before the sheriff. The parish council has, however, resolved that defaulters shall not be prosecuted oftener than once for each offence.

Donations to Aberdeen Hospitals.

The net sum subscribed for the Diamond Jubilee Hospital Fund in Aberdeen is reported as £5302 7*s.* 9*d.* Of this amount the committee have voted £1000 to the Hospital for Sick Children, £1000 to Morningside Hospital for Incurables, £800 to the Jubilee Nursing Association, and the balance of about £2500 to Aberdeen Royal Infirmary. The directors of the three hospitals have been recommended to devote the money to providing beds to be named so as to commemorate the Queen's Diamond Jubilee.

Dec. 27th, 1897.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

A Roentgen Ray Examination as Evidence in Court.

A CASE was recently tried in the Exchequer Division, Dublin, before Mr. Justice Madden in which the plaintiff, a lady from Urlingford, sued Mr. Harrington, the owner of the public car which plies between that town and Kilkenny, for £500 damages for injuries due to a fall from the car and caused by the carelessness of the driver. The local practitioner, who had examined the plaintiff soon after the accident, stated that in addition to a severe sprain of the ankle there was also a fracture of the fibula as evidenced by crepitus and pain. Dr. W. I. Wheeler and Dr. W. S Haughton, of Dublin, were produced by the defendant and deposed that in their opinion no fracture had existed. They stated that they had made during a short adjournment of the court a screen examination of the plaintiff's ankle-bones and that the outline of the lower portion of the fibula failed to exhibit the thickening that would be present after a fracture even though four months had intervened since the accident took place. This Roentgen ray evidence seems to have strongly impressed the jury, who awarded £50 instead of the £500 damages claimed.

Poor-law Nursing in Ireland.

It will be remembered that the system of pauper nursing in Irish workhouses was abolished by a sealed order of the Local Government Board in September last. A deputation representing the Irish Workhouse Association and the Philanthropic Reform Association waited on the Chief Secretary at Dublin Castle on the 14th inst. for the purpose of requesting that the Government should pay half the salaries of the certificated nurses who replace the pauper nurses in the Irish workhouse infirmaries and urging the adoption of other reforms. The deputation included Lord Monteagle, the President; the Earl of Meath, President of the Philanthropic Reform Association; Sir William Thomson, President of the Royal College of Surgeons in Ireland; Sir Christopher Nixon, physician to the Mater Misericordiæ Hospital; and many others. Lord Monteagle thanked the Chief Secretary for his action as President of the Local Government Board in abolishing pauper nursing in Ireland. Sir Christopher Nixon, in reply to a question of the Chief Secretary as to the meaning of the term "certified nurse," explained that it applied to persons who had been trained in a hospital for a period of from one to three years, who were tested at the end of their course by an examination, and who then received a certificate that they were qualified. He remarked that the recent order in reference to pauper nurses would to a great extent revolutionise the nursing system in Ireland and that arrangements were already being made in many large hospitals to institute a system of training for religious sisterhoods. Sir Christopher Nixon, moreover, stated that at the large hospital to which he was a physician arrangements were made for the training of Catholic Sisters of Mercy who would occupy in future the position of nurses in the workhouse infirmaries throughout Ireland, and ended his speech by an appeal to Mr. Balfour to come to the rescue of the impoverished poor-law unions of Ireland which could not in many cases afford to bear the expense of the change by providing funds for that purpose. Dr. Joseph Smyth, of Naas, also addressed the Chief Secretary in favour of the adoption in Ireland of the Scotch system of paying half the salaries of trained nurses on the same principle that the Government now paid half the cost of the medicines supplied as well as half the salaries of the Poor-law medical officers. Dr. Smyth expressed the opinion that the nurses should have, as in Scotland, at least two years' training. The statement and remarks of the Chief Secretary, in reply, were of much interest and importance. In reference to the suggestion contained in the speech of the President of the Royal College of Surgeons in Ireland and in others, that a lady nurse should be appointed to act in conjunction with a medical inspector of the union workhouse infirmaries, his reply was the reverse of favourable. "With regard," he said, "to the appointment of a lady inspector I do not feel able to speak with much confidence; the experiment has been tried in London only and for a period of only four months and it would be rather early to decide whether it has proved a success or not." As regards a Government grant to assist the unions in paying the expenses of the change and the salaries of the trained nurses he pointed out that the grant which had been made for that purpose in Scotland was not exactly a gift from Imperial funds, but rather an apportionment of money which had previously been at the disposal of the Scotch authorities. He made the suggestion that it might be possible to allocate some of the general grant in aid of Irish rates contemplated by the Bill of next year towards the payment of trained nurses in the poorest of the unions of Ireland.

Royal College of Physicians of Ireland.

At a special meeting of the President and Fellows of the Royal College of Physicians of Ireland, held on Friday, Dec. 17th, 1897, Sir William Richard Gowers, M.D. Lond., F.R.S., &c., was elected an Honorary Fellow.

The Water-supply and Sanitation of Belfast.

As reports have been circulated that the prevalence of typhoid fever in Belfast was connected with defects in the present water-supply the Commissioners requested Professor Frankland, of Birmingham, to again examine and report on their water-supply. He visited Belfast on Nov. 5th and 6th and again on the 12th and 13th, and he has presented to the water board a very exhaustive communication which was read at their meeting on Dec. 23rd. He points out that part of Belfast is supplied with Stoneyford water, another part with Woodburn only, and a third with a mixture of these two sources, while in the case of the Woodburn supply it is possible to further differentiate between districts which are supplied exclusively from the service reservoirs and those which receive a mixture of water partly derived from the old park filters direct and partly from the service reservoir at the same place. Professor Frankland gives tables showing results of bacteriological examination of water which he collected in various parts of the city, &c. In the course of collecting these samples in various parts of Belfast he was obliged to enter a number of workmen's dwellings and had an opportunity of studying the manner in which some of the poorer inhabitants of the city are housed and of examining the hygienic conditions under which they live. He gives notes made at the time of his visit of a number of most insanitary houses and of local dairies and concludes that there can be no question that the conditions of which he has been a witness and under which a large portion of the inhabitants of Belfast are living represent a very serious menace to the public health of the city. Besides the shockingly insanitary condition of many of the houses which he has inspected he is of opinion that a widespread danger prevails through the existence of dairies such as he has seen and described. Professor Frankland points out that it is obviously essential for the purpose of tracing a connexion between an outbreak of disease and water-supply that a map should be prepared showing where each notified case has occurred and that on the same or a companion map the districts supplied with the several kinds of water should be indicated. Nothing of this kind, he alleges, has been attempted. A charge has been made in reference to a farm in the vicinity of the Stoneyford reservoir, where cases of typhoid fever occurred during the winter, that the drainage of this farm polluted a feeder of the Stoneyford reservoir and that a short time afterwards typhoid fever became conspicuously more prevalent than usual in Belfast. To substantiate this charge Professor Frankland says the health authorities of the city should demonstrate that the increase in typhoid fever prevalence was limited to, or at any rate much more conspicuous in, that portion of the city supplied with Stoneyford water only than in any other water district of Belfast. This, he says, the health authorities have not established. Professor Frankland visited and inspected the places at both the Woodburn and Stoneyford watersheds where it is alleged there is pollution of the water-supply and he candidly admits that in both these areas there are considerable opportunities for the pollution of the water and says he has in his previous reports of July 24th and Oct. 13th referred to this defect in the gathering grounds. Much of this is, however, preventable and he urges that the Belfast Water Commissioners would utilise their powers to execute improvements and abate any nuisances in their water-sheds. The Water Commissioners are contemplating an arrangement to receive an immediate notification of all cases of infectious disease occurring in the gathering grounds so that steps may be at once taken to disinfect and remove all excretory products from such infected dwellings in such manner as to occasion the least possible risk to the purity of the water. In the case of gathering grounds the water authorities should either undertake the sanitation of any habitations in their catchment area or, what would be much better and perhaps in the end less expensive, buy out the offending dwellings. Professor Frankland reiterates his belief in the general improbability of the present water-supply to the city being responsible for an outbreak of typhoid fever amongst the consumers. He finds out that in the gaol (exclusively supplied by city water) no single case of typhoid fever has been notified and he shows how such isolated communities as prisons, asylums, and boarding schools form the most useful test objects, so to speak, in tracing the causes of zymotic epidemics, because they often throw light on the particular factors which may be possibly concerned in the production of an outbreak of disease. Although Professor Frankland believes that there is no evidence that the recent typhoid fever prevalence in Belfast is traceable to the present water-supply, he urges that such improvements in the supply as his investigations and inquiry have shown to be desirable should be carried out. With reference to the Ligoniel water-supply (where the serious outbreak of typhoid fever occurred recently) Professor Frankland says there is no doubt that both of the springs at Ligoniel, and especially the Wolfhill Spring, are extremely dangerous sources of water-supply, not by virtue of the water which they normally yield (for that appears to be of excellent quality), but owing to their exposure to surface contamination combined with the small volume of water involved and the absence of any agencies calculated to remove any matters gaining access to them. He urges that the works intended to bring the Belfast water to Ligoniel which the Commissioners have already commenced should be pushed forward as rapidly as possible and that in the meantime measures should be taken to effectively protect these springs from surface influences.

Dec. 29th, 1897.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Immunity against Serpent Venom.

M. PHISALIX has repeated the experiments of Fraser which go to show that bile has a marked influence on the venom of serpents. On Dec. 11th M. Phisalix reported his results to the Society of Biology. The immunising property belongs to the bile salts and in addition the pancreas of the viper renders innocuous a rapidly fatal dose of venom. Also from twenty to thirty milligrammes of alcoholic precipitate from the pancreatic juice of the dog confer immunity from a mortal dose of venom. The admixture of a quarter or a third of a cubic centimetre of viper's bile with venom renders the latter innocuous, but if the injection of these two substances is made separately death is not retarded—that is to say, if the venom be injected first. But bile inoculated as a preventive—i.e., before the venom—causes immunity and this is due to the bile salts and the cholesterine. M. Phisalix injected in succession into guinea-pigs the three chief elements of bile, the taurocholate and glycocholate of probably the greater difficulty as the anatomy and physiology may be partly forgotten, but in my opinion the questions are so scrupulously fair and free from trickery that any man who does his work honestly need have no fear of failing. The time for reading does not interfere with one's medical duties and there is not need for much practical work. Histology, a little physiological chemistry, and biology can easily be done at home; dissection and practical physiology are not wanted. As for organic chemistry one or two afternoons a week for a month would suffice. The final examinations require only reading for men already in practice.

This is my own experience and may appear contrary to the teaching of some, but I am sure that any ordinary practitioner with a certain amount of work could pass the seven examinations within three years. I shall be glad to give further information if any such desires it.

I am, Sirs, yours truly,
M.D., B.S., F.R.C.S.

⁂ Our correspondent's communication is interesting, but he is modest in supposing that his experience can ever become usual. He stands revealed as a gentleman whose orderly habits and assiduous bent have combined with his intellectual capabilities to make him a remarkably successful candidate at examinations. It is not given to every one to stock their minds so well and it is given to very few to be able to find in their stock the exact article that is asked for at the moment when it is wanted.—ED. L.

FALMOUTH DURING THE WINTER MONTHS.

Q. wants to know: 1. Is there a first-class hotel in Falmouth where ladies travelling alone could be made thoroughly comfortable? 2. Are there comfortable apartments to be had where food in reasonable variety and well cooked and served can be insured? 3. Can good saddle horses be hired, and if so would it be necessary for a lady to take her own saddle and bridle with her?

AUTUMN SUNSHINE AT OUR HOME HEALTH RESORTS.

To the Editors of THE LANCET.

SIRS,—Those persons who watch the daily records of bright sunshine published in the weather reports in the London papers will be puzzled by their variations. For a long while only the observations made at Eastbourne were published but recently others have been added with the result of rather obscuring knowledge. It is only by taking the average of several weeks that a comparison can be made and I am indebted to Mr. Sheward, our borough meteorologist, for the following figures taken from the official publications of the Meteorological Office. They refer to the ten weeks ending Dec. 18th, the latest date available. It will be seen that Hastings has had about three minutes a day more bright sunshine than Eastbourne and Eastbourne about six minutes a day more than Brighton during the most sunless period of the year. Hastings, 220·5 hours; Eastbourne, 215·9 hours; Brighton, 208·1 hours; Llandudno, 201·0 hours; Ventnor, 187·3 hours; London (Westminster), 97·0 hours.—I am, Sirs, yours faithfully,

Eastbourne, Dec. 26th, 1897. CHARLES ROBERTS, F.R.C.S. Eng.

MR. HALL HAINS'S DEFENCE FUND.

To the Editors of THE LANCET.

SIRS,—The following additional subscriptions have been received for this fund. Subscriptions should be sent to me.

I am, Sirs, yours faithfully,
HERBERT CARRE-SMITH, Hon. Secretary and Treasurer.
3, Turnham-green-terrace, Chiswick, W., Dec. 28th, 1897.

	£	*s.*	*d.*
Mr. Breward Neal, M.R.C.P. Edin.	1	1	0
Sir Thomas Smith, Bart, F.R.C.S. Eng.	3	3	0
Mr. R. G. Hebb, M.D. Camb., F.R.C.P. Lond.	1	1	0
Mr. James D. Miller, M.D.	1	1	0
Mr. Bernard Brodhurst, F.R.C.S. Eng.	2	2	0
Mr. Edward Nettleship, F.R.C.S. Eng.	1	1	0
Fleet Surgeon James D'A. Harvey, R.N. ...	1	1	0
Surgeon D'Arcy Harvey, M.B. Aberd., R.N. ...	1	1	0
Mr. William Domett Stone, M.D. St. And., F.R.C.S. Eng.	1	1	0

DEATH-RATE OF THE SPANISH SOLDIERY IN CUBA.

"APPALLING" is not too strong an epithet for the disclosures which General Losada, Inspector-General of the Royal forces in Cuba, makes in his official report issued on the 12th inst. at Madrid. Of the 200,000 soldiers sent by Spain to put down the insurrection in the island from the beginning of February, 1895, to the beginning or December in the year just terminated not more than 53,000 (a little over one-fourth) are at this moment fit for active service. The 157,000 are either dead or sent back to the mother-land ill or wounded. The causes of this unprecedented death-rate and sick list are (besides casualties in action) mainly three: (1) the clothing furnished to the European troops was in no respect adapted to the climate of Cuba; (2) fatigue; and (3) lack of food. The report, which does not apparently err on the score of reticence, paints a lurid picture of military service in the chief Spanish colony. Under successive generals the three years' campaign, in spite of numberless Royalist "victories" and as many "defeats" of the insurgents, leaves Cuba as precarious a Spanish possession as ever; while a whole generation must intervene before island and motherland alike can recover from the loss of blood, property, and hard cash incurred. To the three Powers which project into the Mediterranean—Greece, Italy, and Spain—recent military experience has been fraught with object-lessons each in its way instructive. One common to all the three is this: never go to war without an adequate supply of its "sinews"; and another—which Italy and Spain combine to enforce—is, always make allowance for climate, tropical or sub-tropical, as a condition which, if unprovided for, may prove as destructive as the enemy in action. Practical observance of these rules would have saved two at least of these unfortunate Powers from disastrous loss—loss not in life of treasure only, but in that "prestige" which they inherit and which has failed them where most required.

"LABOUR COMPLETED WITHOUT RUPTURE OF MEMBRANES."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 25th I notice a case of this kind reported by Dr. Penfold. About eighteen months ago I myself was sent for about 3 A.M. by a midwife who was attending a woman in her confinement but had become alarmed owing to something having come away which they were unable to recognise as having any resemblance to a child. On my arrival I found the patient had had a sudden severe pain and the fœtus, membranes, and placenta were all lying beside her in the bed, having come away suddenly. The membranes being unruptured I quickly ruptured them and endeavoured to bring round the child (which was a nine months one) by artificial respiration. This, however, was unsuccessful, the child giving only one or two gasps and not respiring further. The mother made a rapid and uneventful recovery. I am, Sirs, yours faithfully,

G. H. PEARCE, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg.
Redcar, Dec. 27th, 1897.

◆

Beta.—We cannot attempt to express an opinion upon the legality of K's action—that is a question for lawyers. We do not see from our correspondent's statement anything unprofessional in K's behaviour. Why should he be debarred from competing for a remunerative appointment because he has done municipal work previously. It will be expedient that K should resign his position on the district council as he cannot be master and servant too.

H. B. R.—We do not understand from our correspondent's statement that B told A what he intended to do when he called upon him. If B did not tell A his intentions we do not see the purpose of the call. If B did tell A what did A say? It would be a great pity that "two neighbouring practitioners and friends" should allow so small a matter to spoil their relations.

L.S.A. Lond.—We are obliged for the circular, but no good purpose would be served by strictures in our columns. The persons who are deceived by such circulars do not read THE LANCET. None of the "medical" men whose names are put down as giving testimonials are on the Medical Register.

L. G. has been so well able to help himself that we have nothing to say. Dr. Spiegelberg's works are in the library of the Royal Medical and Chirurgical Society and probably are in other large or scientific libraries.

Cubebs.—We know nothing of the gentleman. His professions being of the character described by our correspondent we are content to know nothing of him and sympathise with those who know more.

Mr. Henry Pilkington is thanked for his communication. Our attention had already been called to the matter.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Malton Gazette, Chard News, Langport Herald, Western Guardian, Chester Courant, Sydney Daily Telegraph, Western Morning News, Craven Herald, Lancaster Guardian, Times of India, Pioneer Mail, Cape Argus, Scotsman, Leeds Mercury, Architect, Builder, Suffolk Chronicle, Hampshire Post, Dundee Advertiser, Observer and Chronicle, Yorkshire Post, Newcastle Leader, North British Daily Mail, Bristol Mercury, Bridgwater Journal, Bromsgrove Messenger, Liverpool Daily Post, Sheffield Independent, Halifax Guardian, Sussex Daily News, Somerset County Herald, Grimsby News, Essex County Chronicle, Midland Times, Devon Weekly Times, Poole Herald, Malvern Advertiser, Birmingham Post, Cambs Times, Doncaster Chronicle, Manchester Guardian, Cambria Daily Leader, Cornish Telegraph, West Kent Argus, West Middlesex Herald, Charity Record and Hospital Times, St. George's Hospital Gazette, Sanitary Record, City Press, Public Health, Engineer, Reading Mercury, Brighton Gazette, Hertfordshire Mercury, Surrey Advertiser, Local Government Chronicle, Australasian Medical Gazette, Devon and Exeter Gazette, Local Government Journal Falkirk Herald, Liverpool Courier,* &c., &c.

Communications, Letters, &c., have been received from—

A.—Mr. F. C. Abbott, Lond.; Mons. J. Astier, Paris; Apollinaris Co., Lond.

B.—Dr. L. S. Beale, Lond.; Messrs. Barnum and Bailey, Lond.; Mr. F. Brooke, West Bridport; Mr. F. B. J. Baldwin, Rotherham; Mr. R. Baker, Lond.; Mr. W. G. Burcombe, Lincoln; Herren Boas, and Hesse, Berlin; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. P. B. Burgoyne and Co., Lond.; Mr. C. Birchall, Liverpool.

C.—Mr. E. L. Collis, Stourbridge; Messrs. Crosbie Bros., Lond.; Mr. H. Carre-Smith, Lond.; Dr. G. Carpenter, Lond.; Cortland Wagon Co., Lond.; Messrs. T. Christy and Co., Lond.; Mr. F. W. Clarke, Manchester; Mrs. A. M. Campbell, Lond.; Mr. R. Cuffe, Woodhall Spa; Messrs. Cassell and Co., Lond.; Chelsea Hospital for Women, Secretary of; Cumberland and Westmoreland Asylum, Carlisle, Secretary of; Mr. J. G. Cloke, Hamilton, Ontario; Mr. H. J. Crossley, South Milford.

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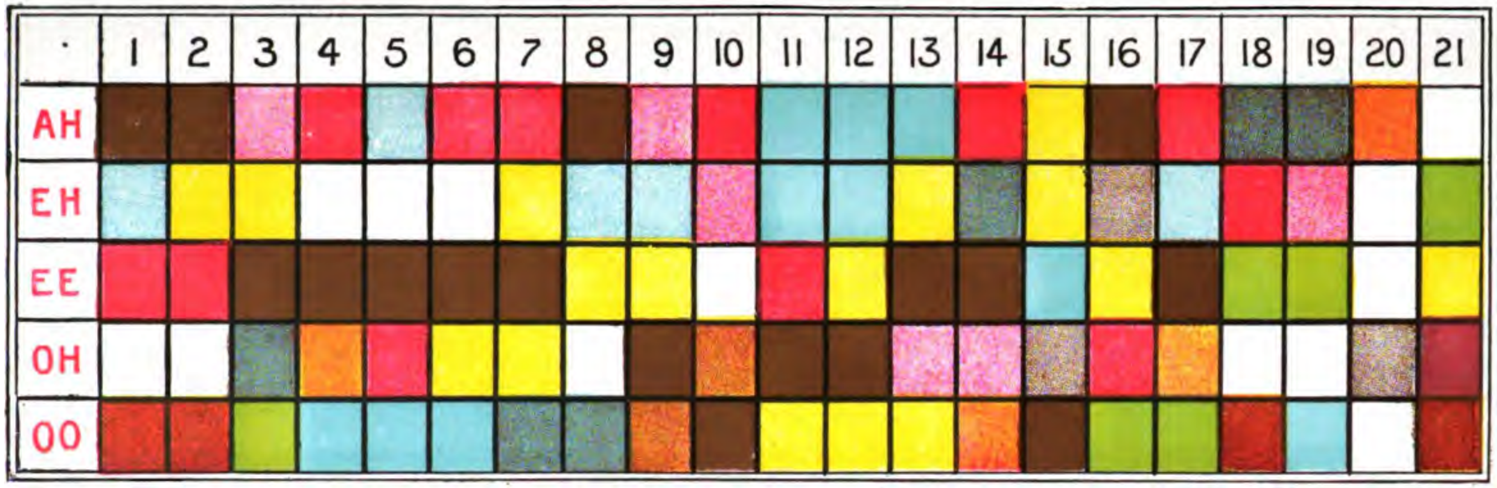

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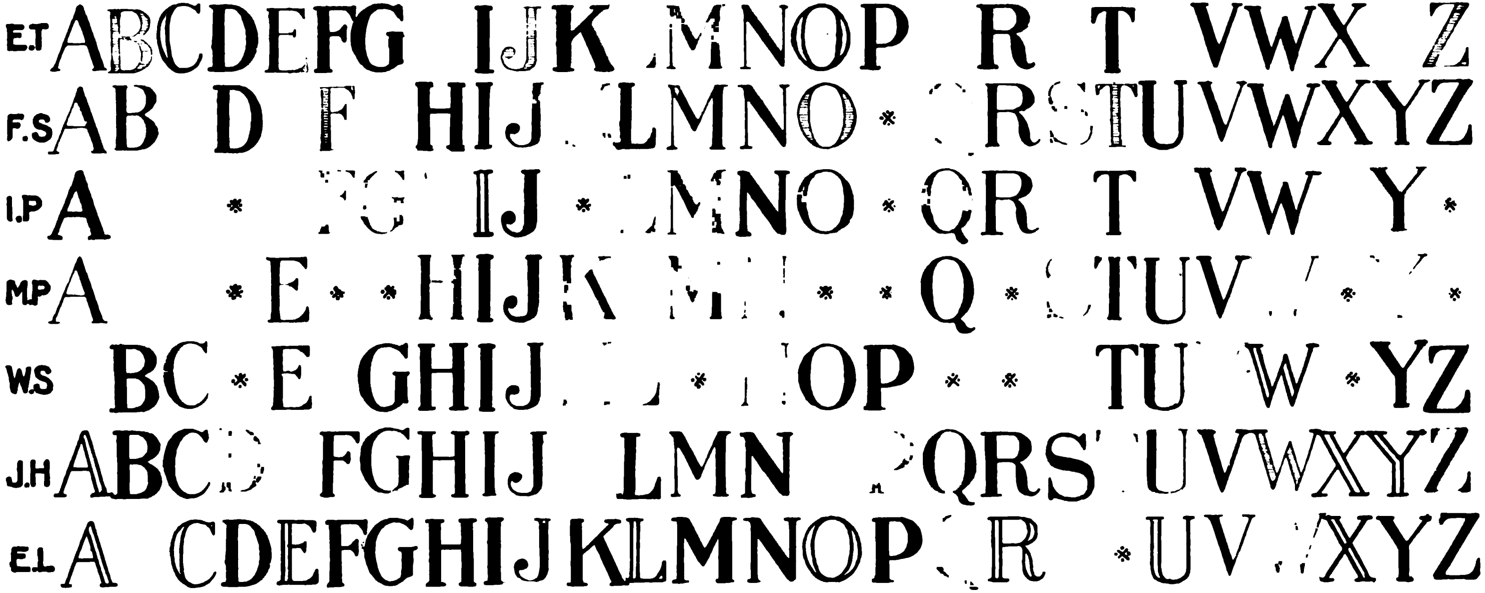

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soda and cholesterine, the bile being taken from any animal, and found that any of these substances immunises the guinea-pig against serpent venom. M. Armand Gautier said it was an important biological fact that M. Phisalix had injected pure salts and cholesterine—i.e., free from the ferments which exist in bile; it was important to mark this, for hitherto no definite crystalline chemical substance had been known to produce immunity. Such artificial immunity is therefore a development of the natural functions of the organism. M. Bouchard added that no such decisive proof had ever been given of the existence in the organism of antitoxic and bactericidal substance. Antitoxis does not come from microbes but from the glandular secretions, as he had said as long ago as 1880.

The Case of M. Heim.

M. Heim has just lodged his appeal against the decision of the council of the university before the Superior Council of Public Instruction. The council of the university, it will be remembered, had condemned him to the disciplinary measure of suspension from office under circumstances which I reported in my letter in your issue of Dec. 4th. The case will come before the superior council at its next sitting.

The Annual Public Meeting of the Academy of Medicine.

On Dec. 14th the Academy of Medicine held its annual public meeting under the presidency of M. Caventon. M. Bergeron read a panegyric upon M. Caventon, the father of the President, who with Pelletier had discovered quinine. M. Cadet de Gassicourt read a report of the prizes distributed in 1897. The François Joseph Audiffred prize, which consists of 24,000 francs to be awarded to him who shall have in the opinion of the Academy discovered a really curative or preventive remedy against tuberculosis, has not been awarded. The offer holds good for twenty-five years starting from April 2nd, 1896. Another prize not awarded was the Chevillon prize of 1500 francs offered to the writer of the best work upon cancerous affections—but a consolation prize of 500 francs was given to Dr. Livet for his work on the subject.

Injections of Sea Water Compared with those of Artificial Serum.

At the meeting of the Biological Society held on Dec. 11th MM. Quinton and Julia said that the question must be asked in the light of their experiments whether the effects of injections of artificial serum were not really due to the salts which are the basis of sea water. If this were so it seemed to them that sea water was superior to the artificial serum. Their experiments were done with the greatest possible care. They drew no conclusions from experiments upon different animals even though they were of the same age, the same weight, and the same kind. They argued solely from the results obtained by comparing injections of sea water and artificial serum in the same animal, special care being taken that the rate of injection, temperature, and pressure were the same. In some cases the sea water was injected first, in others the artificial serum. From five to thirty-three days were allowed to elapse between the injections. Dogs of all ages were used. The average for the rate of injection varied within very wide limits, but in every case the renal secretion was superior both qualitatively and quantitatively under the influence of sea water. Not only was the quantity secreted double or triple that secreted under the artificial serum, but despite its quantity the density was markedly raised.

Dec. 27th, 1897.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Hydrogen Peroxide in Surgical Practice.

THREE new preparations for the dressing of wounds have recently been tried in the surgical department of the Royal Charité Hospital and a report of the results has been published by Dr. Wagner in the *Deutsche Medicinische Wochenschrift*. They are termed menthoxol, camphoroxol, and naphthoxol and consist of a 3 per cent. solution of peroxide of hydrogen (H_2O_2) to which a quantity of alcohol and 1 per cent. of menthol, or 1 per cent. of camphor, or 2 per cent. of naphthol respectively have been added. They destroy the spores of anthrax within three hours and in a 10 per cent. solution within six hours. These preparations were used in about 200 cases of phlegmon, abscess, ulcers, and granulating wounds, sterilised gauze wetted with a 10 per cent. solution being applied to the part with the usual cotton-wool dressing above it. The dressings were renewed as a rule every second day. It was observed that as soon as the compound came into contact with the secretion of the wounds there was a considerable development of gas. In phlegmonous cases the necrosed tissue very soon came away, the secretion diminished, and healthy granulations appeared. Ulcers of the legs healed better under these dressings than under any other treatment. The three compounds did not show any difference in their action. They have an agreeable odour and are therefore very useful in fœtid sores or abscesses. No undesirable effect has hitherto been observed.

A New Hospital for Berlin.

The municipal authorities of Berlin have recently resolved on the construction of a large new hospital of 1600 beds, the cost of which will be no less than 13,000,000 marks (£650,000). Although the city of Berlin already possesses several very fine hospitals, such as the Friedrichshain and the Urban, the new one will surpass all the institutions of that kind in size as well as in completeness. In addition to the medical and surgical departments there will be special wards for diseases of women and for venereal diseases and a lying-in department will be connected with the hospital. The institution of special departments is a new feature as far as municipal hospitals are concerned, for the special branches of medicine have been hitherto represented only in the State and university hospitals in Berlin, the medical institutions belonging to the municipality being divided into only medical and surgical departments. The relatively small number of beds in the special clinics of the University and the Royal Charité Hospital has long been found insufficient and therefore the action of the municipal authorities will be a great benefit to those who require special treatment without being able to pay the fees of the numerous small private hospitals. The two public lying-in hospitals which Berlin at present possesses belong to the University and students as well as midwife probationers are trained there; the new municipal lying-in hospital will not be used for teaching purposes.

Post-Graduate Courses for Army Medical Officers.

For a considerable time the medical officers of the army have enjoyed the privilege of attending post-graduate courses conducted expressly for them by the professors of the different universities throughout the empire at the expense of the Army Medical Department. Every year a number of active and reserve army medical officers are ordered to join certain universities during the academical vacation, and whilst the students are absent they attend classes in anatomy, surgery, forensic medicine, &c., receiving in addition to their pay an extra allowance for their sojourn in the university town. These courses are to be still more extended and the War Office is asking Parliament to grant a sum for instruction of the medical officers in massage and in chemical and bacteriological research; scientific essays and works by these officers will also be printed and published for the Army Medical Department. But the Government, although it spends money willingly in whatever may increase the efficiency of the army medical staff, shows no corresponding liberality towards civilian practitioners who when desiring to attend post-graduate courses have to do so at their own expense, and even the civilian medical officers of health receive very little Governmental assistance in their studies. Some of the lay journals have with good reason drawn attention to the great difference in the care bestowed by the Government on the two classes of medical men.

Dec. 28th, 1897.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Francesco Brioschi.

THE year closes sadly for Italian science. The Senator Francesco Brioschi, who as President of the "Accademia dei Lincei" held in Italy a post similar to that of Lord Lister in the British Isles, died rather suddenly on Monday night, the 13th inst., at Milan. He had been engaged last summer in superintending some important drainage works at Palermo, where he contracted malarial fever which on his return to Milan assumed a typhoid character. It ran a lingering course from which no immediate danger was apprehended till last week, when certain thoracic complications set in. By this time he was confined not only to his room but to bed and on the night of Monday last he was seen by Dr. Rusconi, the physician in attendance, who on examination found his case to be critical. Dr. Rusconi having given his instructions had barely left the sick room when he was recalled only to find his patient expiring from "cardiac paralysis." So passed away Italy's greatest master of pure and applied mathematics, who with his pupil, Luigi Cremona, was honoured in every European seat of learning for the originality and fecundity of his scientific labours. Brioschi indeed deserves well of many other sciences besides his own. Alive to Italy's urgent need of more stringent academic work, particularly with a view to the professions, he lost no opportunity of heightening the intermediate and graduation courses of instruction and founded the Istituto Politecnico of Milan, of which till the day of his death he was the inspiring head. On the death of the ex-Prime Minister Quintino Sella some thirteen years ago, the post of President of the "Accademia dei Lincei" became vacant and by universal indication Brioschi succeeded to the coveted honour. In this capacity he improved even on his able and accomplished predecessor. All the sciences, including the biological and medical, felt the benefit of his enlightened and energetic sympathy; indeed, the papers read and published by the "Lincei" have of late years come forth with enhanced authority from the high-pitched scientific standard promoted by Brioschi. The fine arts and archæology were no less indebted to his catholic and all-conciliating tastes; and it is to him that the world owes the magnificent "Codice Atlantico" of Leonardo da Vinci and the "Forma Urbis Romæ" (a no less magnificent publication) of Rodolfo Lanciani. The "Monumenti Antichi" are other examples of his zeal for thorough learning in all its branches; while the *rapprochement* with Germany which, under Sella, brought such masters of research as Mommsen into close correspondence with the "Lincei" was perpetuated and developed by Brioschi. Dying in his seventy-third year, the author of papers and memoirs which fill many pages of the "Scientific Catalogue" of the Royal Society, Brioschi to all appearance had still much effective energy to put at the disposal of his country and of science. A sense indeed of premature loss pervades all the notices of his death—even the telegrams of condolence which from King Humbert downwards have these last few days been received by his native Milan.

Dec. 17th, 1897.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Carcinoma of the Uterus.

IN an interesting paper on Carcinoma of the Uterus, published in the *Medizinische Presse*, Dr. Thorn states that as a result of total extirpation by the vaginal method the average mortality has fallen very considerably. Seventy per cent. of the patients admitted to hospital are unsuitable for operation and of the remaining 30 per cent. there are a great many in whom the disease has already affected other organs. In the majority of cases relapse is due to portions of diseased tissue being left; of 62 patients who had undergone vaginal total extirpation 27 relapsed in the first two years. In Dr. Thorn's opinion vaginal total extirpation should be performed whenever the uterus is sufficiently moveable; Schroeder's amputation may be resorted to if there is commencing carcinoma of the portio and no operation should be attempted if the uterus is fixed by the carcinoma. Among 10,500 patients who attended the gynæcological clinic 226, or 2 per cent. of the whole number, were affected with carcinoma of the uterus. Among these there were 80 cases which were suitable for operation and 71 operations were performed, 9 of them being Schroeder's amputation and 62 being vaginal total extirpation. Of the 62 patients 30 (equalling 48 per cent.) were complicated cases; 1 of them survived the operation only eleven hours, and 1 died from embolism six months afterwards. Of the remaining 28 cases 16 relapsed during the first year and 4 during the second year, the practical result thus being that 71 per cent. relapsed in the course of two years after the operation. Three patients relapsed in the third year and 1 in the fourth. Vaginal total extirpation gave the following results with the 32 uncomplicated cases, 10 of them being excluded from the computation as two years have not yet elapsed since they were operated on. Of the remaining 22 patients whose operations date back for more than two years 2 relapsed during that period, being 9 per cent. of the whole, as compared with 71 per cent. among the complicated cases. Ten patients have not relapsed, and of these 1 has been for seven years and another for eight years without any return of the disease; 90 per cent. of the uncomplicated cases have therefore survived the critical second year and at least one-half have been completely cured by vaginal total extirpation. Among the 9 cases in which Schroeder's amputation was performed, there were 8 with commencing carcinoma of the portio, and 4 of these have not relapsed, one of them having been free from disease for eight years. Of the 71 operations 20 were performed at least five years ago and five of these patients have not relapsed. For improvement in the results Dr. Thorn is inclined to rely on early diagnosis of the disease and prompt performance of the radical operation rather than on new methods of surgical procedure.

Extract of the Suprarenal Gland.

Dr. Velich, whose investigation of the action of suprarenal extract on the circulation I have already mentioned in THE LANCET,[1] has just published a pamphlet on the influence exerted on the cutaneous blood-vessels by this extract when locally applied. Some observers, such as Bates, Darier, Dor, and Koenigstein, have already found that it diminishes hyperæmia of the conjunctiva and the sclerotic. Dr. Velich has confirmed these results and has moreover shown that it causes anæmia of trachomatous granulations. Further experiments proved that under the influence of suprarenal extract the normal redness of the skin disappeared and the hyperæmic state of the skin due either to angio-neurosis or to scalding was replaced by anæmia. In cases of longer-continued hyperæmia of either the skin or the mucous membranes the effect of the extract was less obvious. Hyperæmia is due to paresis of the vaso-constrictor apparatus and suprarenal extract causes anæmia by stimulating this apparatus; when the extract causes no diminution in the size of the vessels the inference is that the vaso-constrictor apparatus has lost its excitability. Dr. Velich therefore concludes that suprarenal extract is a valuable remedy against hyperæmia.

Colles's Law and its Exceptions.

Dr. Hochsinger has published in the *Medizinische Wochenschrift* a series of interesting articles on Colles's Law and its Exceptions. He is of opinion that although there is no reason for supposing a syphilitic retro-infection of the mother from a fœtus affected with syphilis, it must nevertheless be conceded that there is a retro-action of the fœtus on the mother, a retro-action which has the effect of producing a certain amount of immunity of the mother against syphilitic infection. Dr. Hochsinger's explanation of this retro-action is in accordance with that given by Finger and Duhring. He believes that the corpuscular infective material of syphilis is not able to pass through the placenta from the fœtus to the mother, but that the toxins originating in the blood of the syphilitic fœtus pass by diffusion into the vascular system of the maternal placenta and immunise the tissues of the mother against infection. As this immunity depends on the amount of the toxins and also on the length of time during which they have been acting on the maternal tissues it is easy to understand that both the degree and the duration of Colles's immunity may be variable. If only a small quantity of immunising material has been transmitted from the fœtus to the mother her immunity will be very limited and she will be capable of contracting syphilis at a comparatively early date or she may even be infected by her own child. This explanation fully accounts for all the exceptions to Colles's law. It is also obvious that a woman's chance of being rendered immune against syphilis increases with the number of her pregnancies by a syphilitic father. Dr. Hochsinger said that 20 cases of exception to Colles's law have been recorded during the last sixty years, only 4 of them being women who had been infected after having more than once borne children which had inherited syphilis from the father; in the remaining 16 cases the infection took place after the first pregnancy. The history of the cases further shows that about half of the infants which ultimately infected their mother did not display any symptoms of syphilis at the time of birth but developed them during extra-uterine life. As to Fournier's theory of "syphilis par conception" Dr. Hochsinger conceded the possibility of a syphilitic man infecting his wife during her pregnancy, a case which may occur when the man was free from disease at the time of conception but contracted it subsequently. After impregnation by a syphilitic man some time is required for a sufficient quantity of immunising material to pass from the fœtus into the vascular system of the mother and lateness of the fœtal virus in becoming active increases the possibility of the mother being subsequently infected. If, therefore, the mother of a syphilitic infant shows secondary symptoms without having had any primary affection during pregnancy that must not be "syphilis par choc en retour." Weil and Neumann have reported cases of primary indurations in women who were pregnant with children infected with syphilis by the father. Neumann has also recorded a case where a woman pregnant with a syphilitic fœtus was affected with an initial sclerosis in the eighth month.

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[1] THE LANCET, June 13th, 1896, p. 1680.

Dec. 19th, 1897.

Obituary.

WILLIAM WADHAM, M.D. ST. AND., F.R.C.P. LOND.,

EXAMINING PHYSICIAN TO THE FOREIGN OFFICE, CONSULTING PHYSICIAN TO ST. GEORGE'S HOSPITAL, AND PHYSICIAN TO THE MUTUAL ASSURANCE SOCIETY.

WE regret to announce the death of Dr. Wadham, which took place at his house in Park-lane on Tuesday last, December 28th. He had been suffering for some time from renal and cardiac disorders and their complications, and during the past twelve months had failed much in health, so that his death will hardly be unexpected by those who knew him.

William Wadham was born at Frenchay, in Gloucestershire, on Dec. 23rd, 1823, and was the third son of Thomas Wadham of Frenchay House, Winterbourne. He was educated at Abingdon School, Berkshire, and became a student at St. George's Hospital, where he won the prize in Clinical Medicine. Dr. Wadham gave a playful account of this success in the last address which he delivered to the students of St. George's Hospital a little over a year ago, and which we published in THE LANCET in November last

"If it be permissible," he said, "to allude to myself on an occasion like this, I should say that any small measure of prosperity I have had in this world—and I have had quite enough to make me a fairly contented man—had its origin in a successful competition for the prize in clinical medicine. This in my student days consisted of a book, and was given by the senior physician; the questions had reference only to cases which had been treated in the hospital during the previous winter session, and necessitated a constant attendance in the wards. This prize gained me in addition to the book the friendship of the physician who gave it, and as I very soon afterwards passed the necessary examinations to make me a surgeon and apothecary, two callings which I have never followed, he soon found me a very pleasant travelling appointment, introduced me as a full-fledged doctor, made himself responsible for the respectability of myself and of my family, and acted quite as a godfather, giving me the additional name of Wyndham. Upon being remonstrated with he very reluctantly withdrew this, saying it was a highly respectable prefix to Wadham, and that I ought to have been so christened. The degree I had to retain, and found it exceedingly embarrassing, especially when asked, as once happened, whether I was a Doctor of Medicine or a Doctor of Divinity, as I looked so very little like either. The appointment, however, proved my starting-point and rescued me from the ruck and placed me altogether in a very enviable position."

As a student Dr. Wadham rowed bow in the St. George's boat in the crew which won the Steward's Cup at Henley against the Leander and Oxford crews in the year 1843, and during the whole time he was in the St. George's boat, whether he was reading or not, he was never once absent from his seat, a point on which he justly prided himself. Jack Phelps, the well known Thames waterman of that day, said of him that he was the best light-weight bow he ever trained, which was rating him very highly, seeing how universally bow is a light weight.

Upon obtaining his qualifications Dr. Wadham travelled on the continent, where he spent two winters, the greater part of the time being passed in Rome. During this period he made friendships and formed ties which were never afterwards broken. In 1847 he graduated in medicine at the University of St. Andrews, and in 1850 took the Membership of the Royal College of Physicians of London.

His first medical appointment was that of Assistant Physician to the Brompton Hospital for Consumption, while he also held the office of Medical Registrar to St. George's Hospital. He was appointed Assistant Physician to St. George's Hospital in the year 1862, and became full Physician in the year 1868, a post which he held until 1887.

As a hospital physician he was quick to arrive at a correct diagnosis, and his prognosis often appeared to be due to a wonderful instinct. In treatment he always considered the idiosyncrasies of the individual, never treating any patient simply as a "case," but always trying to recognise that the man and his suffering made up one whole. He was also keenly interested in therapeutic progress, and made a series of investigations on the action of some of the newer antipyretics years before they were in general use in this country. These results were not published, and, indeed, we believe that two articles which were printed in the St. George's Hospital Reports are almost the only scientific contributions ever made by him to medical literature. But if he was a sparing writer, in the composition of his lectures he took great care, bestowing much time and thought on phraseology and arrangement as well as on matter. His clinical lectures were consequently always well attended and much appreciated by the students. The course of lectures he gave on Forensic Medicine were models of lucidity and must have been entirely free from any taint of dulness, for they were delivered at an early hour in the morning yet always to a full class. His knowledge was the fruit of his own experience and observation, not of any special effort to learn, and still less of the direct teaching of others. He was, therefore, intensely practical, and neglected to cultivate those theoretical and scientific refinements of diagnosis and treatment which are now rightly considered essential to attainment of the highest rank among physicians. His limitation, however, in this direction was amply compensated by his level-headed common sense, impartial judgment, and the diagnostic and therapeutic insight to which we have already referred. He possessed, if ever man did, that valuable medical faculty called by Dr. John Browne the knack of "happy guessing"; but those who thought that he had no reasons for his "guessing" because he could not or did not always state them at great length would have been much mistaken. His merits as a practitioner were not of a kind that could be readily understood by students, but to an observant house physician—and with the assistance of such this short memoir has been compiled—his practice offered an example more eloquent than teaching. His interest lay mainly in the everyday experiences of practice, but he would frequently astonish those who did not know him thoroughly by an accurate opinion in cases where more scientific men were at fault. His work was done without ostentation and without apparent effort—nay, a superficial observer might have said without enthusiasm, but those who followed his practice carefully soon began to comprehend and admire the method by which it was directed.

Dr. Wadham was Dean of the School of St. George's for some long time. In this position the knowledge which he obtained of the characteristics of individual students was very remarkable. He seemed to know what work each man had done, and what his peculiar hobby was. He also took great interest in athletic sports and it is not too much to say that the success which the Hospital enjoyed some few years ago in the playing-fields—quite a remarkable success, considering the size of the school—was in great measure due to his encouragement and to the *esprit de corps* which he so successfully stimulated by his constant presence. Dr. Wadham was, in fact, a sportsman as well as a physician. We have already referred to his skill as an oarsman; he was also a

powers of entry and inquiry in regard to all gathering grounds and waterworks "as a matter of right and not as a matter of courtesy" are, as you say, vitally necessary to all sanitary authorities and periodical inspection should be made by their health officers to ensure the enforcement and maintenance of wholesome methods and conditions.

I am, Sirs, yours faithfully,
CHARLES PORTER, M.D. Irel., D.P.H. Camb.,
Medical Officer of Health.
Health Office, Stockport, Dec. 21st, 1897.

HENOCH'S PURPURA.

To the Editors of THE LANCET.

SIRS,—*Apropos* of Dr. Dreschfeld's interesting observations regarding Henoch's purpura before the Manchester Medical Society, a report of which appears in THE LANCET of Dec. 18th, I may mention one or two symptoms not stated therein, but which appeared in the case which came under my notice and I believe was subsequently seen by him. Pain in or near a joint was not always present, but the onset of an attack was constantly ushered in by intense frontal headache. It would be interesting to know whether this is premonitory of retinal hæmorrhage which occurred in this case. The eruption always took the form of erythema circinatum (or what some term eczema marginatum). After the hæmaturia abated and the disappearance of albumin, &c., the urine invariably contained bile, the latter also being present with mucus in the vomited matter. During the acute stage the temperature was always raised but was exceedingly erratic in character.

I am, Sirs, yours faithfully,
JOHN ROBERT WILLIAMS, M.B. Edin.
Penmaenmawr, Dec. 20th, 1897.

LUNG SURGERY.

To the Editors of THE LANCET.

SIRS,—In your very excellent summary of the surgery of the year the writer unaccountably omits lung surgery, that branch of the profession which offers the most promise in cases of pulmonary troubles. Those who take an interest in this subject will find a valuable paper telling of a successful operation in a bad case of abscess of the lung by Dr. Northrup and Dr. McCosh in the 1897 Report of the Presbyterian Hospital, New York. It is one of those papers which would have enhanced the value of the recently published volume of the New Sydenham Society.

I am, Sirs, yours faithfully,
GEORGE FOY.
Cavendish-row, Rutland-square East, Dublin, Dec. 25th, 1897.

THE PLAGUE IN BOMBAY.

(FROM OUR SPECIAL CORRESPONDENT.)

SINCE the active operations of the Plague Committee appointed by the Government which commenced its work last March the weekly number of cases has been gradually decreasing in Bombay, although the total mortality has increased during the past few months owing to the prevalence of cholera. The organisation of lay assistance, particularly of native justices, with due regard to the feelings of caste, with a minute division of labour for every district, has enabled a thorough house-to-house visitation to be carried out, prompt removal of the sick to be effected, together with a segregation of all those who have in any way been exposed to infection. Every infected house is practically emptied and thoroughly disinfected. Private hospitals under the supervision of the district medical officers have been established by the generosity of the rich, enabling the Government to overcome to a great extent the many difficulties concerning caste and creed. Rewards for notification have facilitated very considerably the discovery of fresh cases and the collaboration of well-to-do citizens has overcome the preliminary dread of the hospital. By all these means isolation of the sick has been securely effected, but it was necessary to take the work away from the hands of the municipality and place it with an enlightened and energetic committee. With the full powers bestowed upon it the system above outlined is working well. Many fresh cases are still reported at Surat as well as other places and further medical assistance will shortly be despatched to Bengal and Madras.

The plague which broke out in Mandvi in August, 1896, made comparatively little progress until December. Then a sudden rise in the total mortality occurred, for the whole month the excess being over 4500. During January and February it continued at this frightful height, from which time until June it gradually declined. During this period of about nine months it is estimated that at least 20,000 persons died from the plague. The difficulties of registration are enormous and it is probable that the official figures are much below the truth. The first measures taken were directed mainly to the disinfection of houses in which the plague had occurred. They were apparently without the slightest avail. Then some attempt was made at segregating the sick, but this was done before proper accommodation had been provided; the consequence was that thousands were brought to the hospital only to die without due attention, for that could not be possibly paid to them by the few attendants who were overwhelmed with work. Imagine one small hospital intended for about 150 patients as the sole provision in a city where the cases of plague were dying at the rate of 1000 a week. About a twelvemonth ago the various committees began to provide themselves with hospitals, the lead being taken by the Parsis. The plague was nevertheless allowed to get ahead of all possible provision for meeting it and the natural history of the epidemic gave a large decline in the mortality before hospital accommodation for more than 300 cases had been provided. During the summer fifteen Government hospitals besides hospitals provided by the various castes for their own members were constructed, but by the time these were all ready the mortality had sunk of its own accord to 300 or 400 deaths a week. But the mere aggregation of the sick in hospitals appears to have little effect on the spread of plague. Experience seems to prove that contagion from one person to another is not by any means the chief cause of its spread, but that a house becomes in some way infected and is the source from which case after case subsequently proceeds. Whether rats or other animals known to be infected are the means of polluting a house is not definitely known, but the spread of the disease is noted to be gradual and as it were along adjacent districts rather than with the rapidity which follows the course of human beings.

The epidemic in Bombay took three months to develop, remained about three months at its greatest intensity, and took about three months to decline to the minimum yet recorded. Its decline was followed by a considerable rise in the mortality from cholera and all forms of fever. There are now (December, 1897) indications that the mortality from plague has again begun to rise and it is possible that a natural recrudescence is at hand. The moral of the experience obtained is that houses in which plague has occurred must not only be cleaned and disinfected but be left absolutely tenantless for some considerable period or else completely destroyed, the inhabitants displaced by this course being provided for in segregation camps. In addition frequent house-to-house visitations must be adopted to discover cases and those cases must be removed to hospital at the first possible opportunity. The large number of hospitals distributed about the most crowded parts of the city might be said to act as centres of infection, but this arrangement was looked upon as a measure of mercy to avoid the inconvenience and danger arising from having them at a distance from the houses of the people. The measure has been justified by experience as there is not the slightest evidence to show that the hospitals in any sense could be looked upon as centres for the spread of the disease. So slightly contagious appears the malady that of the number of attendants who have been employed on plague duty comparatively very few have taken the disease. Again, in upwards of 246 instances at one hospital where the friends of the patients attended their sick (and in twenty instances scarcely ever left the bedside) in not a single instance did the disease spread to the friends. On the other hand are numerous cases where houses have been disinfected from top to bottom, vacated, and shut up and then very shortly after the families returned plague cases broke out amongst them. These facts seem to show that plague is not one of those virulently contagious diseases like small-pox or measles (in a new community), but that the contagion attaches itself in some way to the buildings. In large numbers of instances therefore the authorities have at last marked certain buildings as unfit for human habitation

(U. H. H.). If this continues to be done on a sufficiently large scale it may be hoped that considerable impression may be made on the returns. In Surat, where the people are more crowded than in Bombay and where there are no drains or general water-supply, the disease has made great havoc; but the authorities have become alive to the necessities of the occasion and learning from the experience of Bombay of the measures required are now clearing whole quarters of the town, segregating the healthy in camps and removing the sick to hospitals.

With regard to treatment the inoculations of M. Haffkine are still under consideration. They consist of injections of a culture of the plague bacilli after the bacilli have been destroyed by heat. Dr. Yersin's antitoxin serum treatment has now been almost entirely given up. Many observers speak highly of the administration in full doses of the perchloride of mercury, plague patients showing a peculiar tolerance to this drug. It has been noted that syphilitics who have been more or less saturated with mercury at some time or other have borne the disease much more successfully than others, this observation having been frequently made among the prostitutes of the city. Twenty-two medical men specially sent out have just arrived from England. Three more are to follow as well as an increase to the trained nursing staff. The report of the Plague Committee up to June 30th has just been issued. It is very elaborate and markedly statistical, but increases our information of the disease in many points of detail. The more recent and purely scientific investigations of M. Haffkine and others into the bacillary treatment are looked forward to with great interest.

In Bombay there were 83 deaths from plague during the past week and 172 persons remain in the hospitals under treatment. In the observation camps 2577 persons are detained.

Dec. 10th, 1897.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Cremation.

THE annual report of the Manchester Crematorium, Limited, states that there is a profit balance over the working expenditure and that there is a fair prospect of a deficiency in the revenue account being nearly wiped out during the coming year. Since Nov. 30th, 1896, fifty-four cremations have taken place, making a total of 238 since the opening. One source of revenue is derived from visitors and the result of their somewhat gruesome curiosity amounts, it is said, to a considerable sum, showing, as the report states, "that the general interest in cremation has been well sustained." But the directors are not without that happy possession, a grievance. They have "certain knowledge" that deaths have occurred of persons favourable to cremation, but because they have not left written directions—before death, as the report puts it—for their cremation they have been buried and the directors feel "very strongly" that the supporters of cremation owe a duty to the cause that nothing should be left undone (probably during life) as to the course to be pursued afterwards. There is no doubt of the enthusiasm and earnestness of the crematoric cult. In Manchester "the whole of the management and conduct of the crematorium continues to be done gratuitously, neither the directors nor the secretary accepting any remuneration." The chairman, Mr. H. Simon, thought there was a distinct movement in the country in favour of cremation, evidenced by the fact that thirty-nine towns, ninety-four urban district councils, and twenty rural district councils had pronounced in favour of erecting crematoria where there was a call for them. It must be owned, however, that cremation, in spite of its real and supposed advantages, has not as yet roused any enthusiasm in the multitude and that it progresses slowly. No doubt this is due very much to sentiment and association, for there is nothing to call up the affectionate and reverential feelings raised by the thought of the village churchyard with, perchance, its ancient yews, and at present it would seem grotesque to make a pilgrimage to the furnace by the help of which "some village Hampden" has been cremated.

The Nursing of the Sick Poor.

The annual meeting of the Manchester and Salford Sick Poor and Private Nursing Institution was held in the Lord Mayor's Parlour on the 13th inst. Dr. T. A. Helme read the thirty-second annual report. Four new districts have been added during the year to those already supplied with district nurses and four additional nurses provided. The Diamond Jubilee was marked by the establishment of a home for the district nurses of Salford. But the report spoke of increased work, with increased expenditure, without corresponding increase of income, which, unless help came, would cripple and probably lead to the curtailment of the work. In supporting the adoption of the report Dr. Harris said the medical profession knew that the nurses were well trained and efficient. He made some startling remarks on some of the "so-called" nurses' homes in Manchester, in which he said there was too much sweating, and gave an instance in which a nurse was receiving 15*s.* a week for twelve weeks at a case of typhoid fever while the "home" with which she was connected was paid two guineas weekly for her services. He said some of these homes were merely registries and there was no guarantee of the efficiency of the nurses. Their own institution provided proper homes for the nurses and only employed those who had received a proper training. Sir Forbes Adams drew attention to the comparatively small number who supported the Manchester charities and it is to be feared that the same statement might be made of many other places. He said that only some 2000 people kept the Manchester charities going. "There were 20,000 able to contribute and 18,000 did not, not because they would not give or begrudged the money"—as he kindly put it—"but because the cases had not been brought sufficiently near home for them to ponder over and consider." We all know that "evil is wrought by want of thought" and the idea of duty as to the support of charities does not come readily to a large proportion of the comfortable classes. It may be, too, that all we hear and read of the abuse of charities tends to encourage the non-giver to keep his money in his pocket lest it should be misused. This, however, only supplies another argument in favour of a strict and just, but if possible merciful, dealing with the candidates for hospital or other relief.

Overcrowding at the Withington Workhouse.

At the meeting of the Chorlton Board of Guardians, held on the 24th inst., Mr. Jenner Fust was present and spoke of the overcrowding of the workhouse and asked for information as to what temporary arrangements had been made to relieve the pressure. He pointed out that the proposed additions to the nurses' home could only be of a trifling character and that when two additional hospital pavilions were built, which would have to be done immediately, further provision for the nurses would be necessary. In view of the separation of the management of the infirmary and the house, which he strongly urged, he advised them to use the nurses' home for the "ins-and-outs" children or for some other class and to build a new nurses' home on the land purchased for the enlargement of the infirmary. The present condition calls for prompt action, as when the children are sent to the new homes at Styal and the lunatics transferred to the care of the Joint Asylums Committee they will still, according to Mr. Jenner Fust, be without efficient accommodation unless they commence building at once and he urged them to look well ahead. He stated that there were already nearly 300 more people in the workhouse than it was certified to hold. It was practically determined to set about these changes and additions at once and a resolution was passed instructing the architect to prepare a block plan. At the same meeting Mr. Charles Higginson, M.A. Lond., M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., was appointed junior assistant resident medical officer at the workhouse. There were two lady candidates, one of whom, Miss Octavia Margaret Lewin, M.B., B.S. Lond., was appointed *locum tenens* for a period of not less than three months. She had received the highest number of votes next to Mr. Higginson.

Dec. 28th, 1897.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Water-supply.

AT a recent meeting of the Water Committee a report was submitted from Professor Boyce respecting his bacteriological examinations of samples of water taken from Vyrnwy, Rivington, Dudlow-lane, Green-lane, and Windsor

Wells. The report showed that the waters from a bacteriological point of view were all in a highly satisfactory condition and remarkably free from germs. In the light of recent experiences in other towns as to the unhealthy condition of water supplies this cannot but be considered as a matter for congratulation.

New Infirmary for the Aged Poor of Liverpool.

The select vestry, with the approval of the Local Government Board, have purchased a portion of the Highfield estate, Knotty Ash, as a site for an infirmary for the aged poor of the parish at a cost of £10,000.

Death of Mr. Henry R. Powell.

Mr. Henry R. Powell died at his residence, St. Domingo-grove, Everton, on Dec. 20th, 1897. Mr. Powell, who was only forty-two years of age at the time of his death, enjoyed a large practice. He represented South Walton in the City Council of which he proved himself a diligent and conscientious member. He also occupied a seat on the West Derby Board of Guardians for several years.

Liverpool Medical Institution.

Dr. William Macfie Campbell has been nominated by the council as President for the ensuing two years. Dr. Campbell's selection is a very popular one. He has always taken a great interest in the management and transactions of the society, of which he has been twice vice-president; he has also filled the offices of honorary librarian, treasurer, and general secretary and on several occasions has been a member of council. Dr. Campbell is consulting surgeon to the Liverpool Northern Hospital, of which he was for ten years honorary surgeon.—By the will of the late Dr. James M. Turnbull the Liverpool Medical Institution has lately received a legacy of £50.

The New Head-master of the Charterhouse School.

By the appointment of Dr. Gerald H. Rendall to the headmastership of the Charterhouse School, University College, Liverpool, loses a principal who has proved himself in every way a scholar and an efficient administrator. Possessed of pleasing manners and a polished address Dr. Rendall was particularly happy in his relations with the governing body as well as with all the other departments of the College. The flourishing financial condition of the College has been largely due to his tact and diplomacy in enlisting the sympathies of our wealthy merchants in furthering the cause of education within its walls. Dr. Rendall, who has had a distinguished classical career at Trinity College, Cambridge, was appointed the first Principal of University College, Liverpool, in 1881, occupying at the same time the professorship in Greek. The medical faculty of the College, between whom and Dr. Rendall there existed the most cordial relations, will be particularly sorry to lose his valuable assistance, and one and all unite in wishing him a happy and prosperous career in the scene of his future labours.

Christmas Festivities at the Hospitals.

The Christmas festivities, which are an annual feature of much interest at the local hospitals and workhouses, were marred by a lamentable accident which occurred at the Mill-road Infirmary whereby one of the nurses, Miss Edith Ashcroft, lost her life. The deceased was engaged in a rehearsal for some amateur theatricals for Christmastide when her clothing came into contact with one of the footlights enveloping her in flames. She was so severely burnt that she succumbed within forty-eight hours.

Dec. 29th, 1897.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Site of the Royal Infirmary, Newcastle-upon-Tyne.

IT was hoped that this knotty point was settled and that no further impediment would be placed in the way of Mr. J. Hall's wish to build a new infirmary for his native town, but it is not so. The stewards of the freemen and the town council both agreed to place at the disposal of the infirmary a site on the Leazes—a very suitable one in the opinion of the staff and of the Infirmary Committee—and one of the two selected by Mr. Hall. The next step was to promote a Bill in Parliament to make the transfer legal. At the town council meeting a fortnight ago power to promote this Bill was not obtained and the matter came up at a special meeting of the council on Dec. 15th. At this meeting a strong protest against the transfer was handed in by a deputation of freemen representing 639 out of a possible total of 888 freemen. In spite of this protest the council by a majority of 40 to 12 gave the town clerk authority to promote the Bill. The freemen will oppose the Bill in Parliament and it is an open secret that a very considerable sum of money has already been subscribed for the purpose. The senior member for the city, Sir Charles F. Hammond, himself a freeman and a Conservative, has publicly announced that he will oppose the Bill and so has another very influential member of the council, so that it is quite possible the Bill may have to be withdrawn. It is possible that the sick and lame poor of the northern counties may be deprived of the gift of £100,000 promised them by Mr. J. Hall, but it is sincerely to be hoped that better counsels will prevail and some arrangement arrived at by which such an unfortunate result will be avoided. It is not unreasonable to ask that an area equal to the extent it is proposed to take from the Leazes should be added to the Town Moor at the expense of the infirmary or of the town. There would be no difficulty in doing this and under the circumstances the freemen should be content with such an arrangement.

The General Medical Council and Unqualified Assistants.

The determination of the General Medical Council to somewhat abruptly put a stop to the employment of unqualified medical assistants will press in some cases in the north very harshly upon some men. There are several persons who have acted under the immediate direction of qualified men as assistants without any legal qualifications in the counties of Northumberland and Durham for many years, and these men have acquired a considerable amount of skill in the treatment of disease and are capable, steady, and reliable assistants. It would be a cruel thing to turn them adrift and it would certainly defeat the object the Council has in view—which is, it is to be presumed, to check unqualified practice. These men, turned adrift, would continue to practise without the supervision of a qualified man and in opposition to them. Some very hard cases indeed could be brought under the notice of the Council. Some of these men have been practising as unqualified assistants for twenty years and longer and they should not be treated by the Council with greater severity than unqualified practitioners were treated by the law in the year 1815. They deserve consideration at the hands of the Council, for the Council has winked at the employment of unqualified assistants for a long time.

Dec. 28th, 1897.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

University of Edinburgh.

THE following are the numbers of students who attended the several courses of lectures in the Medical Faculty of the University of Edinburgh during the winter and summer sessions of 1896–97: Zoology, 200; Botany, 217; Physics, 241; Chemistry, 256; Anatomy, 226; Physiology, 449; Materia Medica, 199; Pathology, 162; Medical Jurisprudence, 222; Midwifery, 188; Surgery, 199; Practice of Physic, 225; Mental Diseases, 193; and Ophthalmology, 84.

Western Infirmary, Glasgow.

The official intimation that the dispute between the managers of the Western Infirmary and Professor Macewen has been brought to a termination has been received with general satisfaction among both the medical profession and the public. The question actually decided refers only to the retention of the third ward under Professor Macewen's charge, the other matters at issue, the most important of which are the allotment of the new operating theatres and the nursing arrangements, remaining at present unsettled. These, more especially the former, are not without their thorny aspects, but there is a general anticipation that they, too, will terminate in a satisfactory agreement. It is understood that the retention of the third ward by Professor Macewen is to be accompanied by a withdrawal of the beds which had been offered to Professor Stockman for "the clinical teaching of materia medica and therapeutics." This is no doubt a somewhat awkward step considering that the appointment had been formally made, but there are not wanting those who will welcome it, looking at the comment to which the allotment of beds for such a purpose gave rise and the neglect of the claims of the younger members of the infirmary staff which it necessarily involved.—The following appointments have been made in this institution:—Dr. D. Macartney to be assistant surgeon; Dr. W. R. Jack to be dispensary physician; Dr. G. B. Buchanan to be dispensary surgeon; and Dr. G. H. Edington to be extra dispensary surgeon.

Chair of Medical Jurisprudence in the University of Glasgow.

It will be learned with regret that owing to continued ill-health Professor P. A. Simpson is about to retire from the above mentioned chair. Already there are at least three local candidates in the field.

Glasgow Royal Infirmary Building Scheme.

There has just been published a sketch of the block plan (or ground plan) of the design to be adopted in reconstructing the Royal Infirmary. This proceeds on the idea that the new infirmary will be built on the pavilion principle. The blocks run from east to west and are connected from north to south by a central one-storey covered way; they are three in number, that in front being somewhat shorter than the other two. In rear of all stands the present "north surgical house," which is apparently to be left untouched. For the kitchens, engine house, &c., space will be found at the eastern boundary which is on a lower level than the remainder of the site. Unfortunately the plan gives no indication of the proposed height of the buildings, of the number of wards, or of the number of beds to be provided. The absence of such information probably accounts largely for the somewhat meagre response so far made to the appeal for subscriptions, there being a widespread feeling that the site is at present overcrowded and that accordingly any new buildings should provide accommodation for a decidedly smaller number of patients.

St. Andrews University.

The election of two assessors to represent the General Council on the University Court has resulted in the success of Dr. Dow, Dunfermline, and the Rev. Robert Scott, minister of Craig, each of whom has been re-elected. These gentlemen were the nominees of what is known as the "Bute party" in the Court, and their election means a triumph for the policy of that party and a continuance of opposition to the position and claims of University College, Dundee. Thus the prospect of a settlement of the dispute between St. Andrews and Dundee seems as far off as ever. It is announced also that the Scottish Universities Commission is to terminate with the close of the present year, and as the Commission has recently existed almost entirely with a view to attain a settlement of the dispute its demise means failure in this respect. Possibly some more powerful and imperative influence may now be invoked to close what is recognised as nothing less than an educational scandal. The termination of the Commission will certainly be an advantage to the other Scottish Universities which will now be free to utilise various powers conferred upon them, these powers being in suspension during the existence of the Commission.

Dundee Royal Infirmary.

In connexion with the erection of a maternity hospital in Dundee the directors of the Royal Infirmary are about to apply to the Privy Council for a new charter, which will confer upon them power to manage the new institution as well as the infirmary. Last week the governors met and discussed the matter, when it was ascertained that there was a desire to enable the honorary medical staff to act as directors, a privilege which they do not at present enjoy. Another meeting of the governors was held, when the question of medical representation on the directorate was discussed for several hours. After a very lively discussion it was agreed that an arrangement should be made enabling the hospital staff to act on the directorate, but that the number of such representatives should be limited to three. Edinburgh Royal Infirmary is the only other institution of the kind in Scotland on the governing board of which such representation is permitted and there it was secured only after a stiff fight. In all the hospitals in Glasgow without exception the staffs are expressly and by rule excluded from the directorate, a state of affairs which is giving rise to considerable friction and heart-burning.

Enforcement of Vaccination Acts in Aberdeen.

The parents of about forty children have been notified by the Aberdeen inspector of poor that unless the operation of vaccination be performed before Jan. 4th, 1898, the necessary steps will be taken to bring them before the sheriff. The parish council has, however, resolved that defaulters shall not be prosecuted oftener than once for each offence.

Donations to Aberdeen Hospitals.

The net sum subscribed for the Diamond Jubilee Hospital Fund in Aberdeen is reported as £5302 7*s.* 9*d.* Of this amount the committee have voted £1000 to the Hospital for Sick Children, £1000 to Morningside Hospital for Incurables, £800 to the Jubilee Nursing Association, and the balance of about £2500 to Aberdeen Royal Infirmary. The directors of the three hospitals have been recommended to devote the money to providing beds to be named so as to commemorate the Queen's Diamond Jubilee.

Dec. 27th, 1897.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

A Roentgen Ray Examination as Evidence in Court.

A CASE was recently tried in the Exchequer Division, Dublin, before Mr. Justice Madden in which the plaintiff, a lady from Urlingford, sued Mr. Harrington, the owner of the public car which plies between that town and Kilkenny, for £500 damages for injuries due to a fall from the car and caused by the carelessness of the driver. The local practitioner, who had examined the plaintiff soon after the accident, stated that in addition to a severe sprain of the ankle there was also a fracture of the fibula as evidenced by crepitus and pain. Dr. W. I. Wheeler and Dr. W. S Haughton, of Dublin, were produced by the defendant and deposed that in their opinion no fracture had existed. They stated that they had made during a short adjournment of the court a screen examination of the plaintiff's ankle-bones and that the outline of the lower portion of the fibula failed to exhibit the thickening that would be present after a fracture even though four months had intervened since the accident took place. This Roentgen ray evidence seems to have strongly impressed the jury, who awarded £50 instead of the £500 damages claimed.

Poor-law Nursing in Ireland.

It will be remembered that the system of pauper nursing in Irish workhouses was abolished by a sealed order of the Local Government Board in September last. A deputation representing the Irish Workhouse Association and the Philanthropic Reform Association waited on the Chief Secretary at Dublin Castle on the 14th inst. for the purpose of requesting that the Government should pay half the salaries of the certificated nurses who replace the pauper nurses in the Irish workhouse infirmaries and urging the adoption of other reforms. The deputation included Lord Monteagle, the President; the Earl of Meath, President of the Philanthropic Reform Association; Sir William Thomson, President of the Royal College of Surgeons in Ireland; Sir Christopher Nixon, physician to the Mater Misericordiæ Hospital; and many others. Lord Monteagle thanked the Chief Secretary for his action as President of the Local Government Board in abolishing pauper nursing in Ireland. Sir Christopher Nixon, in reply to a question of the Chief Secretary as to the meaning of the term "certified nurse," explained that it applied to persons who had been trained in a hospital for a period of from one to three years, who were tested at the end of their course by an examination, and who then received a certificate that they were qualified. He remarked that the recent order in reference to pauper nurses would to a great extent revolutionise the nursing system in Ireland and that arrangements were already being made in many large hospitals to institute a system of training for religious sisterhoods. Sir Christopher Nixon, moreover, stated that at the large hospital to which he was a physician arrangements were made for the training of Catholic Sisters of Mercy who would occupy in future the position of nurses in the workhouse infirmaries throughout Ireland, and ended his speech by an

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

The Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume, are given in this number of The Lancet.

VOLUMES AND CASES.

Volumes for the second half of the year 1897 will be ready shortly. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are now ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

RELICS OF DR. MAURIZIO SACCHI.

Certain documents possessed by this "second victim of the ill-starred Bottego expedition" have been brought from Addis-Abeba, and among them are two pocket-books containing his diary. The first describes his return journey from Lake Rodolfo to the Boran country across which his course lay to the seaboard of the Indian Ocean. The second continues the diary till his arrival at Ascebo *en route* to Lake Margherita, but its last leaves are so lacerated as to be illegible. Enough, however, is not known of his fate to complete the narrative, the publication of which is anxiously awaited early this year.

"MODIFIED MILK" FOR INFANT FEEDING.

To the Editors of The Lancet.

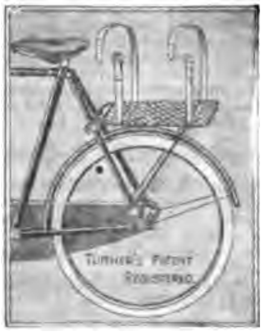
Sirs,—I have read with interest your note on "Modified Milk" in The Lancet of Dec. 18th, as I have for some months recommended it for infants when breast-feeding was impossible. From a theoretical point of view I regard it as the most rational and scientific method at present before the profession. I have as much objection to recommending a patent food of which I know neither the composition nor the method of preparation as I have to prescribing a patent medicine. With regard to modified milk there is no mystery, and if necessary any intelligent person can prepare it himself. Further, modified milk being made up according to the medical attendant's prescription can be varied not only to meet the requirements of each individual patient but also to satisfy the increasing appetite of each infant as it grows older. I observe that you take exception to the average formula for a healthy infant quoted from Dr. D. J. Evans's paper. May I point out that this is merely a formula suggested by a physician as being that which he himself found useful and that its adoption or rejection by others does not in the least prejudice the case in favour of modified milk. Whatever formula the medical attendant considers most suited to the particular case can be prescribed and made up. From a practical point of view I can bear testimony to the success of the system. I have ordered modified milk when other foods have failed, and so far it has given me entire satisfaction. In the first instance I had the milk modified at home under my own direction, but subsequently it has been prepared for me by the Walker Gordon Laboratory Company, of Great Duke-street, Grosvenor-square, whence it is delivered to any part of London. The fullest account of the method is to be found in Dr. Rotch's work on Pediatrics published by Lippincott.

I am, Sirs, yours faithfully,

E. Collingwood Andrews.

Finchley-road, N.W., Dec. 28th, 1897.

LUGGAGE CARRIER FOR CYCLES.



The accompanying illustration shows an ingenious contrivance for carrying an obstetric case or other luggage over the back wheel of a bicycle. It is called the Turner Bi-carrier and is constructed of wire. It is fastened by leather-lined, hinged clips with finger nuts. Its weight is 1 lb. and its size about 14 in. by 5 in. To the ordinary rider who wishes to carry a weight of luggage the carrier will be found a boon, and to the medical man who visits his patients on a bicycle it will be found of the greatest convenience. Special "medical" bags are constructed for use with this carrier but as a matter of fact any bag within reasonable dimensions can be carried quite conveniently. For touring purposes the carrier can be strongly recommended. Mr. H. G. Turner, Eldon-grove, Manchester, is the patentee.

TETANUS DUE TO CHRONIC ULCER.

To the Editors of The Lancet.

Sirs,—Dr. Smyth at page 1584 of The Lancet of Dec. 18th, 1897, writes, with reference to tetanus caused by chronic ulcers: "I have not been able to find a record of any similar case either among those recently published or in any text-book." A reference to Section 1323: 1. of the "Medical Digest" will show that in the pages of The Lancet in 1864 a case closely resembling his own is reported.

I am, Sirs, yours faithfully,

Richard Neale, M.D. Lond.

Boundary-road, N.W., Dec. 21st, 1897.

MEDICAL MOUNTAINEERING.

The recent holidays in connexion with the "feste di Sant' Ambrogio" have been utilised by the Italian Alpine Club for the ascent of peaks dominating the Simplon Pass. The party included a contingent of medically qualified or medically trained members of the club whose presence was, rightly enough, regarded as minimising the "imprudences" of the expedition. Starting from Milan they reached the village of Simplon and attempted to climb the Schönhorn but had to desist on account of the weather. Next day however from Berisal, at which they arrived in sledges, they achieved the ascent of the Fletschhorn favoured by magnificent sunshine and an atmosphere perfectly still. Other and minor successes awaited the party, whose enterprise is worth recording as another proof of the increasing popularity of masculine exercise and athletic prowess in young Italy. In this movement the pioneers have been medical men whose personal participation robs such expeditions as that just mentioned of nearly all their risk, whether to health from exposure or to life or limb from foolhardy adventure.

DEGREES FOR PRACTITIONERS.

To the Editors of The Lancet.

Sirs,—So many of your correspondents have asked at various times questions as to the difficulty of the examinations for the higher degrees that my own experience may be of benefit to some. Having been in practice for three years I determined to take the M.D. London. The Preliminary Science took about six months' work, then after twelve months' reading during the next year the Intermediate M.B., Primary F.R.C.S., Final M.B., and B.S. were taken in succession. In the third year the Final F.R.C.S. and M.D. were passed. With a certain amount of steady reading a practitioner can easily pass these examinations, the earlier ones giving

The Hughlings Jackson Lecture

ON THE

RELATIONS OF DIFFERENT DIVISIONS OF THE CENTRAL NERVOUS SYSTEM TO ONE ANOTHER AND TO PARTS OF THE BODY.

Delivered before the Neurological Society, Dec. 8th, 1897,

BY J. HUGHLINGS JACKSON, M.D. ST. AND., F.R.S.,

CONSULTING PHYSICIAN TO THE LONDON HOSPITAL AND PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

[AFTER expressing his inability to properly thank the Society for asking him to deliver this the first Hughlings Jackson Lecture, Dr. Hughlings Jackson said :—]

It is an excellent thing, for clinical purposes, to study nervous maladies by type. This, it seems to me, is the plan adopted in books on the practice of medicine; an account is, for example, given of the malady, tabes; its complications are mentioned and abortive forms are described; a description of the malady, as, in different cases, it approaches or reaches or deviates from a type is given. There are other ways of studying nervous maladies, for example, as they are Dissolutions, that is, as they are reversals of Evolution of this or that part of the nervous system, that is, as they are departures from normal states. In these investigations we do not abandon clinical work; we must study nervous maladies by type first of all. One advantage of considering nervous maladies as dissolutions is, that in doing so we are obliged in each case to deal with the diseased part as a flaw in the whole nervous system; we thus have to take into account the undamaged remainder and the evolution still going on in it. Apart from these applications of the doctrines of evolution and dissolution I would urge, as I have often done, that a great part of symptomatologies in nervous maladies with negative lesions is the outcome of activities of undamaged, healthy, structures—that that part is a problem, not in pathology, but in physiology; I have illustrated this in several ways in THE LANCET of Dec. 12th, 1896. We can attempt a study of some very different nervous maladies by comparing and contrasting them as they are owing to disease of Evolutionary Levels of different grades of the central nervous system. For example, I make the hypothesis that progressive muscular atrophy, paralysis agitans and general paralysis are owing to disease of, but not limited to, motor centres of, respectively, the lowest, middle and highest levels of the Cerebral Sub-system. With reference to what I said a moment ago I here remark that whilst I suppose that the negative lesion (which is produced by a pathological process) of the middle motor centres in paralysis agitans, answers to the paralysis I suppose that the tremor and rigidity are owing to over-action, hyper-physiological state, of perfectly healthy centres, anterior horns and perhaps of the cerebellum also.

There are certain Complementary Inverses (cerebral and cerebellar) worthy of consideration; these will be considered later in a little detail. One profitable way of studying nervous maladies is by comparing and contrasting the effects of a destruction-lesion with those of a discharge-lesion of the same centre or region; for example, the commonest variety of epileptiform seizures (the kind of epilepsy described by Bravais, 1827) is to a great extent the mobile counterpart of the commonest variety of hemiplegia. We have, however, in making such comparisons and contrasts to bear well in mind that there are greater positive effects from a discharge-lesion (because discharges spread) than there are negative effects from a destruction-lesion; hence the qualifying words "to a great extent." We can compare and contrast the after-effects (temporary functionlessness of nervous elements) of sudden and excessive discharges (those of discharge-lesions) with the effects of destruction-lesions. There is, I suggest, a variety of so-called idiopathic epilepsy, in which there is a discharge-lesion of, or of some elements of the auditory centre of Ferrier, *destruction* of which centre in the left half of the brain would produce the particular Imperception called Word-deafness (first described by Dr. Charlton Bastian); the discharge, however, only *begins* in this centre (primary discharge) and spreads from it to associated centres (secondary discharges). *After* the attack there is, I presume, exhaustion, temporary, of more or fewer of the elements discharged in the paroxysm; then there is, not only Word-deafness, but also another particular Imperception, Word-blindness; in a case I have recorded[1] there was inability to speak too; all the symptoms were temporary. So presumably the effects of discharge beginning in the centre alluded to and certainly the after-effects of that discharge when it has been wide-spread, are greater than the effects of destruction of the centre would be. This leads me to a further remark on methods of study. I do not think we analyse the symptomatologies of epileptic fits with sufficient thoroughness; as Féré has well said, there are as many epilepsies as there are epileptics. In a minor attack of epilepsy there may be smacking movements of the tongue and lips, the "epigastric aura," the so-called intellectual aura, which I prefer to call "dreamy state," defect of consciousness passing into unconsciousness, and slight convulsion; and after the fit there may be loss of consciousness with elaborate actions. I believe that in some cases, as in so-called procursive epilepsy, the two stages—that of the fit proper and the post-paroxysmal state—are not always distinguished. No analysis of the symptomatologies of such paroxysms as the minor attack mentioned is on a thorough basis which does not distinguish the psychical from the physical, which does not take heed of the vast differences in complexity, &c., of crude sensations, such as the "epigastric aura," and such elaborate psychical states as the "dreamy state" (for example, the exceedingly elaborate state, a "feeling of being somewhere else"), which does not distinguish real movements, for example, smacking of the lips as if tasting, from convulsion of small parts of the body, turning up of the eyes, for example. There is another kind of study. We have to try to show how it is that two such sets of phenomena as universal convulsion with cessation of consciousness (in a severe fit of so-called idiopathic epilepsy) and insanity with in some cases profuse and elaborate mentation—how both these exceedingly different symptomatologies result from disease of, or disease beginning in, the "mental centres"; it is not enough to study each of the maladies in isolation, all the more because often enough we find the two occurring in one patient; there may be a paroxysm of universal convulsion with cessation of consciousness and then the insanity loss of consciousness and mania or that greater degree of insanity, post-epileptic coma. This leads me to say that we do not always take into account in our studies of post-epileptic states all the degrees of insanity which are found after different degrees of epileptic fits. Thus, post-epileptic coma is not thought of, as it should be, as a post-epileptic insanity, as a greater degree of insanity, one signifying a greater depth of Dissolution of the highest level, than post-epileptic mania; post-epileptic coma is acute temporary dementia, is so, I mean, so far as the highest level is concerned.

For the kinds of work indicated some scheme of the whole nervous system is necessary. A morphological seriation, such as spinal cord and encephalon, or such as cord, medulla, pons, cerebellum and cerebral hemispheres, will not serve us. We must have a scheme according to degrees of directness and complexity with which nervous centres, or as I shall say, Levels, represent impressions and movements of parts of the body; this is an anatomical, not merely a morphological, scheme.

I divide the central nervous system into two Sub-systems—Cerebral and Cerebellar. The two have what I call the Lowest Level in common, or in other words this level is the lowest of the cerebral sub-system and also of the cerebellar sub-system.

The Lowest Level extends, it is suggested, from the tuber cinereum to the conus medullaris; it is made up of an homologous series of sensory and motor centres lying in the cord, medulla, pons, and aqueduct, with the fibres inter-connecting them. These centres represent the body in detail, motorily, from ocular muscles (ciliary muscle?) to muscles of the perineum (sphincter ani?). There are also, besides higher Levels, Superior centres of the lowest level itself; for example, there is the respiratory, medulla, centre which, to speak of motor elements alone, represents the muscles of the respiratory apparatus indirectly—represents movements of them by intermediation of the laryngeal, phrenic and costal motor centres, centres of the homologous series of the level. There are, I suppose, other Superior centres with their subordinate centres for intestinal action, defecation, micturition, the sexual act, parturition, &c. The homologous series of centres with the superior centres and the fibres inter-connecting them are what will be called Intrinsic elements of the level.

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[1] Cerebral Paroxysms (epileptic attacks) with an Auditory Warning; in slight seizures the special Imperception called "Word-Deafness (Wernicke) and "Word-Blindness" (Kussmaul); Inability to Speak; Spectral Words (auditory and visual). THE LANCET, Aug. 4th, 1894.

The Rolandic region of the cortex cerebri and the pre-frontal lobe (region in front of the pre-central sulcus) are the motor provinces of, respectively, the middle and highest levels of the cerebral sub-system. Now as to the sensory provinces of these higher levels; I have formerly spoken of the occipital lobes as the highest sensory centres of the cerebral sub-system, but I am now unable to say with confidence what parts of the cerebral hemispheres are the sensory provinces of the middle and highest levels of the cerebral sub-system. In what follows it is to be understood that the unit of constitution of the whole nervous system is sensori-motor, and also that the so-called motor provinces, of the middle and highest levels at least, are supposed to be only *chiefly motor* and their sensory provinces only *chiefly sensory*. I have not attempted any division of the cerebellum into levels.

It is well to give synonyms, popular and scientific, of what I call the highest level of the Cerebral sub-system, the acme of nervous evolution; so-called "organ of mind," "mental centres," "anatomical sub-strata of consciousness," "physical basis of mind." As to the nature of the relation of consciouness or, synonymously, mentation, to activities of the sensori-motor nervous arrangements of the highest level, I have no hypothesis; I assume concomitance of psychical states with nervous states of at least the highest layers of this level. It is right before going further to say that Dr. Ferrier,[2] for whose opinions on all neurological questions I have a most profound respect, differs from me with regard to what I call the highest level. I admit that this part of my scheme is very hypothetical; and I do not suppose that there is so decided an anatomico-physiological difference between the motor provinces of the highest and middle levels as there is between those of the middle and lowest levels. I admit, too, that the scheme of three levels is incomplete; nothing has been said of the sympathetic system, nor of what may be called the olfactory and optic nervous systems; the retina is, developmentally, part of the brain itself, and possibly some elements or some layer of, the retina may be the lowest centre of the optic nervous system.

With regard to the Lowest Level, we have to consider, besides its Intrinsic elements already enumerated, its Extrinsic elements. The extrinsic elements of this level are of two kinds: (1) fibres extrinsic upwards—for instance, those of the pyramidal tract; and (2) fibres extrinsic downwards—for instance, those of the posterior columns. The best illustration of extrinsic elements of the lowest level is given by a consideration of what Sir William Gowers calls ataxic paraplegia. In this malady there is (1) disease of fibres of the lateral columns; those of these fibres which are of the pyramidal tract are fibres extrinsic upwards; there is also (2) disease of fibres of the posterior columns, fibres extrinsic downwards. Although both sets of fibres are solidly part of the morphological mass, the cord, neither is part of the anatomico-physiological community I call lowest level; they are (1) fibres connecting centres of that level with centres of the middle level; and (2) fibres connecting centres of the lowest level with parts of the body.

The next question is as to fibres extrinsic upwards connecting centres of the lowest level with the cerebellum. Connexion by sensory fibres is admitted; fibres of the "direct cerebellar tract" are fibres extrinsic upwards to the cerebellum. Connexion by motor fibres is not admitted. Marchi has described fibres "descending" from the cerebellum into the spinal cord, but these fibres have not been found by Ferrier, Aldren Turner and Risien Russell; recently M. Thomas has expressed his agreement with Marchi.

Sir William Gowers has put forward the hypothesis that, there being no known direct connexions between the cerebellum and motor centres of the cord, the cerebellum exerts a restraining influence on motor centres of the cortex cerebri and that the cerebellum co-ordinates movements by intermediation of these centres. There is an important experiment by Risien Russell in striking accord with Gowers' opinion that the cortex is restrained by the cerebellum; Russell found that after removal of one lateral lobe of the cerebellum, there was increased excitability of the motor cortex of the opposite cerebral hemisphere.

It is convenient to mention here certain of the most interesting and very wide-bearing researches by Dr. Sherrington on what he calls Reciprocal Innervation; his latest paper on this subject, written in conjunction with Dr. Hering, of Prague, was read before the Royal Society, Nov. 18th, 1897. A monkey (Macacus cynocephalus) is placed under ether or a mixture of ether and chloroform and during a stage when there is a maintained flexion of the elbow, to limit attention to that part, the cortical focus presiding over extension of the elbow is faradaically excited; the result of this excitation is an immediate relaxation of the biceps, with active contraction of the triceps; on discontinuing the excitation of the cortex the forearm usually immediately, or almost immediately, returns to its previous position of flexion which is again, as before, steadily maintained. Sometimes during the narcosis the arm assumes a posture of extension, tonic and maintained; if in these circumstances "the appropriate focus in the cortex, previously ascertained, for flexion of forearm or upper arm," is excited the triceps is found to relax and the biceps at the same time enters into active contraction. The authors write:[3] "It should be remarked that under use of currents of moderate intensity we find that not from one and the same spot in the cortex can relaxation and contraction of given muscles be evoked at different times, but that the two effects are to be found at different, sometimes widely separate, points of the cortex, and are there found regularly."

There are some very important and valuable researches by Löwenthal[4] of great interest in many ways, showing that the cerebellum has motor connexions with the spinal cord, if not direct connexions. Löwenthal observed that when the cerebrum of a dog was removed, excitation of a certain part of the cerebellum, acting when the spinal cord was in tonus, produced relaxation of the triceps and contraction of the biceps of the fore limb. Although Löwenthal has shown that excitation of the cerebellum produces motor effects without acting on the cortex cerebri (the cerebrum having been removed in the animals he operated on), it may be that in the coördination of movements of entire animals the cortex cerebri also is acted on by the cerebellum according to the hypothesis Gowers has stated—that the cerebellum in coördinating movements acts in two ways on the cord, directly and round by the cortex cerebri.

I have now to re-state an old hypothesis on dynamical relations of the two Sub-systems to one another by intermediation of motor centres of the lowest level.[5] Speaking very roughly and neglecting some parts of the body, the cerebrum represents movements of skeletal muscles in the order arm, leg, trunk, preponderatingly flexor-wise; the cerebellum represents movements of these same muscles in the order trunk, leg, arm, preponderatingly extensor-wise. It is also supposed that impulses from motor centres of the higher levels of each sub-system continuously act upon the motor centres of the lowest level which are common to both sub-systems; that the impulses from each set of higher levels antagonise, or inhibit, one another; that they do so in different degrees upon different lowest motor centres; and that the degree with which the cerebral or cerebellar influence preponderates is the same as the order of the degree of the different representation by the cerebrum and cerebellum of the muscles of the body. So to say, the cerebrum "has most of its own way" on the arm and most nearly fully antagonises cerebellar "influx" upon lowest motor centres for that limb; and in the same manner of speaking, the cerebellum "has most of its own way" on the trunk and most nearly fully antagonises cerebral influx upon lowest motor centres for that part. In accordance with this hypothesis, the rigidity in the common cerebral paralysis, hemiplegia, results because cerebral influence being taken off the lowest motor centres in the order in which the cerebrum represents movements, viz., arm, leg, trunk, cerebellar influence upon those lowest motor centres is no longer antagonised; there is then unimpeded, and therefore greater, cerebellar "influx" into the lowest motor centres which the cerebrum *has abandoned*.

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[2] The Functions of the Brain, second edition, p. 460.

[3] Proceedings of the Royal Society, vol. lxii., No. 381, p. 186.

[4] Löwenthal and Horsley, ibid., vol. lxi., No. 369, p. 20.

[5] See Medical Examiner, April 5th, 1877, and March 28th, 1878.

It was asserted against this hypothesis that, upon complete transverse lesion of the spinal cord above the lumbar enlargement—both cerebral and cerebellar influence being cut off from centres below the lesion—the legs are rigid and the knee-jerks exaggerated. But Dr. Charlton Bastian[6] has brought forward cases showing that upon *total* transverse lesion of the spinal cord above the lumbar enlargement the legs are flaccid and the knee-jerks absent. His conclusions are, I think, adopted by most neurologists in this country; they have been confirmed by Bowlby, Thorburn and Bruns (of Hanover).

I pointed out some years ago[7] that in some cases of total transverse lesion of the dorsal cord the knee-jerks, at first lost, have returned; in one case after being absent thirty-eight days, in another two years, although in neither case was there any return of motion or sensation in the legs. I have published[8] a dorsal case in which there ensued a loss of faradaic irritability in some muscles of the legs and diminished irritability in others; this case may seem to countenance the opinion of those who believe that the loss of the knee-jerks in cases of total transverse lesion of the cord above the lumbar enlargement is owing to morbid changes in lumbar centres secondary to the transverse lesion; but in the case remarked on, the knee-jerks returned showing that the lumbar centres concerned with these jerks were intact, at any rate in some degree; the returned jerks were not exaggerated. I have several times stated objections which may be brought against the theory of cerebral and cerebellar influx, some of which I admit to be serious. I am able to say that Dr. Bastian is in essential agreement with me as to cerebellar influx. I have, however, to mention that this hypothesis is not accepted by Bruns and Risien Russell,[9] and probably not by most neurologists.

There is another way of considering relations of the cerebral and cerebellar sub-systems to one another on the hypothesis of their having the lowest level in common; we can compare and contrast certain cerebral and certain cerebellar symptomatologies with one another as Complementary Inverses (Corresponding Opposites). Thus in cases of tumour of the middle lobe of the cerebellum there is paralysis in the order of loss of movements of the trunk, legs, arms; this is roughly the complementary inverse of Cerebral paralysis (hemiplegia) in which the loss of movements is in the opposite order, arm, leg, trunk. Another Complementary Inverse, an imperfect one, is cerebellar paralysis and rigidity (I used to call this the Cerebellar Attitude) with cerebral paralysis (hemiplegia) and rigidity. According to the hypothesis advanced the former is paralysis in cerebellar order with "influx" from the cerebrum; the latter is paralysis in cerebral order with "influx" from the cerebellum.

A more perfect Complementary Inverse is of a case of extensive cerebellar paralysis and rigidity, with the double hemiplegia and rigidity which constitute the symptomatology of an advanced case of paralysis agitans; in the former the general attitude is opisthotonic, in the latter slightly emprosthotonic. There is another Complementary Inverse; in some cases of tumour of the middle lobe of the cerebellum there are tetanus-like seizures the complementary inverse of cerebral convulsions. These tetanus-like fits being things paroxysmal, are of different nature from the persisting cerebellar paralysis with rigidity; as certainly as epileptiform seizures (epilepsy described by Bravais, 1827) are of different nature from cerebral paralysis (hemiplegia) with rigidity. I urge this because the tetanus-like seizures (cerebellar convulsions) look like mere temporary exaggerations of the "cerebellar attitude" in cases with which they may occur; they are really very different things.[10] The Tetanus-like seizures depend, I suppose, on *occasional* excessive *discharges* beginning in some part of the cerebellum and producing super-positive effects in cerebellar order, trunk, legs, arms; such a paroxysm (cerebellar convulsions) is, speaking generally, the Complementary Inverse of an Epileptiform or epileptic seizure (a cerebral convulsion) from *occasional* excessive *discharges* beginning in some part of the cerebral cortex and producing superpositive effects in cerebral order, arm, leg, trunk; whereas, as aforesaid, in the persisting cerebellar paralysis with rigidity, there are negative effects in cerebellar order, trunk, legs, arm with *continuous cerebral* influx invading (centre, for) the parts paralysed. I think the younger generation of Neurologists is not well acquainted with these cerebellar symptomatologies; some years ago Dr. Stephen Mackenzie and I investigated several such cases. I published a case of tumour of the middle lobe of the cerebellum with tetanus-like seizures.[11] I used to think that spasmodic drawing back of the neck was a cerebellar, and not a cerebral, symptom. Dr. Buzzard has, however, published[12] a case of retraction of the head from tumour of one temporo-sphenoidal lobe. Tetanus-like seizures occur in cases of glioma of the pons; I have pointed out that when there is cerebellar tumour such seizures (and I have only seen them with tumour) may be said to be owing to pressure on the adjacent corpora quadrigemina or subjacent medulla. Those who adopt the pressure hypothesis have, in some cases of tumour of the middle lobe of the cerebellum, not one thing, but three things to account for, (1) cerebellar paralysis, (2) cerebellar paralysis with rigidity (cerebellar attitude), and (3) tetanus-like seizures. Is it likely that pressure would produce these three very different symptoms?

I speak next of an important principle of Bernard's, one applied by Anstie and Thompson Dickson to nervous maladies. It may be said that every part of the body has some degree of autonomy, and is yet in subordination to, is directed and controlled by, the nervous system or some part of it; the heart has a great degree of autonomy, a skeletal muscle little. After a motor nerve to a skeletal muscle is cut the muscle is not quiescent; there are fibrillar contractions, over-action from loss of control. To go to the other extreme of the nervous system; in cases of post-epileptic mania there is over-action of lower "layers" of the highest level ("mental centres") from loss of function of the highest "layer" or "layers" of that level; "taking off" of the higher layer, Dissolution, is a "letting go" of the lower layers which are then not only no longer directed but also no longer controlled; hence their activities (evolution going on) are at a greater rate than normal. I have suggested that in cases of insanity the rate of "taking off" is a very important factor; that the more rapidly dissolution is effected the greater is the activity of the lower range of Evolution remaining. The senile dement, dissolution very slowly effected, is quiet; the post-epileptic maniac, dissolution very rapidly effected, is the most furious of all maniacs. I have called "the rate with which Dissolution is effected" the third Factor in Insanities.[13]

Another very important thing with regard to my subject is Regulation of the digestive, circulatory and respiratory systems. There are, I have put it, three factors in Regulation. Thus with regard to the respiratory system, there is (1) Nervous regulation; the respiratory, medulla, centre is probably to some extent automatic, goes on by itself; it is also influenced by impulses ascending the vagi and by the higher levels (by "upper brain tracts"); (2) There is Mechanical regulation, the elasticity of the lungs and of the costal cartilages (expiration in quiet breathing being chiefly recoil); (3) There is what, for want of a better term, I will call regulation by Chemical stimuli, and in this case by venous blood, a natural stimulus of the respiratory centres (deficiency of oxygen). With regard to chemical stimuli, a very bad term, I admit, I have suggested that effete nitrogenous products act as natural stimuli to the vaso-constrictor, medulla, centre before they are eliminated by the kidney. I have heard more than one medical man say that he felt better when a little gouty, better for mental exertion I suppose was meant. The late Milner Fothergill[14] said that "gout poison stimulates the intellect in the earlier stages of Bright's disease." I suppose that, owing to an excess of nitrogenous effetes, to an excess of its natural stimulant—the vaso-constrictor centre is highly stimulated in certain cases of Bright's malady, whereby general arterial tension is raised. And since the cerebral arteries have comparatively little muscular tissue (some physiologists consider it not demonstrated that these arteries have vaso-constrictor nerves) the result will be that the brain gets more blood and thus in the early stages of the malady it will be, at least in some ways, in better working order. This state of things is, however, more pleasant than safe; and yet a salutary reduction of high arterial tension by dieting and by medicines is not always appreciated by our patients. Schäfer's researches on the suprarenal capsules, his showing that an extract of the medulla of these bodies raises arterial tension, is very important in this connexion; arterial tension is raised by this extract, by its action on the muscular coats of the arteries. (It is possible that effete nitrogenous products act similarly and not on the vaso-constrictor centre as I suggested.) It will be seen that in speaking of Regulation and in particular of the factor chemical stimulus I have not been leaving the topic of this lecture; for example, stimulation of the vaso-constrictor centre of the lowest level will influence the higher levels of the cerebral sub-system; there is a roundabout relation between the lowest level and these higher levels; from high arterial tension the brain will get more blood, from low tension less blood.

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[6] Transactions of the Royal Medical and Chirurgical Society, 1890.

[7] THE LANCET, March 5th, 1892.

[8] THE LANCET, Dec. 12th, 1896.

[9] Philosophical Transactions of the Royal Society, 1894.

[10] I have compared and contrasted the symptomatology of tetanus, ordinary surgical tetanus, with that of cerebral convulsion (Medical Press and Circular, June 9th, 1880).

[11] Brit. Med. Jour., Nov. 4th, 1871.

[12] Brain, vol. iv.

[13] Medical Press and Circular, Jan. 13th, 1894.

[14] Journal of Mental Science, October, 1874, p. 401.

I have spoken of the possible "stimulation of the intellect," to use Fothergill's expression, in some cases of raised arterial tension. There is, I think, another way in which "the intellect" is affected in certain abnormal states. It has been suggested by Greg[15] (whom Fothergill quotes[16]) that bodily pain and disease "may directly contribute to the loftiest efforts of the intellect. They sometimes positively enhance its powers." Here is a very important question, too large a one to be dealt with fully here. I think that in some states of ill-health, sea-sickness, slight febrile ailments and in some states scarcely to be called abnormal, as in that of general bodily fatigue and that after taking a small quantity of alcohol (only as much alcohol, let us suppose, as, according to the Scotch witness, makes a man not worse, but "better for" liquor), there is increased mental activity *of a sort*, a great flow of ideas. In this mentation there is, I think, mainly an increase of the first "half" of thought, tracing resemblances, whilst the noting of differences, second "half" of thought is diminished; or, to use popular language, there is greater "brilliancy" with less "judgment." If so, it is not a desirable condition even from a non-medical point of view. From lowered arterial tension there may be, I think, much mental activity of the kind mentioned—a kind not likely to be that Fothergill meant when he spoke of "stimulation of the intellect" by "gout poison," if there was rise of arterial tension in that condition. I submit that from lowered arterial tension, the brain receiving less blood, there is some degree, even if a very trivial one, of dissolution of the highest level; only the very highest nervous arrangements of the highest "layer" of this level are, I shall suppose, put out of function or are lowered in function; thus the lower arrangements, those next to the highest, of that layer are in increased activity from loss of control by the now temporarily absent (functionally absent) highest nervous arrangements.

The Scale of Fits.—There are, I think, Lowest Level Fits, Middle Level Fits (the epilepsy described by Bravais, 1824), and Highest Level Fits (so-called idiopathic epilepsy).[17] I now consider only lowest level (ponto-bulbar) fits and only those of them which I think are respiratory. Other lowest level fits are producible by certain poisons, by camphor and absinthe, for example, and I think by some home-made poisons as in uræmic fits; there are, I think, still other lowest level fits analogous to fits producible in guinea-pigs by Brown-Séquard's method.

It is certain that there are respiratory fits in some lower vertebrates, or rather, such fits are easily producible in them by experiment. Kussmaul-Tenner fits in rabbits are of this kind; whether these fits are produced by ligaturing the great arteries of the neck, by rapid bleeding or by sudden obstruction of the trachea, they depend on absence of oxygen; in each there is an excessive discharge beginning in the respiratory, medulla, centre, I have suggested[18] that laryngismus stridulus in man (the infant human being)[19] and convulsions in some cases of whooping-cough in young children are fits beginning by excessive discharge of the respiratory centre.

I must here point out that Horsley and Semon think that attacks of laryngismus stridulus are of cortical origin; they have shown that discharge of the laryngeal centres of one half of the brain will close the glottis; they adduce the existence of carpo-pedal contractions in laryngismus stridulus as evidence favouring their view of its cortical origin. With great respect for the opinions of these men who have done such highly original work on laryngeal representation by the central nervous system, I think carpo-pedal contractions (very different phenomena from paroxysms or convulsion) are not owing to cerebral discharges, but to suspension of cerebral (middle level) influence on anterior horns (some lowest motor centres) for the hands and feet—the function of the cortical cells being, I mean when these contractions occur in cases of laryngismus, lost from supervenosity; the cells of the anterior horns for the hands and feet over-act from loss of cerebral control and perhaps also from greater cerebellar "influx."

I have only spoken of respiratory fits in very young children. It is current doctrine that very young children are prone to fits and I have now to consider how it is that they are prone or to those I call lowest level fits. The breathing of the infant is diaphragmatic; the pyramidal tract is not fully developed in the infant[20]; according to Soltmann inhibitory nervous arrangements are but little developed in very young animals and thus little in the human infant; it is well known that very young children tolerate large doses of belladonna (a paralyser of the endings of inhibitory vagus fibres in the heart). In the infant up to one year the respirations are 44; I suppose that this great rate signifies little cerebral inhibition of the respiratory, medulla, centre; this inhibition gradually develops in the infant as it grows older when breathing becomes less frequent. A healthy infant's breathing may be irregular with short pauses (Henoch) a slight resemblance to Cheyne-Stokes' respiration. Dr. Goodhart[21] remarking on Cheyne-Stokes' respiration writes: "The respiratory centre goes back to its less educated form, and reproduces, in an exaggerated way, the rhythmical character of the respiration that is more or less natural in infancy."

I submit then that we may conclude that, in comparison with the adult, the lowest level centres, especially the Superior Centres, are in infancy little governed (positive-motor), and little controlled (negative-motor or inhibition), by the higher levels—that the lowest centres, and in particular the respiratory, medulla, centre, are in consequence naturally, healthily, more excitable than in older people. Moreover the lowest level in the very young, the new-born, infant, although the most advanced in development of all three levels of the cerebral sub-system, is incompletely developed. It is perhaps partly owing to imperfect development of the cardio-inhibitory centre, or of fibres from it in the vagus (fibres extrinsic downwards) that very young children suffer more from supervenosity than adults do. I say this in consequence of certain remarks by Cohnheim,[22] "...... If the vagi be divided before occluding the trachea, the asphyxia apparently sets in more rapidly in some animals, and certainly the heart invariably becomes much more speedily paralysed than with the vagi intact."

I now consider in outline the Process of Evolution. Strictly we should begin with parts of the body; they make up the lowest level of evolution of the whole organism. I shall deal only with motor evolution, a very arbitrary proceeding since evolution is sensori-motor. I follow Herbert Spencer, using, however, terms more familiar to medical men than he uses. Spencer is not answerable for any misinterpretations I may make of his doctrines or for misapplications of any of them.

There are four factors in evolution. In the evolutionary ascent there is (1) Increasing Differentiation (greater Complexity), (2) Increasing Specialisation (greater Definiteness), (3) Increasing Integration (greater Width of representation), and (4) Increasing Coöperation (greater Association).[23]

(1) *Differentiation.* There is increasing complexity; greater complexity the higher the level. The lowest motor centres represent all the muscles of the body in few different

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[15] Enigmas of Life.

[16] Op. cit.

[17] I do not say that all fits *called* epileptic (so-called idiopathic) are owing to discharge-lesions of parts of the highest level. There are seizures *called* epileptic depending on discharges beginning in parts of the temporo-sphenoidal lobe; convolutions of these lobes may not be parts of the highest level.

[18] Brain, April, 1886.

[19] For an able criticism of my opinions on this matter, see a paper by Dr. Gay, *Brain*, January, 1890.

[20] I think the great liability of very young children to terminal tonic spasms (carpo-pedal contractions) is owing to incomplete development of this tract; cerebral control is in them easily removed, there being little to "take off."

[21] Clinical Journal, March 1st, 1893.

[22] Lectures on General Pathology, New Sydenham Society's Translations, vol. iii., p. 1089.

[23] The word comparatively is to be understood here and in many other places.

movements. The middle motor centres represent (re-represent) all the muscles in more numerous and more different movements. The highest motor centres represent (re-re-represent) all the muscles in most numerous different movements.[24]

Increasing differentiation is a passage from the simple to the more complex, there arising the higher the level more numerous intermediate degrees of difference between the most different movements represented.

(2) *Specialisation.* There is increasing definiteness of representation the higher the level. The movements represented by the lowest motor centres are for, comparatively, general ends, those represented by the middle motor centres are for more particular ends, and those represented by the highest motor centres are for most particular ends.

Increasing specialisation is a passage from the general or indefinite to the special or definite; there arising the higher the level more numerous intermediate degrees of definiteness.

(3) *Integration.* There is increasing width of representation by centres, the higher the level. Each of the lowest motor centres represents movements of muscles of some region (representation in detail). Each of the motor centres of the middle level represents movements of muscles of a wider region. Each of the (hypothetical) motor centres of the highest level represents movements of a widest region if not of the whole organism.

Increasing Integration is a passage from detailed representation, that is representation of a small region by each of a series of centres of a level (lowest) towards, or to, universality of representation, that is representation of nearly all if not all regions by each of a series of centres of a level (highest). It is very important to understand what is meant by Integration.[25] It may be roughly said to be an increasing "mixing up"; the centres of the middle level "mix up" the detailed representation by the centres of the lowest level; in the centres of the highest level the "mixing up" is so great that each centre or unit represents a great part or the whole of the body.

(4) *Coöperation.*—There is an increasing number of inter-connexions of centres the higher the level. The motor centres of the lowest level have few inter-connexions by fibres.[26] The motor centres of the middle level have numerous inter-connexions. The motor centres of the highest level have most numerous inter-connexions. There is a greater number of inter-connexions, the higher the level.

Increasing coöperation is a passage from centres (of the lowest level) greatly independent of one another in their operations, to centres (of the highest level) having a more nearly necessary concert with one another in their operations. (There is not only the unity of undifferentiation, but the unity of coöperation of the differentiated.)

I have in an earlier part of this lecture mentioned the Scale of Fits—Lowest, Middle and Highest Level Fits. I now attempt a comparison and contrast between middle level and highest level fits as depending on discharges of levels of the cerebral sub-system of different evolutionary grades; I have nothing to say as to the comparison and contrast of lowest level with middle level fits. The middle level fits I call epileptiform seizures; they were described by Bravais in 1827;[27] no one, nowadays, doubts that there is a discharge-lesion, or, perhaps, many would prefer to say "disease," of some part of the so-called motor region (Rolandic region) of the cortex cerebri of one-half of the brain in those cases. Highest level fits are those of the so-called idiopathic epilepsy, or, as I may roughly say, they are "ordinary epileptic fits"; I suppose that most of these seizures depend on a discharge-lesion of some part of the præ-frontal lobe (motor province of the highest level) of one-half of the brain.

The two kinds of fits are examples of *Dissolution being effected.* I submit that the differences in the paroxysms of the two kinds are such as might be expected if the evolutionary differences between what I call the motor province of the middle level and that of the highest level are such as were suggested when the Process of Evolution was considered. In making these comparisons and contrasts I suppose a very severe fit of each kind; in severest epileptiform and in severest epileptic fits there is universal convulsion; it is an error to suppose that an epileptiform seizure at first partial has, when become universal, "turned into" an epileptic seizure. We are obliged to consider seriatim things which occur together.

1. (*a*) An epileptiform seizure begins very locally; (*b*) an epileptic seizure begins comparatively widely. 2. (*a*) In an epileptiform seizure the commencing spasm is particular, there is in the commonest variety a particular disposition or attitude of the thumb and index finger; (*b*) in an epileptic seizure there is not such a particularity of onset. 3. (*a*) In an epileptiform seizure the movements of *each region* are (comparatively) slowly developed; (*b*) in an epileptiform seizure they are (comparatively) rapidly developed. 4. (*a*) In an epileptiform seizure the convulsion has a deliberate march, different regions of the body being involved, comparatively distinctly, one after another; the convulsion *becomes* universal gradually; (*b*) in the epileptic seizure the convulsion has a rapid march, different regions of the body are involved nearly together, the convulsion is universal almost at once. In the following two statements it is not meant that what is given after a figure in one is the exact correspondent of what is given after the same figure in the other.

Do epileptiform and epileptic seizures, differing (1) degree of localness of commencing spasm, (2) in degree of particularity of commencing spasm, (3) in degree of approach to simultaneousness of development of movements of *each region* and (4) in degree of approach to contemporaneousness of development of movements of *several* regions, differ in these four ways because they depend on discharges beginning in (some part of) two levels which differ in that their centres or units represent (1) different numbers of more different movements, (2) movements of different degrees of definiteness, (3) movements of regions of different extent, and (4) movements with different degrees of association with one another?

In accord with the foregoing hypothesis is the fact that the difference between the two kinds of fits is not absolute; in the epileptic fit one side of the body is, at least often, affected a little before the other (turning of both eyes and of the head to one side is common) and a little more than the other. Indeed, I think a very rapidly developed epileptiform seizure approaches an epileptic fit in character and that a very slowly developed epileptic fit approaches an epileptiform seizure in character; if so the hypothesis is further supported.

At the close of one Section of his very important work, L'Épilepsie (1852), p. 430, Herpin writes: "Nous aurons achevé cette longue section, quand nous aurons fait connaître quelques rapports qui existent entre la nature du début et l'intensité plus ou moins grande de l'attaque. Quand la période de crampes ou convulsions partielles initiales est prolongée, l'accès est le plus souvent incomplet ou fort court. Le cri unique et intense marque, au contraire, le début d'un accès violent. Plus la chute est brusque, plus ordinairement l'accès est fort. En résumé: *plus le début est long, moins la crise est violente; plus il est instantané, plus l'accès est intense.*" (Italics in original.)

I suppose that in cases of epilepsy and of epileptiform seizures there is a very local discharge-lesion (physiological fulminate) of a few highly unstable cells of one half of the brain. I have thought that there are certain differences in convulsions depending on differences in liberations of energy by nerve cells (nervous discharges). We have in the case of discharge-lesions to consider two things, or two aspects of one thing—quantity of energy liberated, and the rate of its liberation. With regard to convulsions produced partly directly but mainly indirectly by a discharge-lesion, we have to consider the degree of convulsion, the range of convulsion; and the time in which that range is attained, and particularly whether the onset of the fit is "deliberate" or "sudden." In two liberations of equal qualities of energy but at different rates there is the same momentum or quantity of motion; but the *force* of the more rapid, but shorter, liberation of energy will be greater than that of the slower and longer liberation. Using an old-fashioned term, the more rapid the discharge the more "intense" is the fit (*vide supra*, Herpin).[28] The more rapid the liberation of energy (primary discharge) by a discharge-lesion, the more numerous and greater the resistances which will be overcome, the more numerous collateral, healthy, comparatively stable, elements will be compelled to discharge (secondary discharges), and thus the more the amount of convulsion and the greater its range. What is said bears on the interpretation of paralysis after convulsion.

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[24] By re-represent I mean, as already said or implied earlier in the text, that the middle motor centres represent over again in more complex, &c., ways, what the lowest motor centres have represented in simplest ways and by intermediation of those lowest centres; by re-re-represent I mean that the highest motor centres represent over again what the middle motor centres (re-representative centres) have represented and by intermediation of those middle motor centres in most complex, &c., ways. This being explained, I shall in future use the word represent.

[25] The formula of evolution implies a doctrine of Localisation, and one very different from the current doctrine of "abrupt" localisation. Integration is ignored by the current doctrine. It is an exceedingly important factor. It is well stated by Dr. Mercier, who, dealing with Localisation in an article, Coma, in *Brain*, January, 1887, p. 480, writes: "In the lowest centres of all the localisation is no doubt extreme. Such centres represent a limited part of the body very strongly; they represent little else, and that little but feebly. But in the highest regions each centre represents a large part of the organism preponderatingly, a still larger part in less degree, and the whole of the organism in some degree. And in the intermediate centres the representation is intermediate in character, a larger or smaller area being preponderatingly represented, and the halo of partial representation being larger or smaller, while the intensity of the representation is less or more, according as the centre is more or less elevated in the hierarchy of the nervous system."

[26] Although I use the expression "connexion by fibres" any sort of physical junction or any kind of pathway, definite or indefinite, ensuring more or less certain coöperative activity of different nervous elements suffices for the hypothesis mentioned in the text.

[27] They are sometimes called "cortical fits," a term I do not use, as I believe that highest level fits (so-called idiopathic epilepsy) are cortical too, a different region of the cortex cerebi being effected in them.

I have suggested that the degree and range of paralysis after convulsion is proportionate to both the quantity and rate of the discharge in the paroxysm. I will now consider one aspect of this question; ignorance of physics will I fear prevent my dealing with the subject properly. It is well known that a ligature above (and some other disturbances of) a part of the body in which an epileptiform convulsion is starting, will sometimes arrest the convulsion, or will keep the spasm more local. I suppose the procedure mentioned leads to inhibition of the cortical cells discharging, stops their discharge or makes it slower (fewer nervous impulses in a given time). A consequence of the slackening of the discharge of the fulminate is that it overcomes the resistance of fewer collateral normal nerve cells, the answering convulsion being correspondingly limited; yet, in the narrowed limit, the convulsion is greater in degree, consequent on concentration of what discharge there is upon a part; the subsequent temporary paralysis is, I have thought, more limited, but greater in degree locally, and lasts longer. I have recorded[29] the case of a man who had fits beginning in his left foot. "The first shock was from the base of the great toe;" he became insensible and was not, he told me, locally paralysed after the paroxysms. At length he found that he could stop his fits, prevent the convulsion spreading, or rather that his son could, by rubbing the calf (the spasm being by the procedures adopted kept to the leg); *then the leg was always temporarily paralysed after each seizure.* I think it possible that in another case of an epileptiform seizure beginning in the left foot[30] my procedures to stop a fit I witnessed caused the spasm to be more limited in range, almost confined to the leg, and that consequently there was decided temporary local paralysis, of the leg, after the seizure; the arm was very slightly paralysed also. He had had three seizures before the one I saw, each beginning in his left foot; in the first and second he lost consciousness; in the third he did not; I got no account of any decided paralysis after the first three seizures, but he said he felt weak after the attacks and if this weakness were local, he was locally paralysed. But I see no warrant for concluding that he had any notable local paralysis after the first three attacks; after the fourth attack, the one I witnessed, there was great and lengthy (four hours) paralysis of the leg. The patient seemed to think that my attempts to stop the fit were the cause of his being paralysed after it. Had I not interfered, he would, I think, have had spasm less in amount *locally*, less in the leg, but greater in amount spread widely and rapidly, possibly universal convulsion; after the paroxysm he would have had, I suppose, a slighter degree of local, leg, paralysis, but more paralysis widespread. I consider that, if I did keep the convulsion limited to the leg and if I were thus the cause of that limb being so much paralysed after the attack, I did the patient good service. It is better to have convulsion limited to a leg than less convulsion of that part, but spreading to the respiratory muscles, and possibly all over the body. It is true that there may be more *local* paralysis when the seizure is limited in range, but then such paralysis is temporary. Surely it is better to have temporary paralysis even of much of one side of the body after a fit than to have that condition of the highest cerebral centres which loss of consciousness implies. I think the patient referred to had more local paralysis, but less paralysis altogether than he would have had had I not tried to stop his fit.

I admit difficulties in the way of the hypothesis I have stated as to the effects of the rate of discharge in a fit, on the degree and range of paralysis after the fit. It is right to draw attention to what a great authority in neurology, Sir William Gowers, has said against it. I refer to his important work on Epilepsy (p. 102). In his "Diseases of the Nervous System,"[31] he writes: "After a severe fit, it [paralysis] may be due to exhaustion of the nerve-elements, but the transient palsy that succeeds a very slight fit must be ascribed to inhibition of the motor centres. ...... Just as such a discharge in the sensory centre may, as we have seen, set up secondary discharge in the motor centre, so it may, when slight, merely inhibit the centre." I believe, but I dare not be sure, that I have always applied my hypothesis to cases of paralysis *following convulsions*; I do so in this lecture. It is possible that, as Gowers supposes, sensory discharges may inhibit motor centres in those paroxysms in which there is little or no spasm and in which there is much post-paroxysmal paralysis.

I now make some general remarks on Dissolution. Dissolution from disease is rarely if ever the exact reverse of Evolution. Thus, in progressive muscular atrophy, in which malady *motor* centres of the lowest level are involved, there cannot be the exact reverse of evolution which is on a *sensori-motor* basis. Another example; there are different kinds of insanity, to mention two, general paralysis and melancholia; as they must be owing to disease of different regions of the highest level (different parts of the "mental centres") neither of them is a Dissolution the exact reversal of Evolution of the whole level.

When we consider nervous maladies as Dissolutions we have to bear in mind not only the Dissolution, that which is effected by disease in the sense of pathological change, but also the Evolution going on in the undamaged, healthy, remainder. There are some obvious exceptions to the implication that a range of evolution remains in cases of Dissolution; for example, in absolute dementia, if there be such a thing, there is no lower range of evolution remaining in the highest level, all "layers" of it being functionless. Taking the case of insanity for illustration, and ignoring that extreme degree of it which I have spoken of as absolute dementia, I submit that whilst the negative affection of consciousness in every insanity answers to the Dissolution, loss of so much, the positive mental symptoms, illusions, delusions, &c., signify Evolution going on in the healthy remainder, going on in parts which disease has spared, going on on a lower, but now the highest, range of Evolution of the highest level.

I wish to draw particular attention to another matter regarding Evolution and Dissolution in nervous maladies. I have elsewhere spoken of Dissolution by disease as beginning in the latest developed; this, I now think, may be true or untrue according to the meaning we give to the word "developed." It is notorious that the hand is frequently affected in nervous maladies, the thumb and index finger often suffer. Yet, embryologically, the hand appears before the other segments of the arm, and the radial digits appear before the ulnar fingers. It is well known that the hand is a part of the body which is late in coming into full use. With regard to Dissolution exemplified by morbid affections of this region of the body, I would now say that Dissolution begins in the "earliest appearing," but "latest perfected" parts of the arm. I am too ignorant of Embryology to be able to say how far the same principle may apply—whether or not the latest perfected is as a rule the earliest or the early appearing; appearing in a more or less rudimentary degree or crude form before it is perfected.[32]

Dissolution is from the least towards the most organised. It is necessary here to remark that such an expression as "high organisation" is not, when used with regard to the nervous system, synonymous with most complex, &c.; indeed, the most complex, &c., nervous arrangements, centres and levels, are the least organised; the most simple are the most organised. Thus the centres of the lowest level are much more strongly organised than those of the highest level are. It is very important to bear this in mind. A man deeply comatose from sucking raw spirits out of a cask and whose highest level, or presumably most of it, is rendered quite functionless by much alcohol rapidly taken, recovers because the "vital" centres of his lowest level are very strongly organised and go on working, although imperfectly, when the comparatively weakly organised centres of his highest level have "given out." If the "vital" centres of the lowest level were not strongly organised at birth life would not be possible; if the centres of the highest level ("mental centres") were not little organised *and therefore very modifiable* we could only with difficulty and imperfectly adjust ourselves to new circumstances and should make few new acquirements. The highest level is supposed to be less and less organised and therefore less and less automatic, the higher its "layers"; the highest layers are the least organised, least automatic,[33] and their activity is attended by most vivid consciousness; they are most easily rendered functionless by certain general injurious agencies, such as alcohol, by great heat in febrile diseases, &c.

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[28] On a pu voir que, dans les attaques les plus intenses de notre échelle, les convulsions sont générales. Herpin: De L'Epilepsie, p. 450.

[29] The Lancet, May 16th, 1868.

[30] Medical Times and Gazette, Feb. 12th, 1888.

[31] Second edition, p. 743.

[32] Spencer writes, Principles of Sociology, vol. i., p. 472: "...... it happens that entire organs which, during the serial genesis of the type, came comparatively late, come in the evolving individual comparatively soon. This, which Professor Haeckel has called heterochrony, is shown us in the early marking out of the brain in a mammalian embryo, though in the lowest vertebrate animal, no brain ever exists.'

There is another relation of the several levels to one another, the consideration of which is very important, from a medical point of view. Schroeder van der Kolk[34] has stated that the spinal cord of a sturgeon weighing 120 lb. is about equal in thickness to that of a frog; he says "that the more complicated their [animals] movements, the more numerous will be the ganglionic cells with their several groups, and thicker will be the anterior horns and the masses of grey substance in the spinal cord." Herbert Spencer has written to the same effect, but more generally.[35] The principle involved is well illustrated by Horsley and Schäfer[3] when speaking of what they call the trunk area of the motor region of the cortex cerebri; they write: "It certainly is not a little remarkable that the numerous and powerful muscles of the spine should be governed from so small a portion of the cerebral cortex, but it is to be remembered that the movements of which the spine is capable are comparatively few and simple."

It would seem that motor centres are voluminous—contain more cells and fibres—not in proportion *to the size of the muscles* they represent, but in proportion *to the number of different movements of muscles* which they represent; the higher the level the more numerous different movements does it represent, along, of course, with corresponding impressions (sensory element) which I am neglecting; hence a greater number of cells and fibres the higher the level. It is clear that the cerebral hemispheres are much more voluminous than all the centres of the lowest level put together are; moreover, there are the centres of the cerebellum which, or some of which, it has been suggested, represent by intermediation of the lowest level very many different movements of all parts of the body, most especially movements of large and powerful muscles those of the trunk and legs (locomotion). I now, however, deal with the cerebral sub-system only.

I think we may say that the higher the level (I shall limit consideration to the motor provinces of the levels), the more tolerable is destruction of a given number of cells (destruction-lesion) and the more intolerable is high instability, instability far above normal, of an equal number of cells (discharge-lesion). For the higher the level the greater is its "intricacy" (See part of the lecture on the Process of Evolution for qualifications of what follows). To take the case of destruction-lesions first. Suppose destruction of so much (1) grey matter of motor centres of the lowest level as would paralyse one arm completely; I submit that a loss of (2) the same quantity of grey matter of the "arm centre," a motor centre of the middle level, would produce only weakness of the limb, and that (3) a loss of the same quantity of grey matter of the motor province of the highest level, of any part of it I may say, would produce scarcely any, if any, *obvious* effect on the arm. If what was said of the evolutionary process be true, it is clear that the higher the level the greater the Compensation for a destruction-lesion, or, as I just said, the more tolerable is that kind of lesion. It is quite otherwise in the case of discharge-lesions, or, synonymously, physiological fulminates; indeed, there can be no compensation[37] for a discharge-lesion. I have nothing definite to say of persistent discharge-lesions of the lowest level, although I suppose there are such lesions in cases of the third division of lowest level fits, those in man which are analogous to the fits produced in guinea-pigs by Brown-Séquard's method. I only deal with effects of persisting discharge-lesions of parts of the middle and highest levels, that is, with epileptiform seizures (the epilepsy described by Bravais, 1827) and with seizures of so-called idiopathic epilepsy. The highly unstable cells of a discharge-lesion (or fulminate) remain connected with other (no doubt, in gradually increasing degrees of indirectness, with all other) normal, comparatively stable, cells of the level of which such a lesion is a small part; and most of the fit is beyond question owing to secondary discharges (induced by the primary discharge, that of the fulminate) of these normal cells, with next discharge, of course, of cells of a lower level or of lower levels. The higher the level the more numerous are the normal cells which, upon discharge of the local fulminate, can be compelled to Coöperate in Excess; since the higher the level the more "intricate" it is, there being the greater number of fibres (intrinsic elements) inter-connecting cells of the level, as well as a great number of fibres to cells of lower levels (fibres extrinsic downwards). Coöperation in Excess is, so to say, Compensation Inverted. The two things Compensation for a destruction-lesion and Coöperation in excess for a discharge-lesion are to be carefully considered with regard to principles of Localisation. The motor province of the highest level (pre-frontal lobe) is not more, or not much more, voluminous than is the motor province of the middle level; I now consider this matter.

Evolution is not an "even process," not one to be exactly symbolised by the raising of an expression to a higher power, by what is called Involution in algebra. If I may put it so, increasing evolution in the nervous system may, at least in some cases, be likened to the raising of some parts of an expression to a higher power than other parts of that expression are raised to. From theoretical considerations I think that in man the motor province of the highest level, a division of the "mental centres," represents very many movements of parts of the body which have small muscles,[38] and that it represents comparatively very few movements of parts having large muscles. If so it especially represents most complex, &c., movements of the ocular muscles, of the muscles of the hands, and of those of the tongue, lips and palate; these are movements represented (of course, with corresponding sensory elements) in the physical bases of visual and tactual ideas and of words in the highest level ("mental centres.")

The main elements of that part of mind which is commonly distinguished as intellect from the other part called emotion or feeling, are visual and tactual ideas and words. Much the greater part of mentation, both in the sane and the insane, is carried on in Visual ideas; if all Visual ideas were cleared out of a man's mind he would be practically mindless. Further, much mentation is carried on in Tactual ideas. Herbert Spencer[39] has pointed out that intelligence in animals is proportionate to the development of tactual organs; to use his words, "a highly elaborated tactual apparatus comes to be the uniform accompaniment of superior intelligence." He writes[40] that "tactual impressions are those into which all other impressions have to be translated before their meanings can be known"; again (p. 362) he writes: "that the most far-reaching cognitions, and inferences the most remote from perception, have their roots in the definitely combined impressions which the human hands can receive." In this regard we have also to bear well in mind that movements of the hand and arm serve in very many important "voluntary" operations, in manipulations, such as writing, &c. I have suggested[41] that the nervous arrangements in the highest level for such movements have psychical concomitants (so-called "ideas of movements"). Duchenne insists strongly on the high importance of the flexor longus pollicis in man—"qu'il aide, en un mot, à l'exécution des travaux manuels qui sont à la hauteur de son intelligence supérieure."[42] The thumb has eight muscles; it and the index finger together are "the most intelligent parts" of the body. As to Words, since speaking is propositionising, I suppose no one denies that they serve in all higher thought[43] in what has been called conceptual thought. I think that the physical bases of the psychical things we call words are audito-articulatory nervous arrangements, and believe that highly complex and special movements of the tongue, lips and palate are represented in the highest level. I have neglected emotional manifestations and now deal with them only so far as skeletal muscles are concerned in them. Herbert Spencer has some important remarks on the engagement in these manifestations of muscles according to size:[44] "Muscles which are large, and which can show states of contraction into which they are thrown only by moving limbs or other heavy masses, will yield no signs; while small muscles and those which can move without overcoming great resistances, will visibly respond to this feeble wave."

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[33] We should not speak of degrees from most automatic to most voluntary, but of degrees from most to least automatic.

[34] On the Spinal Cord and Medulla Oblongata and on Epilepsy, p. 64, New Sydenham Society's Translation.

[35] Principles of Psychology, vol i., p. 35 and 56.

[36] Philosophical Transactions of the Royal Society, vol. 129, 1888, B.

[37] Perhaps the highly unstable cells of a discharge-lesion are useless for *normal* function; for this uselessness there may be compensation. In the text I am speaking of the cells of a discharge-lesion on the occasions when they are excessively functioning.

[38] There are certain qualifications to be given to the expression "small muscles" for which I refer to my second Lumleian Lecture, THE LANCET, April 5th, 1890, p. 758.

[39] Principles of Psychology, vol. i., pp. 358 and seq.

[40] Op. cit., p. 358.

[41] Medical Press and Circular, Aug. 30th, 1893.

This evidence points, it is suggested, to the conclusion that the "mental centres" or, as I say, centres of the highest level, represent vast numbers of movements of parts having small muscles, although few movements of parts having large muscles. We have in this connexion to take into account the innumerable combinations into which visual ideas, tactual ideas, the psychical states concomitant with activities of nervous arrangements of the highest level for manipulatory movements, words and emotions can enter; consider too what is involved on the physical side in our seeming to see solidity and hardness when these are merely inferred. The implication is that there are vast numbers of fibres in the highest level ("mental centres") interconnecting the physical bases of the psychical states mentioned. We may, I think, conclude that the higher level, although not more voluminous, is more "intricate" than is the middle level as that is than the lowest; and consequently that a destruction-lesion of a part of the highest level is much more tolerable than one of an equal quantity of the middle or lowest; the opposite for discharge-lesions.

It is interesting that[45] after amputation of limbs the parts of the lost members which remain spectrally present to the patients are the terminal parts, hand and foot; it must not be forgotten that they can "move" these spectral parts. The sufferers are in most cases unconscious of the part between the phantom hand or foot and the stump, if I may be pardoned the expression; they are "conscious of the parts" having small muscles, or we may say those parts are mentally present to them. This does not show that the intervening parts, those having large muscles, are not represented at all in the highest level; on faradaising nerves of the stump the whole limb "comes back," becomes spectrally present to the patient (Weir Mitchell). Here is some indirect evidence that parts, those of the arm at least, having small muscles are more represented in the highest level than are the parts having large muscles.[46] Now perhaps will be understood what I meant when I spoke of nervous arrangements in the highest level for manipulatory and other "voluntary" movements having psychical concomitants (so-called "ideas of movement").

In this connexion I draw attention to a very interesting paper by Mr. F. H. Bradley.[47] In introductory remarks Mr. Bradley asks: "Why, when we strive to move in dreams do we not always move?" Perhaps this inability accords with the hypothesis that large movements (those especially engaged in locomotion) are but little represented in the highest level ("mental centres"). Mr. Bradley makes the interesting remark that dream-movements are easier in some dreams, "thus for example, it is common to move the lips and tongue and fingers," parts having small muscles (I have been told by several people that they can move in dreams).

A man may have a dream in which he cannot do something he earnestly wishes to do—cannot, for example, move away when naked in very awkward circumstances. I believe the physical side of this inability to act in a dream is partly because locomotor movements, movements of large muscles, are little represented in the highest level and partly because the discharges of the highest level corresponding to the ideation of the dreamer (incipient action) are not strong enough to overcome the resistance of the motor centres of the middle level; when they become strong enough to do so the patient awakes, or perhaps there is somnambulism. The motor centres of the *middle* level which especially represent small muscles, seem, having regard to the researches of Betz, Mierzejewsky and Bevan Lewis, to have most small cells whilst those centres of this level which represent large muscles have many large cells. The larger the motor cells of this level the greater resistance, I imagine, do they offer to discharges of motor cells of the highest level. I will now consider some parallel conditions from cases of epilepsy; some preliminary remarks are needed.

When speaking of dreams we are dealing with (correlative) normal discharges of nervous elements perhaps slightly greater than in waking; when speaking of an epileptic paroxysm we are dealing with a *suddenly occurring* and *excessive* discharge beginning in *part* of the highest level (*vide* supra). This distinction must be well borne in mind; the matter is, however, not simple. *After* an epileptic fit there may be elaborate actions and these result, I consider, from discharges which are very much slighter in degree than the excessive discharges productive of the prior paroxysm; the discharges to which the actions answer are, I think, only a considerable exaggeration, from loss of control, of normal discharges.

In some minor fits of epilepsy (so-called idiopathic) there is, speaking clinically, cessation of consciousness and there are very few and slight peripheral effects. This is a very remarkable thing; I suppose the explanation is that the currents from the local discharge-lesion of some small part of the highest level are, on account of the resistance of the motor centres of the middle level, almost confined to the highest level and therefore irradiate widely in it; I think the parts of the body affected in the slight convulsion of such minor seizures are those having small muscles, the cells of the middle centres for them having small cells and being paths of little resistance. I should, however, like to have more precise observations on paroxysms of minor epilepsy before concluding on the nature of the slight convulsions in them. (I am speaking of skeletal muscles not of the musculature of arteries, intestines, &c.) It is well to say here with regard to slight seizures of epilepsy, that it is imperative to distinguish movements properly-so-called, such as of chewing or tasting, twiddling the fingers, &c., from those contentions of many movements, even of limited parts, which we call convulsions.

According to many eminent alienist physicians greater mental deterioration occurs in cases of epilepsy with minor attacks, than in cases with the greater attacks; if this be so it may depend on wide irradiation in the highest level during these slight paroxysms, the discharges being "pent up" in it, and being frequently repeated. Temporary improvement in mind may occur in some epileptics subject to many slight fits after a severe fit. I once congratulated a mother on the fact that her son had not had a severe epileptic fit for a long time; she, however, regretted it saying that a severe fit "cleared his system," whilst the slight fits from their frequency rendered him unable to go to business. (What she called "clearing" the system we may call "relieving tension" of the highest level.) Dr. Campbell Clark[48] writes: "...... Experienced and observant attendants will tell you in the wards, pointing to individual cases of epileptic excitement, that the patient has only had 'choked-off' fits, and that as soon as a major fit appears the mental symptoms will subside."

What I have said shows that we have to consider nervous centres not only, to speak very roughly, as "reservoirs of energy," but also as "resisting positions"; the resistance of a nerve cell has to be overcome before it is discharged. Patients who have long had such minor fits of epilepsy ("idiopathic") as I have just mentioned do not become subject to their worst fits (les grands maux) by having seizures of intermediate degrees of severity; some sad day the patient instead of having a minor fit (le petit mal) has a very severe one (le grand mal). I suppose this means that on that day the cells of the discharge-lesion of the highest level had become more numerous or so much more highly unstable as to be able on their discharge to overcome the resistance of, to "break through," the middle motor centres, large as well as small cells; after which the lowest centres would be overcome and discharged (all three levels of the central nervous system are concerned in severe fits of epilepsy—"idiopathic"); finally, the periphery (ento and epi)—lowest level of the whole organism—would be gained.

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[42] Physiologie des Mouvements, p. 251.

[43] Of course other symbols (pantomimic) in propositions serve in the mentation of untrained deaf-mutes.

[44] Principles of Psychology, vol. ii., p. 542.

[45] Weir Mitchell: Injuries of Nerves, Chapter xiv., 1872.

[46] It is, however, trusting to this implication, difficult to understand how it is that the foot is so much represented in the highest level (in the "mental centres").

[47] Mind, July, 1894, p. 373, On the Failure of Movement in Dreams.

[48] Mental Diseases, p. 227

To return to some states of sleep for a while. Suppose a man is asleep and dreaming; for this double psychical condition of two opposites, there is a corresponding double physical condition, also of two opposites, of the highest level; there is loss of function of, I will suppose, the highest "layer," answering to the negative part of the sleeper's mental condition and there are increased activities of the uncontrolled lower layers which answer to the mentation of his dream. The nervous activities correlative with the mentation of his dream are, I suppose, confined, or nearly confined to his highest level, the nerve currents not being strong enough to overcome the resistance of, or of but few of, the elements of the middle motor centres; there is therefore wide irradiation of these "boxed-up" currents in the highest level. But if the dream becomes very vivid and, correspondingly, the correlative nervous activities very strong, the resistance of the motor centres of the middle (and next that of those of the lowest level) is overcome; the middle motor centres *being overcome* are *then* paths (downward) of least resistance; the irradiation in the highest level will be much less wide; the dream ceases, or rather its mentation merges into, or gives place to, waking mentation. I will now take a case of somnambulism, sleep with elaborate actions; from this condition, the rule is, nothing is remembered on full awakening. In this case the middle centres are overcome; if they were not (and after them the lowest), there could be no actions; thus the nerve currents are not confined to the highest level and consequently, in comparison with what occurs during a dream, there is less wide irradiation in that level and consequently the dream is very faint, or possibly there is no dream. To say that there is no dream in somnambulism is however to say more than one can know; it is better to say that nothing is remembered from the state of somnambulism on awakening. Here is an old question. Is even deepest sleep ever dreamless? (Leibnitz, Kant, Jouffroy, and Sir W. Hamilton thought sleep was never dreamless.) I feel sure that in somnambulism there are some nervous activities of lower layers of the highest level, determining, by sub-agency of motor centres of lower levels, the elaborate actions of the somnambulist; there may or may not be mentation (a dream unremembered on recovery) attending those activities.

Such relations between the different levels as I have illustrated by different states of sleep are very important with regard to epilepsy, especially a particular variety of it; I mean cases in the minor paroxysms of which there is the so-called intellectual aura, or, as I prefer to call this very elaborate mental condition, the "dreamy state." The patient on coming fully round from his fit and its effects remembers that mental state (else we should get to know nothing about it); but when *after* the fit in which it occurs there is a stage of elaborate actions with so-called loss of consciousness, he remembers nothing from that state. I think it unlikely that the "dreamy state" ceases when the patient begins to act notwithstanding that he remembers nothing from that stage; more likely it diminishes and *becomes more definite*. In some cases there is a traceable community of nature between the "dreamy state" and the subsequent actions; I have spoken of such cases.[49] "A patient of mine had the 'dreamy state' of 'being somewhere else'; after the paroxysm he, as his friends put it, 'made for the door.'" Here I believe is the explanation of so-called Procursive Epilepsy. I do not think that anything like an *epileptic* discharge would cause a man to run; the running in these cases begins, I believe, when that discharge is over, but before the highest layers of his highest centres rendered functionless by that discharge have become again functionable; the running is determined by activities of lower layers of the highest level (with concomitant dream), with sub-agency of the middle and lowest levels.

Clinical Lecture

ON

A CASE OF CHRONIC MEDIASTINITIS.

Delivered at Paddington Green Children's Hospital on Dec. 13th, 1897,

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GENTLEMEN,—The case which I bring before you to-day is not a common one, but its interest lies not so much in its rarity as in the physical signs which are extremely instructive. It is an advantage from some points of view to be able to recognise a leading symptom, to label the disease, and at once to prescribe the appropriate treatment, but this does not conduce to much thought or to much progress in knowledge. There are advantages, on the other hand, in considering a case like the one before you because the history and the physical signs must be carefully gone into and the diagnosis can only be reached by a process of reasoning based on a careful study of all the symptoms present. Further, this is not an affection much referred to in the text-books, but it is none the less important, and when once you have studied one case you are much more likely to recognise the next that presents itself.

Six months ago this boy, who is now eight years old, was brought to the hospital because of swelling of the abdomen and exhaustion with shortness of breath on exertion. The symptoms had commenced some months previously and the medical man who was called in found that the patient was suffering from heart disease. There had been no œdema of the lower limbs, but the face was noticed to be rather puffy about the eyes. His previous health had been good on the whole. Three years previously he had had an attack of left-sided pleurisy with effusion. In infancy he had suffered from rickets and bronchitis and at the age of three years he had been troubled with a paroxysmal cough. He had never had scarlet fever, chorea, or "growing pains." There was an absence of any constitutional disease in the family history.

Examination on admission showed that the boy was rather thin with some puffiness about the eyes and a dusky colour on the cheeks, lips, and tongue. There was no œdema of the extremities but the finger- and the toe-nails were somewhat blue and the superficial veins generally were dilated. A prominent feature was the large globular abdomen, measuring 27 in. in circumference, which was distended with free fluid so that normal intestinal resonance was present only over a small area around the umbilicus. The fluid also passed in front of the liver which could be felt on dipping to extend for some distance below the costal margin. The spleen was not enlarged, but the tense state of the abdominal wall prevented any complete examination at this stage as to the presence of enlarged glands or other growths. The respirations were short and rapid but not accompanied by any signs of dyspnœa or by coughing. The expansion of the chest wall was limited and the percussion note generally was not good, there being distinct impairment over the left base anteriorly and posteriorly. The breathing was harsh vesicular back and front for some distance around the mid-line and rather faint in the axillæ and at the bases of the lungs. Cardiac pulsation could not be determined by palpation, but on percussion the area of dulness was not apparently enlarged. At the apex the sounds were weak but regular and no murmur or other evidence of organic disease could be detected. The urine was of normal amount and specific gravity and contained no albumin or sugar. Thus far we were not able to come to any definite diagnosis. The boy was put on a diuretic mixture and mercurial inunction was ordered for the abdomen. At the end of a fortnight the fluid in the abdomen had increased and in addition the heart was weaker and more irregular, the breathing was more laboured, the face was more puffy and more cyanosed, and albumin was present in the urine. Accordingly the abdomen was tapped and 106 ounces of clear albuminous fluid were drawn off with great relief to the patient and with the disappearance of the pressure symptoms just mentioned. Examination now showed the liver to be enlarged downwards, the lower border extending to the level of the umbilicus. The substance felt firm, the margin was sharp, and it was thought that the surface was rather irregular. With this exception nothing abnormal could be detected in the abdominal cavity.

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[49] Lectures on the Diagnosis of Epilepsy, Medical Times and Gazette, vol. i., 1879, p. 143; at p. 225 op. cit.

Now, if you examine the abdomen to-day you will find that the condition is very much as I have just described it. During these six months the abdomen has been tapped eleven times and fluid varying in amount from seven to ten pints has been drawn off. The liver appears to be somewhat smaller and harder than it was, but I cannot detect any marked irregularity—certainly there are no definite nodules. The abdominal wall seems thickened as if from peritonitis, but there are no adhesions, as evidenced by the completeness with which the fluid is evacuated on tapping. Consider next the boy's general condition. He is sitting up in bed in his usual position and with his usual expression of placid contentment. If you ask him he will assure you that he has at present no pain or discomfort of any kind and that he eats and sleeps well. Perhaps I should qualify the last statement by saying as far as his duties allow him, for he acts as his own clinical clerk and carefully records any symptom which may arise during the day or night. His temperature, apart from complications to which I shall refer, has been normal. The urine at times is scanty and contains albumin, more especially when there is great abdominal distension, but this condition passes off after tapping and there are no tube casts or other signs of renal disease. The state of the heart has not materially altered. The sounds are still rather weak and the pulse is soft. He has had several attacks of follicular tonsillitis with considerable pyrexia. You will observe the dusky appearance of the lips, tongue, and fingers which was present on his admission and which is practically unchanged. There is, however, some clubbing of the fingers and toes which is of more recent development. We have been a good deal occupied in observing the pulmonary conditions and to the history of these I wish to direct your careful attention. About a month after admission he developed a cough which increased rapidly in intensity and became of so explosive a character that, whooping-cough being suspected, he was removed to the isolation ward. During the course of the next seven weeks this cough persisted and at times was of an extremely exhausting character. It was paroxysmal in type, most severe at night, and during an attack the face became much more swollen and cyanosed. Soon after the onset hæmorrhage occurred in the lower eyelids and under both conjunctivæ so that the whites of the eyes were entirely concealed by extravasated blood. Vomiting followed an attack of coughing on a few occasions, but there was never any whoop or epistaxis. The signs in the chest were those of bronchitis, there being numerous moist and dry catarrhal sounds distributed generally over both lungs. During this illness there was œdema of the chest wall and very marked dilatation of the veins in the upper part of the thorax. Careful examination was made as to the presence of any mediastinal affection but no dulness on percussion or alteration in the breath sounds could be determined. The expectoration was extremely scanty, frothy, and at times blood-stained. You will observe that these signs—with the exception of the absence of any whoop—would fit in very well with a diagnosis of whooping-cough. The signs, however, are not diagnostic of whooping-cough but are indications of the severity of the cough, being most frequently associated with that affection but occurring with any spasmodic cough of sufficient violence. We hesitated for some time but have now come to the conclusion that it was not whooping-cough. Since the acute attack there have been others of shorter duration but presenting the same violent paroxysmal useless cough, which does not seem to be induced by any intra-pulmonary condition, but which may lead to some pulmonary catarrh with scanty frothy sputum. At times also there have been evidences of pulmonary œdema affecting the right or the left base or both bases. About two months ago we found that there was some impairment of resonance over the upper part of the sternum, which has gradually extended on each side and now dulness has become quite marked. Soon afterwards coarse pleuritic friction was detected over the sternum and passing downwards to the axillary regions on both sides. This pleurisy was unaccompanied by any pain or pyrexia and was accidentally discovered. The friction, which is of an extremely coarse grating character, is still well marked, especially after the abdomen has been tapped and the respirations have become fuller. It can then be traced from the mid-line in front outwards into the axillæ, downwards over the hepatic region to the costal margin, and around the bases of the lungs to the back. You will also be able to make out the definite dulness over the mediastinal region anteriorly with very harsh bronchial breathing over a larger area than normal.

Now let us consider the question of the diagnosis. On the boy's admission the ascites was the most prominent sign and naturally led us to think of the three great causes of that condition—cardiac, renal, and hepatic. Although the heart-sounds were weak there was no evidence of dilatation or hypertrophy or valvular disease. Further, although enlargement of the liver with ascites may be a prominent sign of failing power or failing compensation in the heart we should expect a more generalised œdema and more marked cardiac changes than were present in this case. As regards primary kidney disease the normal condition of the urine and the absence of general dropsy and other renal symptoms led us to exclude this possibility. In the subsequent progress of the case the temporary albuminuria and oliguria could be explained by the pressure of the ascitic fluid. A more satisfactory diagnosis seemed to be indicated by the association of an enlarged liver with ascites and for a time we regarded the case as one of hepatic cirrhosis with impediment to the portal circulation. This, however, was entirely a provisional diagnosis, made rather on account of the absence of positive signs of any other lesion. There was no history of alcoholism, which is of course the commonest cause of cirrhosis, or of syphilis. As time went on there was no further evidence obtained of hepatic cirrhosis—that is to say, the spleen was not enlarging, the appetite was good, there were no symptoms of intestinal catarrh or congestion, and there was no progressive ill-health. Amongst the other abdominal conditions which presented themselves in considering the possible diagnoses was that of chronic peritonitis, which is not unfrequently accompanied by considerable enlargement of the liver. Against this you will remember that the fluid was large in amount and free in the peritoneal cavity, whereas in peritonitis it is usually small in amount and shut off by adhesions. That there is now a certain amount of chronic peritonitis I believe to be extremely probable, but I regard it as the result and not the cause of the ascites. A diagnosis, then, either of hepatic cirrhosis or of chronic peritonitis has not been adhered to because (1) the symptoms in the abdomen were stationary—that is to say, both the ascites and the condition of the liver are practically the same to-day as they were six months ago; (2) the abdominal symptoms appeared passive rather than active, there being an absence of all pain, tenderness, or intestinal disturbance; and (3) our attention was directed to changes in another part of the body.

Let me ask you to assume for a moment that there has been at some previous period inflammation of the lymphatic glands in the mediastinum and that this has led to enlargement and matting together of these glands with chronic inflammation extending into the surrounding structures. In the earlier stages we cannot make out these changes by direct examination, we can only form an opinion from the results of the pressure on air passages, blood-vessels, and nerves. I suggest to you here that there has been pressure on the superior vena cava as manifested by the prominent veins in the arms and neck, the puffiness of the face, and the duskiness in the cheeks, lips, and tongue. Further, I suggest that there has been pressure on the inferior vena cava in the chest as evidenced by the enlarged liver and ascites and pressure on the pulmonary veins as evidenced by the attacks of pulmonary œdema, dyspnœa, and catarrh. Again, I suggest that there has been pressure on the bronchi or on the nerves supplying the bronchi as evidenced by the paroxysmal cough which has been so persistent. I also suggest that there has been an extension of the chronic inflammation to the pleura as evidenced by the presence of coarse pleuritic friction appearing first at the sternum and extending outwards on both sides. Finally, I suggest that there has been a steady increase in the size of this mediastinal growth as evidenced now by dulness on percussion over and around the sternum and the loud conduction through this mass of the sounds from the bronchi lying beneath it. The assumption I have made as to a mediastinal lesion is the only one which seems to explain the various phenomena present in this case.

You are now in possession of the history of the illness and the physical signs which have led us to form a diagnosis of chronic mediastinitis. I do not ask you to accept that conclusion but to examine and form your own opinion, for in this affection there are no certain signs by means of which we can reach a positive diagnosis. The signs in one case will differ from those in another, there being constant variation according to the incidence of pressure, the direction in which the inflammation spreads, and the size of the new growth. Besides chronic inflammation we have to keep in view the possibility of mediastinal tumour, simple or malignant, although the history of the case rather excludes the latter. It is seldom possible to make a definite diagnosis between a mediastinal tumour and chronic mediastinitis during the life of the patient. We have assumed that the starting point of the disease was in the glands because that is the most common site of origin. In other cases the affection may begin in the pericardium—when it is known as mediastino-pericarditis—or in the pleura or in the lung. The condition becomes one of general inflammatory thickening of the mediastinal tissues, which in time becomes fibrous or semi-cartilaginous. The disease runs a chronic course but a progressive one, and death may ensue from pressure on a vital structure or from some complication, pneumonia, &c.

The treatment is general and symptomatic. In this case the ascites has frequently had to be relieved by Southey's tubes. Whenever there is actual discomfort from abdominal distension the fluid is removed and the benefit is always marked. In the early stages the boy had much more energetic treatment and purgatives, diuretics, cardiac stimulants, and mercurial inunction were employed without producing the slightest effect as regards the ascites. Similarly—and this is an important point in connexion with the diagnosis—the paroxysmal cough was not at all affected by local treatment and only very slightly by full doses of nervine sedatives, while the pleurisy is so irresponsive to treatment that we now leave it alone. He is at present passing a quiet, restful existence on a full nourishing diet with plenty of cod-liver oil and iron.

ABSTRACT OF THE

Morison Lectures

ON THE

RELATION OF THE NERVOUS SYSTEM TO DISEASE AND DISORDER IN THE VISCERA.

Delivered before the Royal College of Physicians of Edinburgh on Nov. 1st, 3rd, and 5th, 1897.

By ALEXANDER MORISON, M.D., F.R.C.P. Edin.,
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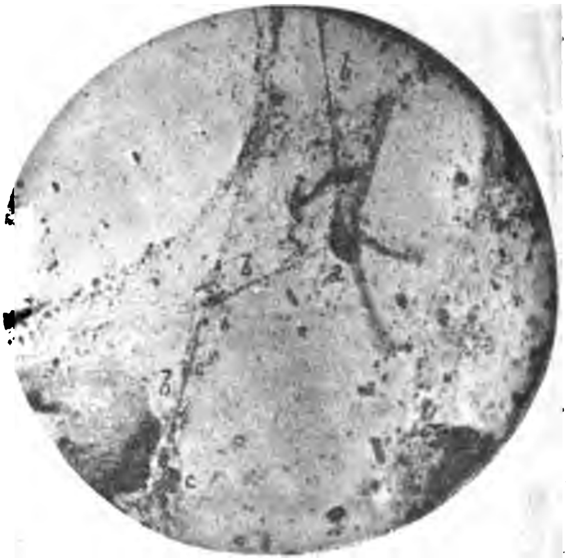
LECTURE II.[1]

Delivered on Nov. 3rd, 1897.

Mr. President and Gentlemen,—When we strike the main stream of innervation at the apex of the visceral delta of secretory, mobile, and excretory nerve distribution our task in tracing the current is considerably simplified. Here also, however, the threefold state referred to in the conditions of the ultimate distribution is taken by the triple conditions and their associated questions of medullated and non-medullated fibres and of the ganglion cells regarded as anatomical entities and conglomerate structures.

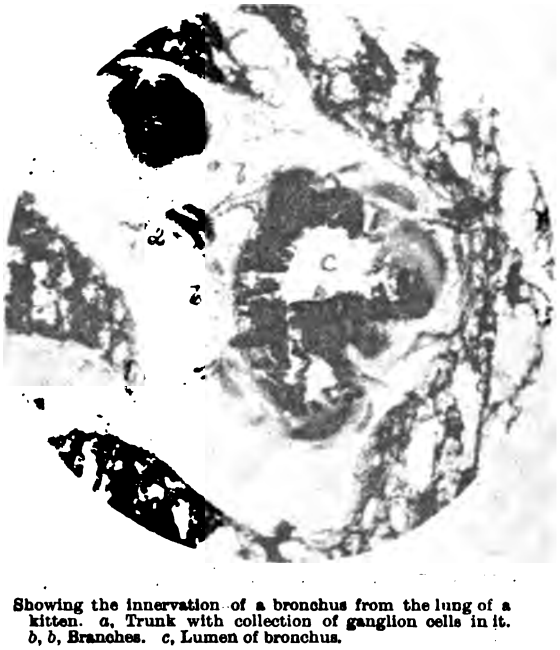
The relation of nerve fibres to ganglion cells, and clusters of cells is of anatomical and physiological interest. The ganglion cell may occur isolated on a nerve or small strand of nerve tissue (Fig. 7) or embedded as it were in the heart of a considerable trunk (Fig. 8). A group of cells may also form a fusiform or irregular enlargement on the course of a nerve larger than the nerve itself, one end—the afferent end—being as it were lost in the enlargement and a fresh trunk issuing from the other or efferent end—afferent and efferent in this sense being used relatively to the ganglion and not to the central nervous system, from which both, naturally, are efferent (Figs. 9, 10, and 11). Or again a cell or group of cells may lie outside a nerve trunk and have connexions with it on one hand, while on the other it distributes fibres in different, but always centrifugal, directions (Fig. 12). The ganglion cell may also apparently occupy a somewhat peculiar position in this wise. The cell or cells may be placed at a considerable distance from the nerve trunk and send axis cylinder processes into

Fig. 7.



Ganglion cells and clusters on nerve strands from the hepato-duodenal region of a mouse. *a*, Congeries of cells at a junction. *b*, Issuing strands. *c*, Smaller collections of cells.

Fig. 8.



Showing the innervation of a bronchus from the lung of a kitten. *a*, Trunk with collection of ganglion cells in it. *b*, *b*, Branches. *c*, Lumen of bronchus.

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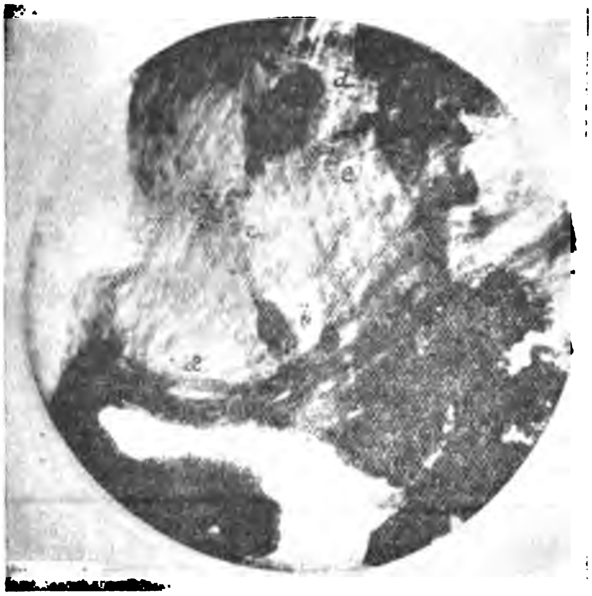
[1] Lecture I. appeared in The Lancet of Jan. 1st, 1898.

the latter, the ultimate destination of which it may not be possible to trace (Figs. 13 and 14). Finally, the cells may form a congeries which appears to be placed at the junction of a peripheral centrifugal system (Fig. 7, *a*).

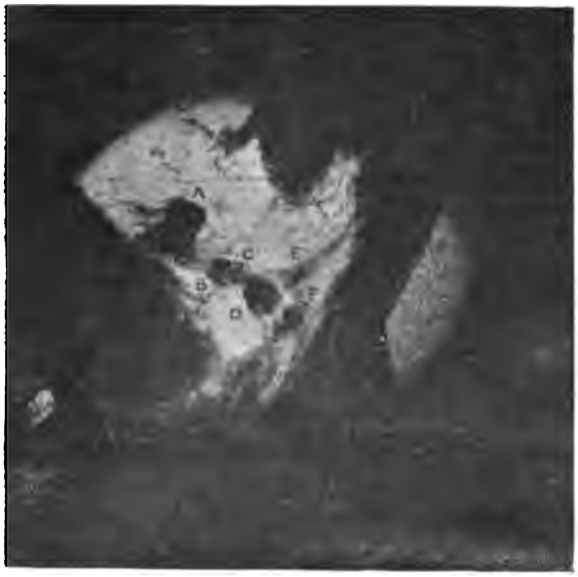
FIG. 9.



Fusiform ganglion (*b*) on a branch of the vagus (*a*) which issues from the ganglion as (*c*). Adipose texture (*d*). Hair of the mouse (*e*) from the heart of which the preparation was made.

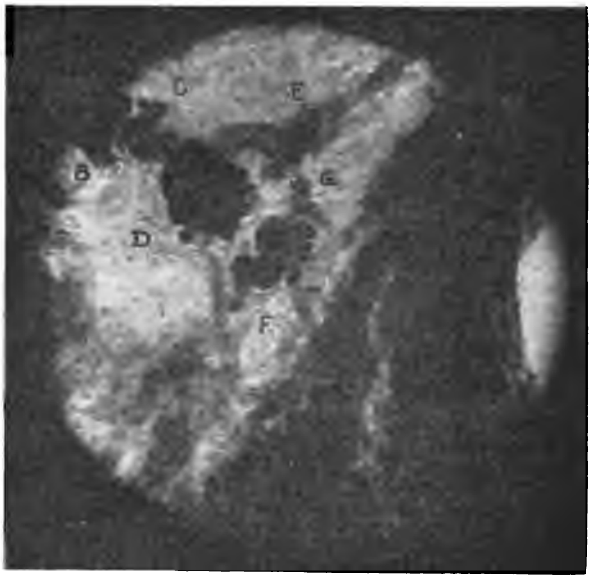
The relation of ganglion cells to one another is also a matter of interest but cannot at present be regarded as certainly determined. Kölliker inclines to the prevailing belief that the fine plexuses which surround the cells of peripheral ganglion cells are derived from cerebro-spinal motor fibres of the first class—that is, primary cerebro-spinal motor fibres and not in any instance, as Dogiel insists, from fibres arising from peripheral ganglion cells.[2] The question is very difficult to decide on anatomical grounds, for the intertwining of the axis cylinder of one cell with the processes of another in the same group easily induces the belief that the two have active touch of one another. This apparent connexion is shown in a Golgi preparation given to me by Professor Kölliker's curator of which throw a photomicrograph on the screen (Fig. 15). Physiological arguments, on the other hand, intended to solve this question involve the production of so-called facts which not only require the apprehension, but also the comprehension, of the recorder—that is, they require not only to be seen but to be interpreted. The interpretation of all phenomena, and especially of experimental or artificial phenomena, is admittedly no easy task. Inasmuch, however, as the function of all efferent ganglia in a given stretch of peripheral nerve tissue is probably the same in kind there does not appear to be any insuperable reason why a chain of relay structures should not be in touch with one another as Dogiel considers them

FIG. 10



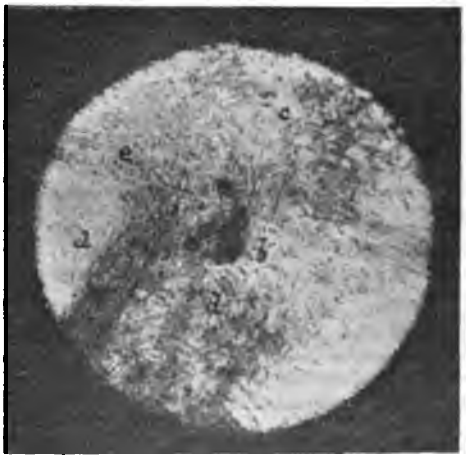
Series of irregularly-shaped ganglia (A, B, C, D, E, F,) on the vagus in the heart of a mouse.

FIG. 11.



Some of the ganglia in Fig. 10 more highly magnified. The strand G may be observed to pass through F.

FIG. 12.



Ganglion (*b*), from the kidney of a mouse, attached to the nerve (*a*) and emitting nerve fibres centrifugally (*c* and *d*). An artery (*e*) is innervated by fibres from *c*.

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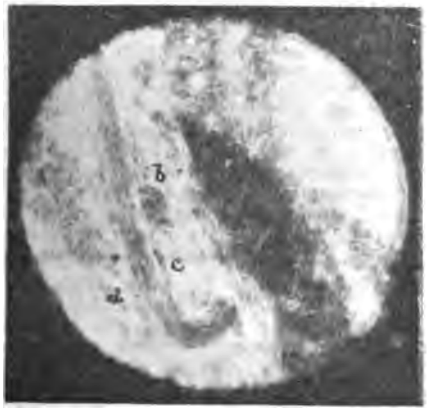
[2] Gewebelehre, pp. 868 and 889.

to be. We do not, therefore, appear to be at present in a position to express more than a "pious opinion" upon the subject and do well to avoid too positive a dogmatism. The opinion of the individual as a result of personal observation and reflection may, however, be modestly expressed. The evidence adduced so far—anatomical, physiological, and last, but not least, clinical—inclines me to the belief that successive ganglia and their cells may be connected anatomically and support one another in the execution of a common function while they are at the same time incapable of executing independent reflex actions. Against the latter there is at present a general consensus of educated opinion.

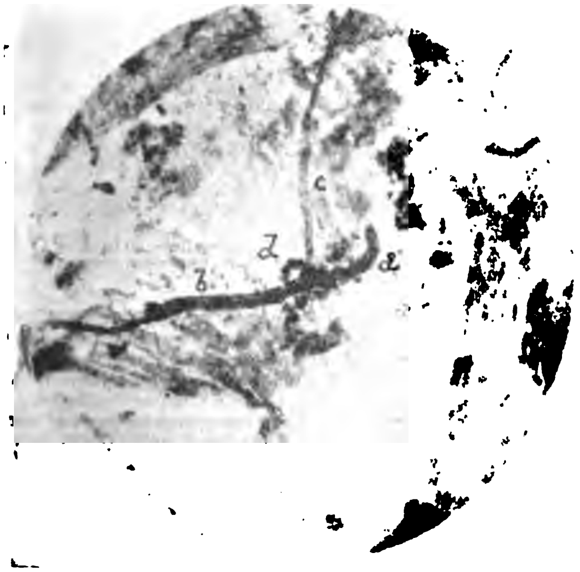
FIG 13.



Ganglion (*b*), from the spleen of a mouse, joining the main trunk (*a*) by the strand (*c*)

While Dogiel thus appears to stand alone among working histologists of repute in maintaining an arborisation of the axis cylinders of one sympathetic cell upon another of the same group (and, from this fact and his maintenance of the existence of end-nets and loops in the ultimate distribution of nerves, represents a view at one time generally, if not universally, accepted), there appears to be a more general consent that the dendrites of ganglionic cells in the sympathetic system touch, embrace, and convey impulses from other cells of the same series (Fig. 15 A).

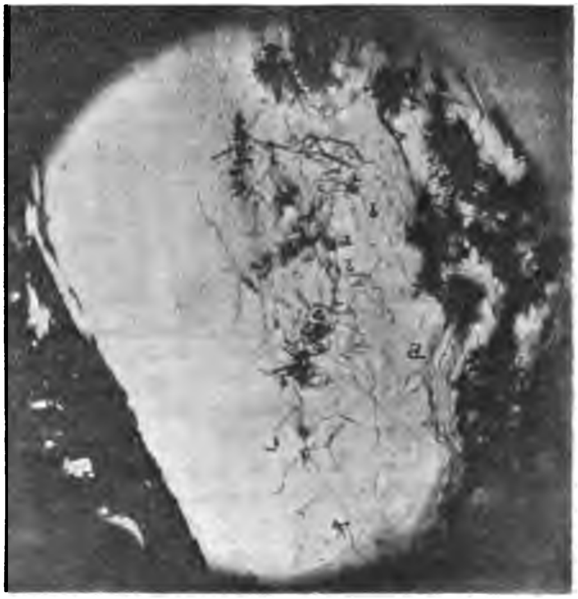
FIG. 14.



Crescentically arranged ganglion cells at the point of division of a nerve (*a*) into its branches (*b* and *c*); from the spleen of a mouse.

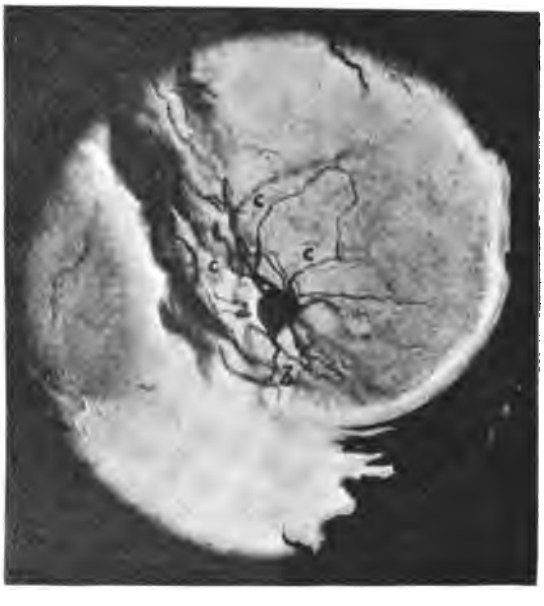
Before leaving the subject of peripheral ganglia I wish to draw attention to a cell system of practical interest in connexion with the heart. It is possible in certain situations to distinguish between what appear to be small penultimate, if not ultimate clusters of sympathetic ganglionic cells and the ganglia which occur in or near the efferent stream of the pneumogastric nerve (Fig 16). The cells and groups of cells I refer to have been met with by me in connexion with the heart and appear to be the same as those described by Vignal, who is quoted by J. Dogiel.[3] Groups of cells from two or three to many more may be met with in the fatty tissue at the base

FIG. 15.



Golgi preparation from the cervical sympathetic ganglion of a calf. *a*, Neurons. *b*, Neuraxons. *c*, Neurodendrites. *d*, Varicose nerve fibres.

FIG. 15A.



Golgi preparation of a neuron and its processes from the cervical sympathetic ganglion of a calf. *a*, Neuron. *b*, Neuraxon. *c*, Neurodendrites. Würzburg preparation.

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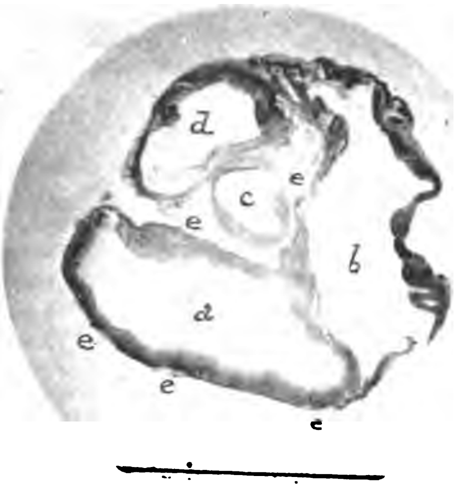
[3] Archiv für Mikroscopische Anatomie, vol. xliii., p. 226.

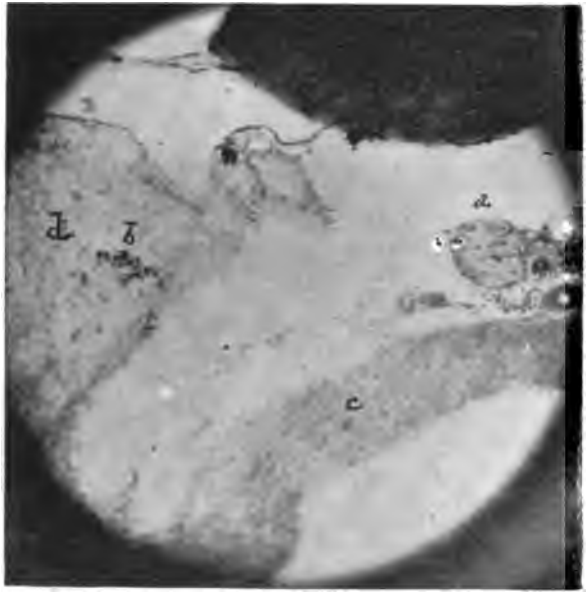
of the heart and traced in transverse sections into the subepicardium over the chambers. Occasionally they may be observed under the superficial strata of the cardiac muscle. They stain well by the Nissl method and reveal the same configuration and characters as the ganglionic cells of the lateral and collateral sympathetic chains. They may also lie in proximity to subepicardial vessels and the larger nerves, but do not appear to be in direct connexion with either (Figs. 17 and 18). They may be easily distinguished as I have said from the ganglia on nerve trunks which I have already described and of which I show good specimens for comparison with them from the heart of a mouse stained by Sihler's method (Figs. 9, 10, and 11). To the importance of this distinction with reference to cardiac action I shall have occasion to refer again. In following the nerve stream still further upwards and passing by other more or less peripheral trunks, cells, and clusters we reach the more central collections of nerve elements—the so-called collateral and lateral chains. The relation of these on the one hand to the periphery and on the other to the cerebro-spinal centre is a matter of practical moment and scientific interest.

FIG. 16.



Transverse section of the base of the heart of a cat. *a*, Left auricle. *b*, Right auricle. *c*, Aorta. *d*, Pulmonary artery. *e*, Situations in which sympathetic ganglia were found.

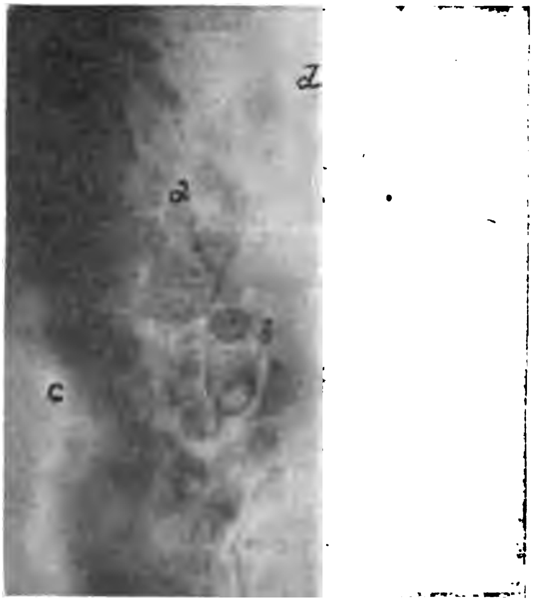
FIG. 17.



Transverse section of the base of the heart of a cat, showing the vagus (*a*), a cluster of sympathetic ganglion cells (*b*), the wall of the aorta (*c*), and intervascular fat (*d*).

I have no desire to crush all observation into a Procrustean bed of what might be called triplicity, but curiously enough at this point also we have to deal in the main with a threefold state—namely, with nerve fibres which find their bourne in the ganglia, with those which arise in them and with those which pass through or over them. As regards nerve fibres which find their bourne in lateral, collateral, or more distant ganglia, these reach the primary ganglia by way of the white rami communicantes between the cerebro-spinal and sympathetic systems. The white ramus communicans, as we know, consists of the joint contribution of the anterior and posterior spinal roots, as is well shown by the reproduction of one of Paterson's illustrations which I throw on the screen. Gaskell has shown[4] that in transverse sections of the anterior spinal root osmic acid reveals large and small medullated fibres and in certain regions a much larger number of small fibres are to be observed than in others. The chief of these lie between the second thoracic and the second lumbar nerves inclusively. Gaskell further demonstrated that transverse sections of the white ramus presented almost, although not quite, exclusively the medullated fibres of small calibre and only a few of larger size. Finally, he also showed that osmic acid detected in the grey ramus a few medullated fibres of large size and still fewer of small size and that the mass of the grey ramus consisted of non-medullated material.

FIG. 18.



Sympathetic ganglion (*b*) under the epicardium (*c*) in close proximity to a large nerve (*a*) seen in transverse section. Heart muscle (*d*). Highly magnified.

It can, however, be easily understood how impossible it is to follow by continuous ocular observation with the microscope the course and destination of fibres through so tangled a web as a sympathetic ganglion. It is at this point that the valuable researches of Langley, also of Cambridge, come to our aid. Langley found that about ten milligrammes of nicotine injected into a vein of a cat prevented for a time any passage of nerve impulses through a sympathetic or homologous cell. He found also that the duration of paralysis increased with the dose. He argues, therefore, thus: "Since nicotin does not prevent an impulse started peripherally of a nerve cell from producing its normal effect it follows that by stimulating a nerve at various points of its course the place or places where it is connected with nerve cells can be determined."[5] By the nicotine method the course of pilomotor nerves was determined by Langley and also that of some nerves of secretion. If, thus, a nerve in its course be only interrupted from conveying an impulse at certain cellular points upon it it is evident that at such points some change in the anatomical and physiological continuity and character of the nerve must take place. The nerve, in short, may be assumed to arborise upon, and terminate at, the interrupting cell. Hence Langley's nomenclature of "preganglionic fibre" as applied to this portion of nerve, a term in place of which Kölliker suggests that of precellular. The latter seems the more correct, inasmuch as the ganglionic cell as an anatomical entity and not the ganglion as a conglomerate structure is the essential point of interruption. As, again, on the distal side of the interrupted point the possibility of stimulation reasserts itself, it is evident that a "post ganglionic" or "post cellular" fibre springing from the paralysed cell takes up the *rôle* of conductivity. Thus a motor fibre may be shown to terminate in a given ganglion or to pass through it to end in another.

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[4] Journal of Physiology, vol. vii.

The mode of determining the course of sensory fibres in "dumb animals" rendered still more speechless—by anæsthetics—must be on other lines. It is by the abolition of reflex action that the course of sensory fibres can be determined. The present position of the majority of anatomists, physiologists, and physicians is that the sensory nerve fibres pass from the periphery, without arborising interruption, through intervening ganglia and reach the spinal cord unbroken except in so far as they arise from ganglia on the posterior root.

While peripheral sensory fibres are considered by Kölliker—a point on which I shall have to dwell later—to reach the spinal cord by way of the grey ramus, this connexion of the sympathetic ganglia contains undoubtedly motor—i.e., efferent fibres of ganglionic origin. These, although coursing towards the spinal cord, are none the less peripheral when regard is had to their origin in an extra spinal ganglion. For having elucidated this point we are indebted to Gaskell.[6] This fact emphasises the importance of a knowledge of the embryology of the cerebro-spinal and sympathetic system in its bearing upon anatomical, physiological, and practical medicine.

Remak, whose sagacity time has vindicated in the matter of the local cellular origin of nerve fibres in ganglia, has more recently been supported in his views regarding an important point in the embryology of the sympathetic nervous system. Many modern embryologists, including F. M. Balfour,[7] have derived the sympathetic system from the epiblast, and Balfour describes the lateral ganglia as "at first simply swellings on the main branches of the spinal nerves." Remak believed the sympathetic chain arose separately in the mesoblast and his position has been convincingly upheld by Professor A. M. Paterson in his well-known paper on the Development of the Sympathetic Nervous System,[8] in which by a series of sections, which to all appearance can only be interpreted in one way he has demonstrated that the lateral sympathetic chain arises as a series of isolated points which ultimately become connected with the spinal nerves and with one another, and that the cervical and lumbar portions of the system must be regarded as outgrowths of the lateral chain. In this connexion, also, a point of especial interest to the visceral pathologist is the evolution of the medullary portion of the suprarenal bodies from the sympathetic chain. These embryological conclusions, moreover, support Gaskell's general description of the origin of the visceral nerves.[9]

We have now followed the stream of visceral innervation up to its central origin and it only remains to emphasise a few points so far as they are known—and they are still very imperfectly known, which have a bearing upon the interpretation of the clinical phenomena with which we shall be concerned in the second series of these lectures. Even in the spinal relations of the visceral nerves we find we cannot rid ourselves of the incubus of a triple arrangement Gaskell has pointed out the very remarkable coincidence in the range of the vesicular column of Clarke and its two cognate centres in the sacral and cervical regions with the outflow of nerves which we have learned to regard as visceral. He has also endeavoured to show from a study of the spinal accessory nerve that we may rationally regard the ramus visceralis as having its roots in the lateral horn and in the column of Clarke. The spinal segment according to him thus consists of an anterior or somatic portion, a posterior portion, and a lateral, visceral or splanchnic portion, which has its roots in the structures named.[10] As regards his views of the relation of the vesicular column to the visceral nerves we shall learn that they are disputable.

It has been already shown that nerve fibres arising in the ganglia and coursing centrally are to be regarded as peripheral nerves. It is, therefore, only with the origin of the nerves which end in ganglia and with those that pass through them—namely, the sensory nerves—that we are concerned in discussing the central relations of the visceral nerves. In Kölliker's diagram[11] the sensory fibres of the viscera are made to return to the cord by way of the grey ramus communicans. But if the white ramus be an offshoot of the combined spinal nerve, as we know it to be, it is simpler to conceive the stream of visceral sensibility as flowing back to the cord by the channel by which it left it, and thus to amalgamate the mechanism of visceral sensations, which we shall study in a subsequent lecture, with sensory phenomena in general.

Sensory fibres, then, having arborised on cells of the vesicular column at once from the latter, strike the direct cerebellar tract and thus reach the cerebellum whence, by probable but not yet fully demonstrated paths, motor visceral impulses may be assumed to reach the small cells in the antero-lateral horn of the cord from which the small fibred medullated nerves arise which characterise the efferent stream of visceral innervation. Pain and other visceral sensations likewise prove that the ascending impulse reaches the cerebral cortex by the usual tracts for ascending sensibility.

A histological examination, of the cerebello-nuclear tract especially, reveals considerable morphological likeness between the cells in these regions and those of the one time quite detached and always out-lying and subordinate sympathetic system. Gustaf Retzius alludes to the likeness of cells of the sympathetic to ganglion cells in the anterior cornua of the cord and Paterson also[12] rests some of his argument upon the distinctive histological features of the nerve elements in the sympathetic. To myself this morphological likeness was first suggested on examining cells in the grey matter of the inferior cerebellar peduncle and observing their resemblance to those of the posterior root ganglion. But the dominant cell elements in the cerebellum and its related structures generally, such as the olivary bodies, resemble the cells of the sympathetic system so much more than do those distinctive of the higher centres in the cerebrum that one cannot avoid the conjecture that with this morphological likeness there is also associated a functional relationship of a somewhat close order which will be rendered clearer by future research.

The relations of the vago-glosso-pharyngeal and vagus-accessory nerves.—To the vago-glosso-pharyngeal and its associated accessory nerve belong a mixed series of voluntary and involuntary actions. Physiological experiments ending in the definite and brilliant demonstrations of Horsley, Semon, and Risien Russell have localised the cerebral centres for the muscles of phonation. No definite result, however, has yet been reached as regards the cerebral representation of the involuntary actions carried out by the par vagum. That these have intimate relations with the higher centres cannot, however, be questioned. It is not, moreover, in any way remarkable that the more direct tracts of voluntary motion should have been discovered more easily than those of visceral action, for the relations of the involuntary system to volition are much the more complex and involve a consideration of the mechanism of all embracing mind. The proximate centres of vago-visceral action, however, lie, as we know, in the medulla oblongata and with these and their more evident connexions we must in the meantime, as practical men, rest contented.

An advance towards greater simplicity in our conceptions of the sources of these nerves has, however, been made in the growing tendency to regard the ascending vago-glosso-pharyngeal root, or fasciculus solitarius of Lenhossek, as their true sensory root, the nucleus ambiguus as the source of their motor fibres and representing the highest medullary portion of the nerve accessory to the vagus, and the so-called "sensory root" of the vago-glosso pharyngeal nerve as a terminal rather than initial nucleus connecting the vagal stream with other portions of the cord and brain.

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[5] Journal of Physiology, vol. xv., 1895, p. 181.
[6] Loc. cit., reprint, p. 6.
[7] A Treatise on Comparative Embryology, 1881, p. 384.
[8] Philosophical Transactions of the Royal Society, B., 1890.
[9] Loc. cit.

[10] Loc. cit. [11] Op. cit. [12] Loc. cit.

REMARKS ON THE SURGERY OF THE VAS DEFERENS RELATIVE TO SOME URINARY DISORDERS.

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JUDGING from various communications that have recently appeared both in British and foreign journals an increased experience tends to confirm the favourable view taken of division or resection of the vas deferens in certain urinary disorders in my Bradshaw Lecture.[1] I propose supplementing these remarks on this important subject.

In speaking of partial resection of the vasa deferentia relative to the enlarged prostate it must not be supposed that either it or any other proceeding will meet all forms and degrees of this affection or that its results will be uniform. A moment's consideration at once renders this intelligible. There is a tendency as age advances and when the meridian is passed towards a fibrotic degeneration of the testes and prostate in which the latter gradually ceases to be largely glandular and becomes transformed more or less into masses of unstriped muscular fibre and connective tissue. When this condition is far advanced the part is only amenable to that kind of treatment which applies equally to other fibrous growths wherever they are situated within the body. Castration and vasectomy may both alike fail under these circumstances and some form either of prostatectomy or prostatotomy, should the necessity arise, is more likely to be successful and permanent. Similarly in carcinoma of the prostate we have a condition where no good results are to be expected though it must be said that in one or two instances where division of the vasa was practised and the growth eventually turned out to be a cancer it does not appear that any harm was done. Excluding, however, such exceptional cases as these which we are now learning to discriminate and allowing for the degree of fibrotic degeneration that the parts undergo there can be no doubt that in vasectomy we have a valuable and fairly certain means of removing the distress that an hypertrophied prostate in the usual acceptation of the term occasions. The weight of evidence in reference to this is I think now sufficiently conclusive and may be safely acted upon. Further it tends to show that if vasectomy fails castration is not likely to do otherwise, though the selection of the former does not necessarily preclude a subsequent trial of the latter.

There can be no doubt that castration is a serious undertaking in the case of many persons of advanced years enfeebled by illness as compared with vasectomy and the risk connected with it is not inconsiderable. On the other hand if vasectomy is performed under certain conditions it is not open to these objections. As prominent amongst the latter I would again urge that though the resection of a part of the seminal ducts is a minor proceeding it is better not to operate upon both canals simultaneously but on two separate occasions with a short interval between. That physiological effects of an active kind not limited to the urinary organs sometimes follow upon the simultaneous removal of the testes, and less rarely on the simultaneous resection of the vasa, there can from recorded cases be no doubt of. In some they have taken the form of cerebral disturbance and in others of mental decay which have marred the good effects of any structural changes in the prostate which have also followed. I have neither seen nor heard of such results as these being observed where both vasa were not divided at the same time. Excision of these ducts is, however, a slower mode of effecting prostatic shrinkage than castration as it entails the induction of a double process of atrophy, that is to say, by means of an atrophy following upon a preceding one. In this lies, I believe, in a great measure its safety. Whilst improvement usually commences at once on the completion of the operation and steadily advances it is sometimes several weeks and even months before the full amount of benefit is reached. In a recorded case[2] of suprapubic fistula following an operation where double vasectomy was performed for the purpose of causing a diminution in the size of the prostate and the restoration of the natural passage for the urine over four months elapsed before the fistulous opening quite closed and urination was again normal. The patient was sixty-six years of age and made a complete recovery, though no further treatment was employed. Other instances have come under notice where the maximum amount of good was not reached for even longer periods than this.

In the following instance progress was slow, but it would have been impossible to have brought about so much comfort with a prospect of more by any other means. In November, 1895, I saw a man, aged seventy years, who, in addition to glycosuria, was suffering from a large prostate with much obstruction and residual urine. In spite of treatment with the catheter and other means his symptoms increased. Early last year (1897) the frequent calls to attempt micturition and the great difficulty and pain in using the catheter and the general distress induced me to advise vasectomy. The first vas was divided on April 13th and the second on May 11th; from these dates he slowly but steadily improved. In a letter to me (December) he writes: "I certainly am very much better than I was and so long as I am quiet and able to carry out my regular treatment I get on very comfortably." He uses his catheter five or six times in the twenty-four hours and can now void some urine voluntarily. I have good reason for believing that he will still further improve. As the fibrotic condition of the parts was much advanced at the time of operation it would have been better if it had been performed earlier.

And this brings me to remark that having regard to the time often occupied by the prostate before it assumes a form or a size calculated to seriously obstruct micturition so as to necessitate operative interference the sudden and active induction of its atrophy may be open to objection for reasons which may possibly be explanatory of what I have referred to as more frequently following upon simultaneous removal of both testes. We are only, as it were, beginning to study in view of their application for therapeutical purposes the physiological effects of certain changes produced by the addition to, or withdrawal from, the body of certain organised parts or materials. In the case of the former we have some evidence of this in effects produced by the introduction of toxins and animal alkaloids, whilst the latter may be illustrated by what has been demonstrated as following removal of the thyroid gland. On all grounds, therefore, I prefer endeavouring to bring about the changes desired in the prostate in the way I have always advocated. The cases in which benefit has followed vasectomy have been those where the symptoms were induced directly or indirectly by senile enlargement of the prostate gland. Amongst these we may include very frequent and painful micturition, difficulty with, and frequent use of, the catheter with much spasm and hæmorrhage, and the more severe forms of cystitis arising from obstructed micturition. In some of these instances the division of a single tube has proved sufficient. Further, in certain recurring cases of stone depending on sacculation or pouching of the bladder complicating prostatic hypertrophy the induction of atrophy of the latter has afforded some excellent results. The probable explanation is due in all these examples to the shrinkage the enlarged gland undergoes and consequently the greater freedom with which urine is passed or the catheter is introduced. In all cases where vasectomy is practised before both tubes are divided it is well to ascertain that the bladder is quite free from stone. I have met with more than one instance where a small calculus passed after a vasectomy which had previously been undetected by a sound. Probably it had been concealed or pouched by the large prostate and had escaped spontaneously as the latter decreased in size.

Further, the enlarged prostate is often a serious detriment to the kidneys by establishing a back pressure of the urine which can be most injurious to these organs. I refer to that class of cases where the urine excreted under pressure is constantly of a low specific gravity. Here, as Sir James

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[1] THE LANC Dec. 12th, 1896.

[2] Bradshaw Lecture.

Paget[3] observed, "there will be danger from the most gentle catheterism." I have seen low densities in urine rise steadily to normal and remain so after the tension has been taken off micturition by the induction of atrophy of the prostate. It is not unlikely that we may find in vasectomy another means for removing intra-renal tension. It must be remembered that it sometimes takes but very little to render a prostate obstructive. Sir Henry Thompson pointed this out in connexion with his important studies on the pathology of this gland. I have seen enough to convince me that a small amount of shrinkage, provided it takes place in or indirectly affects the right spot, makes all the difference as to whether a man leads a life of comfort or not.

It is not unlikely that this operation will be extended to other disorders of the urinary organs. Though the normal function of these ducts is that of conveying the seminal fluid from the testes to the vesicles and prostatic urethra they are equally capable of transmitting micro-organisms in both upward and downward directions. In this sense they may therefore be regarded as distributors of disease. Some years ago, soon after I had published a short article[4] on division of the vas deferens relative to prostatic hypertrophy, I saw a delicate-looking young man with a strong tuberculous family history with a nodule in his left testicle remaining after an acute gonorrhœa. This nodule was deemed to be tuberculous or likely to become so. The question then raised had reference more especially to the removal of this by operation on the ground of its suspicious nature. The urine was healthy and so was the opposite testicle and its tubes. Nor was I able to discover any evidence of deposit so far as the finger could reach either in the vas or the prostate. The patient, who had had some medical education, was anxious that either the nodule or the testis should be removed. I did not feel disposed to recommend either course. Having regard to the fact that the disease appeared limited to the nodule and that any infection would probably pass along the canal of the vas deferens I proposed to excise a portion of the latter. This was done and the wound healed in a few days. A year afterwards it was found that the testis and nodule had both completely atrophied and no signs of tuberculous infection could be detected. The patient's health and sexual powers remain unimpaired.

The second group of cases of transference of infection through these ducts may be illustrated by the inflammations that take place of the testes and tubes occurring in connexion with some cases of prostatic hypertrophy where catheterism is necessary and often difficult. This is a complication which when frequently repeated seriously adds to the gravity and pain of these disorders. Early in the year 1896 I saw a man approaching seventy years of age, otherwise in good health, who, in addition to much prostatitis, repeatedly suffered from most painful epididymitis in one or both organs, though sexual power had ceased for some years. He was dependent on the catheter and these attacks had been going on for some months, almost entirely confining him to bed and preventing him attending to his business. I divided his vasa for him with great relief so far as his prostatic symptoms generally were concerned and since this was done he has had no further trouble with his testicles.

I have tried various methods for resecting the vasa. The simplest appears to consist in rendering the vas superficial by manipulation of the scrotum and making a small incision over it. It can then be easily seized with a Spencer Wells' clamp forceps and brought to the surface, where it is precisely isolated by a little scraping and a blunt hook or aneurysm needle passed beneath it. A loop is included by a silk ligature and the free portion removed by scissors. To ligature the duct is insufficient, it being necessary to resect a portion of it. After the loop has thus been removed the stump is returned with the ligature cut short and the little wound in then closed with a suture or collodion. Union usually takes place in the course of a day or two. In this way the operation can be performed quickly and almost bloodlessly.

In concluding these remarks I need hardly suggest that patients should invariably be made to understand, whatever their ages may be, that though division of one duct does not interfere with the function of generation the subsequent section of the second duct entirely and permanently extinguishes any sexual power that the individual may have previously possessed. The operation may therefore be said to be restricted to that period of life and to coexisting circumstances when the genital function relative to the urinary disability is ceasing or has ceased to be a matter for consideration. The cases must be extremely rare where in earlier years the damage occasioned by the hopeless loss of all control over this function calls for such measures as vasectomy would undoubtedly supply. Further, I would repeat in connexion with the latter operation as well as with other procedures of a like nature that they are only applicable to grave varieties of prostatic disease and other complications arising out of them. When we recognise how many elderly men carry on long and useful lives who are more or less dependent upon the aid their catheter affords it is hardly necessary to say that such measures can only apply to the exceptions and not to the rules. The latter are already adequately provided for, whilst in the interests of the former all proved methods either of cure or of relief must receive our careful and unbiased consideration.

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A NOTE ON CERTAIN POINTS OF TECHNIQUE.

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(1) ON A RAPID AND CONVENIENT METHOD OF STERILISING SYRINGES AND SURGICAL INSTRUMENTS.

THE ordinary methods of sterilising syringes or instruments by either prolonged boiling in water, or prolonged soakage in antiseptic solutions, are unsatisfactory in several respects. In the first place both these methods of sterilisation involve a considerable loss of time; and, in the second place, the repeated application of these methods is very destructive both to surgical instruments and also to the asbestos plungers which are employed in syringes. These defects, which are inseparable from the ordinary methods of sterilisation, can be very simply avoided by employing as our sterilising agent olive oil at from 160° to 180° C. instead of water at 100° C. In order to obtain complete sterilisation by this method it suffices in the case of a surgical instrument to dip it for an instant into the hot oil. In the case of a syringe it suffices to fill in the syringe twice with oil at the stated temperature. The temperature may be determined either by a thermometer, or if a thermometer is not at hand by a piece of ordinary bread-crumb. It will be found that the bread-crumb will become *brown* and crisp as soon as a temperature of from 160° to 180° C. is reached. This method of sterilisation has been found very convenient in the ordinary routine work of the laboratory. It will probably also prove of service in surgical practice. It is especially applicable in cases where there is no time for the prolonged soakage of instruments and further in cases where an instrument has become accidentally contaminated in the course of an operation. The method of employing hot oil as a sterilising agent is also a method which would appear to be readily applicable in ordinary practice for the sterilisation of syringes. The olive oil may be heated in a spoon over a spirit lamp, and the heat may be tested by the proposed bread-crumb thermometer. It is to be noted that the method is not applicable to the sterilisation of indiarubber tubing.

The above method of sterilisation has been tested by dipping instruments into, and filling in syringes with, putrescent fluids from manure heaps and cultures which contained very resistant spores. The test-cultivations which were made from these instruments and syringes after the sterilising operations which have been described remained in all cases absolutely sterile. An incidental advantage of the method of sterilising syringes by hot oil is that if the needles are sterilised in the hot oil before they are replaced in the case they are thereby effectually protected against rust.

(2) METHOD OF EMPTYING AIR OUT OF A SYRINGE WITHOUT CONTAMINATING THE OUTSIDE OF THE SYRINGE WITH THE CONTENTS.

A convenient way of effecting this object is the following. A small bottle of any strong antiseptic solution is covered over with one of the rubber caps which are fitted on to test-tubes to prevent the drying up of bacterial culture media.

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[3] Clinical Essays, edited by Mr. Howard Marsh.
[4] Brit. Med. Jour., Sep. 23rd, 1893.

This bottle is held cap downwards and the needle of the syringe which is to be emptied of air is thrust through into the antiseptic solution. The piston of the syringe may then be pushed home until all the bubbles have been expelled without any fear of contaminating the outside of the needle or syringe. It is unnecessary to sterilise the outside of the rubber cap before puncturing it with the hypodermic needle, for the needle will be again quite sterile when it comes out from the antiseptic.

(3) Method of Putting up Antitoxin or Bacterial Vaccines in such a way that they may be directly drawn off in an Aseptic Manner into a Hypodermic Syringe.

The method in which antitoxin is usually put up appears to be faulty in two respects. First, it is somewhat difficult to sterilise the chink between the rubber bung and the neck of the bottle. Secondly, inasmuch as it is impossible to get the needle of the syringe down to the bottom of the narrow mouthed bottles which are employed it becomes necessary to pour out the fluid into some shallower vessel. This involves as an incidental inconvenience the sterilisation of the vessel which is employed for receiving the antitoxin.

These inconveniences are perhaps most simply avoided by putting up the antitoxin in bottles which are fitted with stout close-fitting rubber caps in lieu of the usual rubber bungs. After the rubber caps have been placed in position they are to be rendered perfectly air-tight by dipping the neck of the bottles into a vessel containing sterilised and melted paraffin. The contents of the bottle can then be drawn off as follows. First, the outside of the cap is re-sterilised by dipping it either into a hot antiseptic solution or into the hot oil which has served for the sterilisation of the syringe. Holding the bottle still in the inverted position the rubber cap is now to be pierced with the sterilised needle of the hypodermic syringe. The puncture which is thus produced serves only to admit air to the bottle. The needle is therefore now withdrawn and it is re-introduced into the antitoxin by puncturing the cap a second time. The contents of the bottle are now simply drawn off into the syringe.

This method of putting up antitoxin has now been tested in practice for some considerable time. It has answered satisfactorily even in the case of the antitoxin which has been sent abroad. The method has also been employed with success for putting up the bacterial vaccine, which has been used in connexion with several considerable series of typhoid vaccinations. In these cases the bottle of bacterial vaccine was fixed in an inverted position in a clamp and the syringe was refilled time after time by simply puncturing through the indiarubber cap. When a sufficiency of vaccine had been drawn off the outside of the cap was re-sterilised and was then recoated with paraffin.

(4) Method of Preparing Aseptic Physiological Styptics.

The proposal which I put forward several years ago to utilise *physiological* and painless, in lieu of *escharotic* and painful, styptics in the arrest of hæmorrhage[1] has not yet been practically exploited. None the less physiological styptics are calculated to be of eminent utility not only on the battle-field, but also in the minor surgery of the household, and above all, in the treatment of severe epistaxis and hæmophilic bleeding. In these last cases, at any rate, the mediæval methods of arresting hæmorrhage by means of escharotic styptics would appear to be now no longer admissible.

So far as this neglect to take advantage of the proposed physiological styptics is not imputable to a lack of enterprise on the part of the manufacturing chemist, it has been, no doubt, due, first, to the fact that the method of preparation which was proposed was not a method that offered any absolute guarantee for the aseptic condition of the styptic; and, secondly, to the fact that no convenient method of testing these styptics was proposed.

The following method of preparing a physiological styptic would appear to offer the required guarantee for the asepticity of the preparation. Fresh and finely-minced thymus gland is extracted for from twelve to twenty-four hours with from ten to twenty times its weight of a solution containing 1 per cent. of carbolic acid and 1 per cent. of common salt. An addition of 0·5 per cent. of calcium chloride *cryst.* is to be made to this fluid after it has been strained through a piece of sterile muslin. Lastly the styptic solution is rendered very faintly alkaline. It is to be shaken up before use and is to be mixed with the effused blood in the proportion of about one part of styptic to ten of blood.

A less potent but an always accessible form of styptic may be very simply made by rubbing up a little finely pulverised chalk, preferably precipitated chalk (but prepared chalk or even whiting will do) with a very small quantity of vinegar or a trace of hydrochloric acid. This forms a very convenient application to bleeding gums or shaving cuts. It is also a suitable form of styptic to apply to any surface from which *actual* or *serous hæmorrhage* is taking place.

(5) Simple Method of Testing the Efficacy of any Physiological Styptics.

The efficacy of any physiological styptic may be conveniently tested upon such a drop of blood as may be pressed out from a prick at the base of the finger-nail. The blood is to be received upon a finger-nail which has been previously warmed by passing it through a flame or by holding it above a lamp. A minute drop of the styptic (it is preferable that the styptic should be previously warmed to blood heat) is then introduced into the drop of blood. The course of coagulation in this drop is to be compared with the course of coagulation in a control drop of blood obtained from the next finger. If the styptic possesses a satisfactory degree of efficacy it will then be found that a *definite clotting will be obtained* in the drop of blood which has been operated upon *after the lapse of a full minute*. In this interval no sign of clot will be obtained in the control drop. On the contrary it will be found that in practically all cases the control drop will dry up without showing any sign of clotting.[2]

(6) Method of Warming or Cooling Coagulation-tubes for Blood Coagulability Estimations to a Standard Temperature.

The method of determining the coagulability of the blood which was proposed by me[3] for clinical uses consists in filling in a series of six or eight capillary coagulation-tubes with blood which is obtained from the tip of the finger. In order to secure that the results which are obtained by this method should be comparable I proposed, first, that the coagulation-tubes of an internal diameter of 0·25 mm. or $\frac{1}{100}$ in. should always be employed[4]; and, secondly, that the blood coagulability estimations should always be undertaken at a temperature of half blood heat (18·5° C. or 66° F.).[5] When the temperature is either considerably above or considerably below the suggested normal it becomes necessary to warm or cool the coagulation-tubes. It was originally proposed that this readjustment of temperature should be effected by placing the tubes in contact with the outer wall of a vessel of cold or warm water.[6] Further experience has, however, shown that the readjustment of temperature may be effected in the following simpler manner.

Rubber caps are first drawn over the ends of the coagulation-tubes. The tubes are then placed upright in a tumbler of water at a temperature of 18·5° C. When they have taken on the exact temperature of the water, the tubes are taken out of the tumbler, and the outside of the rubber caps is carefully dried. The caps can now be removed without any fear of water getting into the interior of the tube. The tubes are now filled in with blood from the finger. In view of the fact that thick glass is employed in making these coagulation tubes no further precautions need in an ordinary case be taken with regard to the temperature. An exception to this rule has, however, to be made, first, where the temperature of the surrounding air is either very hot or very cold, and, secondly, where—as for instance in hæmophilia—we are dealing with cases in which blood coagulability is inordinately reduced. In cases of this kind it is essential that the blood should be kept at the standard temperature during the whole course of the observation. This may readily be done by returning the tubes to the tumbler of water after they have been filled in with blood. This can be done without any danger of introducing water into the blood if, in conformity with the prescribed routine, the blood has been withdrawn some little distance up from the orifice of the tube. The intervening bubble of air will then not only prevent the mixture of any water with the blood, but it will further so increase the friction that the column of blood will not be driven further up the tube by the pressure of the surrounding water.

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[1] THE LANCET, Feb. 25th, 1893, p. 435, and Brit. Med. Jour., 1891.

[2] The best way of detecting traces of clot in a drop of blood is to wipe off the drop with a clean handkerchief or with a piece of filter paper. If any coagulation has taken place shreds of fibrin will be detected on the surface of the fabric after the fluid part of the blood has diffused away.

[3] THE LANCET, Dec. 2nd, 1893, p. 1390. Brit. Med. Jour., July, 1893, and February 1894.

[4] These can be obtained from Mr. A. E. Dean, jun., 73, Hatton-garden, E C.

[5] This temperature was selected because it approximates very closely to the ordinary temperature of dwelling rooms and hospital wards in temperate climates.

[6] Brit. Med. Jour., 1894.

Netley.

PAROXYSMAL HYPER-ACIDITY IN CHILDREN SIMULATING MIGRAINE.[1]

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CHRONIC disorders of the stomach accompanied by an excessive secretion of the gastric juice are rarely encountered below the age of puberty. Intermittent hyper-acidity, on the other hand, does not appear to be an uncommon phenomenon in early life. Thus Rossbach,[2] Rosenthal,[3] Lépine,[4] and others have described cases in which severe headache and other cerebral symptoms were associated with an abnormal secretion of hydrochloric acid and seem to consider that in many instances at any rate the gastric disorder was the primary complaint. In this country cases of a similar nature are occasionally observed, but the disease appears to be much less common than on the Continent or in America, for out of some 3000 consecutive cases of disordered digestion in children which I have examined only five exhibited symptoms similar to those of migraine associated with hyper-acidity of the gastric juice. Although the disease is therefore a rare one it presents so many features of clinical interest that it seems to merit a more detailed description than is usually accorded it.

Symptoms.—The disorder may commence at any period of childhood, but is most common between the ages of four and ten. As a rule an attack is immediately preceded by a period of unusually good health, but occasionally the child suffers from malaise with want of appetite and constipation for several days before the headache commences. Mental and physical fatigue are the chief conditions which appear to induce an attack, although over-indulgence in sweets or prolonged excitement is sometimes responsible for its development. An attack usually begins with severe headache which makes its appearance either in the early morning or shortly after the midday meal. At first the pain is confined to the frontal or occipital region, but it soon becomes diffused over the entire cranium and is often accompanied by tenderness of the scalp. Any attempt to stand upright, to move the head, or even to cough, increases the pain, and the child often screams out at intervals as though he were suffering from meningitis or becomes partially aphasic. After the lapse of an hour or two the patient experiences a burning pain in the epigastrium and will flex the knees and clasp the hands over the abdomen in his efforts to obtain relief. As the pain increases in intensity the stomach and intestines become distended with gas and pyrosis attended by a scalding pain behind the sternum is experienced from time to time. Flatulent eructations, nausea, and giddiness now supervene and the child suddenly sits up and empties his stomach without apparent effort. The act of emesis is followed by pain in the throat and choking and leaves a sour and unpleasant taste in the mouth. In some cases both the headache and abdominal pain subside immediately the stomach has been emptied, so that the patient falls asleep and awakes in a few hours quite restored to health. As a rule, however, retching and vomiting continue for many hours and convalescence is not established for two or three days. During the painful crisis the face and extremities are cold and the patient often shivers or complains of numbness and tingling in the fingers or feet. The pulse is small and often abnormally slow, especially at the commencement of the attack. As a rule the temperature of the body is depressed, but occasionally the thermometer in the rectum may register 100° or 101° F. for a few hours. In most cases the bowels are confined, but sometimes the initial vomiting is replaced by a sharp attack of diarrhœa, which appears to exert the same beneficial influence upon the cerebral symptoms. As long as the disorder persists the appetite remains in abeyance, but thirst is often a marked symptom of the case. In the early stages the tongue is clean and moist, but if the vomiting proves severe the organ soon becomes coated with a creamy fur. It is an interesting fact that at the commencement of an attack the administration of a tumblerful of tepid water often relieves both the headache and epigastric pain and in many cases this simple procedure is sufficient to effect an immediate cure. At a later stage, however, the ingestion of water merely excites vomiting. The vomit varies in character according to the time of day at which the emesis commences. If the attack originates in the early morning when the stomach is devoid of food the ejecta consist of a greenish-yellow fluid mixed with mucus; but should the vomiting occur after the midday meal particles of food are abundant and exhibit signs of partial digestion. In each case the total acidity of the ejecta is unduly high from the presence of an excess of free hydrochloric acid. If the attack follows the mid-day meal the vomit often possesses an acidity equal to from 0·45 to 0·52 per cent. hydrochloric acid; but when it ensues in the early morning the total acidity of the gastric contents may not exceed 0·38 per cent. hydrochloric acid. If the vomiting continues after the stomach has been emptied the ejecta gradually lose their acidity until at length they consist entirely of alkaline and bile-stained mucus. After the disorder has subsided the secretion of hydrochloric acid is found to be normal.

Diagnosis.—Unless the vomit is submitted to a chemical examination the disease may easily be confounded with migraine or recurrent catarrh of the stomach. It may be observed, however, that migraine usually occurs at a later period of life than paroxysmal hyper-acidity and that its onset is preceded by ocular phenomena which are absent in the latter disorder. The headache also is never relieved by drinking tepid water nor is severe epigastric pain an ordinary symptom of the complaint. Lastly, the ejecta never contain any excess of free hydrochloric acid. Gastric catarrh is an extremely common complaint in infancy and childhood and closely resembles paroxysmal hyper-acidity in many of its symptoms. The headache, however, is much less violent, epigastric pain is either slight or absent altogether, while nausea and retching constitute the chief features of the complaint. The vomit consists entirely of bile-stained mucus and never exhibits any trace of free hydrochloric acid.

Treatment.—All conditions which tend to excite an attack must be avoided as far as possible and in severe cases the child should be kept from school and be encouraged to indulge in plenty of exercise in the fresh air. The meals should be taken at regular intervals and all fatty and saccharine articles be excluded from the dietary. If the bowels are confined they should be regulated by means of some simple laxative, such as cascara, senna, sulphur and guaiacum, or compound liquorice powder. At the commencement of an attack the child should be put to bed and the room be darkened. In many cases an emetic of ipecacuanha wine or sulphate of zinc relieves the headache more quickly than anything else. Occasionally a full dose of antipyrin or phenacetin will cut short an attack if administered at its commencement. If vomiting has already taken place lavage of the stomach can be promoted by making the patient drink warm water containing a small quantity of bicarbonate of sodium and afterwards exciting vomiting by tickling the back of the throat. The employment of the stomach-tube for this purpose is never required. In those cases where catarrh of the stomach ensues from the irritant effects of the acid secretion and the child continues to retch for many hours an enema of chloral and bromide of potassium may be administered. Among the various remedies which have been tried for the purpose of preventing a recurrence of the disease bromide of potassium combined with liquor potassæ has proved of the greatest value.

Devonshire-street, W.

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[1] Abstract of a lecture delivered at the London Temperance Hospital, Nov. 25th, 1897.

[2] "Gastroxynsis," Deutsches Archiv für Klinische Medicin, 1884, s. 383.

[3] "Vomitus Hyperacidus," Berliner Klinische Wochenschrift, 1887, s. 605.

[4] "Gastroxie," Société Médicale des Hôpitaux, 1885, p. 134. See also Snow, Archiv für Pediatrie, 1893, p. 986.

A CASE OF TETANUS SUCCESSFULLY TREATED WITH ANTITOXIN.

By W. Tyrrell Brooks, M.A. Oxon., M.B. Lond.,
SENIOR PHYSICIAN TO THE RADCLIFFE INFIRMARY, AND LITCHFIELD LECTURER IN MEDICINE IN THE UNIVERSITY OF OXFORD.

A lady, aged twenty-four years, whilst away for a holiday met with a bicycle accident on Sept. 9th, 1897, which caused a contused wound on the left thumb, the wound containing a quantity of dirt from the road on which she fell. The wound was treated with bread poultices and then dressed with iodoform and did not cause any uneasiness to the patient. On her return to Oxford there was a definite history of chill from exposure and on the tenth day after the accident she first noticed stiffness of the muscles of the jaw. On the following day I saw her and examined the wound which I found covered with a crust of iodoform and dried pus beneath which was a pale, unhealthy granulating surface. She complained of stiffness in the masseters and difficulty in mastication. The lower jaw could be opened voluntarily to the extent of an inch but not without difficulty. The wound was at once treated with hot boracic fomentations. These were kept up for a week or ten days and I may here add that no further trouble was caused by the wound, which healed some days before the attack of tetanus terminated. The patient was ordered a fluid diet, five grains of calomel, and a chloral and bromide draught. On the following day it was evident that tetanus had developed, the masseters were firmly contracted and there was spasm of the retractor muscles of the head, whilst on getting the patient out of bed general muscular spasm followed. Treatment with antitoxin was at once commenced, 10 c.c. of the dried serum (prepared by the Pasteur Institute by a modification of Roux's method) being injected at 12 A.M., a second similar injection being given at 6 P.M. The muscles of deglutition were not affected and the patient took fluid nourishment freely. On the 22nd there were frequent spasms of the muscles of the upper trunk and arms which came on at intervals of an hour and which when severe spread to the legs. In the intervals between the spasms there was stiffness in the muscles of the left scapula and the patient lay with the head rigidly retracted. The facial muscles were involved in the spasm, causing a marked alteration in the patient's expression. Swallowing was difficult during the day owing to spasm of the pharyngeal muscles. The patient sweated profusely throughout the day and was in great pain. Two injections (each consisting of 10 c.c. of antitoxin) were given during the day. On the 23rd the spasms were more frequent and general, opisthotonos occurring during the more severe spasms. Two injections of antitoxin were given. On the 24th and 25th the symptoms remained unaltered except that the spasms were more frequent. Two injections of antitoxin were given each day. On the 26th the only alteration in condition was the presence of risus sardonicus, which appeared with each attack of general spasm, passing off in the interval. There was also constant numbness of both legs, but most marked in the right. Two injections of antitoxin were given during the day. On the 27th the condition remained unaltered. Two injections of antitoxin were giving during the day. On the 28th the patient appeared worse, the general spasms occurring with great frequency and the pain from them not being controllable by morphia. Menstruation appeared on this day. On the 29th there was slight improvement, the spasms lessening in frequency, and from this date to Oct. 1st, when the antitoxin treatment was discontinued, there was gradual amelioration in the patient's condition. In all the patient had seventeen injections of antitoxin, each consisting of 10 c.c. After Oct. 1st the patient's history was uneventful. There were for several days attacks of muscular spasm which were controlled by morphia. The patient gradually began to recover voluntary movement in the muscles and the masseter spasm relaxed sufficiently to allow finely minced foods to be taken. The only new symptom present during early convalescence was diplopia, which continued for four days. Tendon reflexes were greatly exaggerated and ankle clonus was present on both sides. Ankle clonus persisted until Oct. 17th. On the 20th the patient had sufficient control over the legs to allow her to walk a few steps. From this time there has been steady improvement and at the present date (Dec. 17th, 1897) the patient can walk a couple of miles at a stretch and considers herself quite in her normal health. I may add that in addition to the injections of antitoxin morphia was used freely during the acute part of the illness with large doses of chloral hydrate and bromide of potassium at night.

Oxford.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF RAPID DEVELOPMENT OF SYMPTOMS OF BELLADONNA POISONING FROM USE OF SULPHATE OF ATROPINE EYE DROPS.

By Worsley J. Harris, L.R.C.P. Lond., M.R.C.S. Eng.

I was called hurriedly one Monday afternoon to see a woman, aged thirty years, who had been taken suddenly ill with giddiness and fainting attacks accompanied with peculiar oppressed feelings at the heart. I found the patient lying on the bed in a flushed and excited state with cold extremities, quick pulse, and feeling shivery, sick, and giddy. She had dryness of the tongue, lips, mouth, and throat and a great craving for drink. The pupils were widely dilated and the urine had been very scanty though she felt a constant desire to micturate. She informed me that she had been perfectly well the week before until on the Saturday (the day before she was taken ill) she went to an oculist about her eyes. The oculist being away his colleague had prescribed for her. She was given for the eyes atropine drops (four grains of sulphate of atropine to one ounce of distilled water), two drops every four hours, and internally she was ordered biniodide of mercury (two grains, make fifty pilules, three to be taken every four hours). She first used the drops and the pilules that night and continued to do so throughout Sunday. She began to feel slightly all the above symptoms on Sunday evening, especially the oppression at the heart and giddiness, which became particularly bad after taking food. Diagnosing the case as one of acute belladonna poisoning I caused the drops to be discontinued (as well as the pilules) for the time being as the pupils were widely dilated. She was ordered to rest quietly in bed and to have plenty of warm and good liquid nourishment frequently and in small quantities with a little alcohol, and a mixture was prescribed containing digitalis, nux vomica, and aromatic spirit of ammonia. This steadied the heart and increased the flow of urine and she was much better on the next day but complained of nausea. For the nausea she had a mixture of liquor bismuthi, solution of bimeconate of morphine, dilute hydrocyanic acid, &c., with which she was pleased, as one dose she averred took away all sickness. On the following day she was well enough to go to see the oculist and told him how ill she had been. He ordered the drops once a day and only three pilules a day.

I relate this case thinking it may be of some little interest in showing how rapidly such symptoms may develop in some people from a very slight cause. The patient was suffering from syphilitic iritis. For this she had the atropine drops and the mercury iodide; but either from an inherent susceptibility to the drug or from her being more susceptible from weakness due to the syphilitic poison her system could not withstand even atropine drops in ordinary doses, but only in the very weakest strength. I can only call to remembrance seeing one other case with symptoms of decided belladonna poisoning from the use of atropine drops, but that was in a child who had used weaker drops for some two months and more regularly every day.

Hastings.

NOTE ON THE PREVENTION OF LARGE MAMMARY ABSCESSES BY EXPRESSION OF THE MILK.

By WILFRID B. WARDE, M.B., L.R.C.P. LOND., M.R.C.S. ENG.

IN THE LANCET of Feb. 29th, 1896, Mr. Walter G. Spencer wrote under this heading. I was interested in what he wrote, first, because I had learned the method he mentions in my student days and, secondly, because I had in many instances been able to apply it most advantageously. In the last four years I have been applying this method of expression to instances of a quite common type of case which must be familiar to all. I refer to cases in which a defective breast is unable to meet the demands of lactation. Many women have imperfectly developed breasts; usually one breast is smaller than the other with an ill-developed nipple. Often both are defective. In these cases the breast at once becomes painful and indurated. The induration is due chiefly to inflammatory thickening and only secondarily to retention of milk. But the retention determines the formation of abscesses. In all the cases of this kind I have met with expression from the circumference has produced good results. Usually only a small quantity of milk comes away and the breast remains very hard. But if this be repeated every day the hardness rapidly lessens and all induration will have disappeared in about ten days. In no case did an abscess form. Recently I have seen a case of such interest as to be worth recording and one that illustrates this question remarkably well.

A woman, aged twenty-six years, a primipara, had a month previously weaned her child. The breasts were rubbed and bandaged and gave her no trouble. The patient was positive that both were soft and free from pain till the present illness commenced. The room she slept in was very cold and damp. During the night her baby cried a great deal and finally went to sleep on the mother's left arm. The mother herself fell asleep with the left side of the chest uncovered. The night was intensely cold. She awoke in great pain. When first seen on Nov. 7th the patient looked very ill, she was sweating profusely, and scarcely dared to move on account of the pain in her breast. The pulse was 120 and the temperature 101·8° F. The tongue was foul. The left breast was large and rounded, the areola being œdematous so as to rise above the nipple; the skin over the outer half was red and œdematous covering a hard and very tender lump; the axillary glands were swollen and tender; the inner half of the breast was free from lumps but felt œdematous. Being uncertain as to whether an abscess had formed I manipulated the breast freely. At first this was a terribly painful experience for the patient but eventually it appeared to give relief. Nothing came from the nipple but a small plug of greenish-yellow mucus. I ordered a free purge, bandaged the breast, and directed that poultices were not to be used. On Nov. 8th the patient had a bad night. The pulse was 128 and the temperature 103°. The bowels were opened four times. The axillary half of the breast was occupied by a doughy mass and was very painful. The skin over it was very red and swollen. The patient looked very ill. After manipulating the breast I was surprised to see a large drop of pure pus exude from the nipple. This was followed by five more drops. The patient was much relieved. I ordered poultices to be freely applied. On Nov. 9th she had a good night. The pulse was 72 and the temperature 99·2°. The skin was cool. She felt much better but still complained of stabbing pain through the chest. The breast was smaller. A firm lump occupied more than half of the breast. On manipulation a few more drops of pus exuded. On Nov. 10th a good night was passed by the patient. The pulse was 80 and the temperature 99·2°. A drop of thin milky-looking fluid exuded on pressure. Uninterrupted progress followed. The indurated mass slowly disappeared. After five weeks there was a lump of the size of a walnut surrounding the big milk ducts, much less defined than formerly.

I am convinced that this patient had an abscess, that the pus was evacuated through the nipple, and that, considering the pathology of these cases, the course adopted was not only justified but reasonable as well.

Knowsley.

CARBOLIC ACID AND TYPHOID FEVER.

By GERALD WILLIAMS, M.D.

LAST autumn I attended a case of typhoid fever—a typical case with rash, hæmorrhage, and diarrhœa. The patient recovered in twenty-seven days. Ten days after the temperature had been normal both morning and evening he relapsed. His temperature at the end of the first week was 106° F. in the evening for two days. He had two hæmorrhages and distressing diarrhœa. On the fourteenth day of the relapse I saw him at 9 P.M. and as the diarrhœa was excessive I prescribed for him accordingly. The temperature was then 104·5°; the pulse was 90. At midnight his brothee who was nursing him came for me in a great hurry. He told me that he had given him two tablespoonsful of purI carbolic acid in mistake for the diarrhœa mixture. hurried as quickly as possible to his house. Fifteen minutes must have elapsed from the time of taking the poison to my arrival. I took a quart of saccharate of lime and my bag with a few drugs. When I arrived the patient was trying to vomit by putting his fist down his throat, but as yet had not succeeded; before I arrived he had "drunk about a quart of milk." He was very much frightened, his mouth was terribly burnt, his lips were perfectly white, and he complained of great pain in the stomach; he was not at all collapsed. I made him drink a quart of saccharate of lime and administered one-tenth of a grain of apomorphine hypodermically. He vomited in about one minute. I then gave him salad oil and sulphate of soda. He vomited several times more, the vomited matter on the last occasion being almost free from the smell of carbolic acid. He then fell back in bed completely collapsed. The pulse was hard to find and respiration was laboured. I injected brandy and æther sulphurious hypodermically. He very quickly recovered; in two hours from the time I arrived I left him. I saw him at 8 A.M. next morning, and was very much surprised to find him looking and feeling very much better than before he took the acid. He only complained of his throat and slight pain in his stomach. His temperature was normal. The pulse was 96. He never had any return of fever, and in a week was out of bed. When his mouth healed he had nothing to complain of at all. In my mind this is a clear case of cure by carbolic acid, but I should not care to try quite such a big dose.

Vernon, B.C., Canada.

FAREWELL DINNER TO A MEDICAL MAN.—The medical section of the Royal Society of Tasmania entertained at a farewell dinner, at Hadley's Oriental Hotel, Hobart Town, on Oct. 25th last, Mr. W. A. Harvey, M.B., L.R.C.P. Lond., M.R.C.S. Eng. With three exceptions all the members were present. Mr. R. S. Bright, M.R.C.S. Eng., who occupied the chair, proposed the health of Dr. Harvey and said he did so with mixed pleasure seeing that that gentleman was about to leave the colony. Dr. Harvey had been with them for about twelve years and had laboured with them in an unostentatious way, gaining general esteem and regard. Dr. Harvey, in replying, said he felt and appreciated the honour to be present among his professional brethren.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 15th, 1897, Dr. Cattle, the President, being in the chair.—Dr. Ransom read a paper and gave a lantern demonstration on Pernicious Anæmia. The conclusions arrived at were that blood destruction always plays a part in the pathogenesis of the disease, but evidence was brought to show that disease of the normal hæmogenetic tissues, in spite of compensatory activity of the medulla of the long bones, without increase of the normal hæmolytic processes, could also produce the same group of symptoms. Pernicious anæmia may be due to increased hæmolysis caused by toxins absorbed from the digestive tract or elsewhere or to excessive fragility of new-made red corpuscles with normal hæmolysis. There is no sufficient evidence that the hæmolytic process is confined to the portal area. Iron-containing pigment may be found variously in the liver, spleen, kidneys, or intestinal mucosa, but is probably in all these places merely stored up on being excreted.—Dr. Cattle, Dr. Tresidder, and Dr. Watson made remarks and Dr. Ransom replied.—Dr. Carroll submitted notes of a Rare Case of Hydatid of the Kidney.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF RUPTURE OF THE COMMON BILE-DUCT.

(Under the care of Mr. WALTER SPENCER.)

CASES of rupture of the common bile-duct are decidedly rare and in the majority of those recorded the most striking feature has been the almost complete absence of any signs of inflammation of the peritoneum directly resulting from the presence of the extravasated bile. As a rule only a few adhesions form and suppuration is very rarely present. Death is usually the result of exhaustion and may not occur until many days after the injury. In the case recorded below it took place on the thirty-third day and the same length of time elapsed between the injury and the fatal issue in a case recorded by Fizeau. Recovery has occurred in several cases after repeated tappings, and though in these the diagnosis was not certain yet the symptoms were practically distinctive. A case in many respects similar to Mr. Spencer's was recorded by Mr. W. H. Battle in the Clinical Society's Transactions.[1] For the notes of the case we are indebted to Dr. Kenneth Wilson, house surgeon.

A boy, five years of age, was brought to the Westminster Hospital on Aug. 21st, 1897, suffering from the effects of an accident. A wheel of a Hansom cab was said to have passed over the lower part of the thorax and the upper part of the abdomen. The patient was a well-nourished child but was in a condition of severe collapse, pallid, with frequent pulse and very jerky respiration; the temperature was 95° F. in the axilla. No bruises were apparent, but the ninth rib on the left side had been separated from its cartilage and was projecting under the skin. A few hours later the child was again examined. The respirations were 30, very jerky and irregular; deep respirations were evidently painful. Some fine crepitations were heard at the base of the right lung. There were no signs of fluid in the chest. The abdomen was distended, and there was some dulness on percussion in each flank when the patient was turned on that side. The splenic and liver dulness was normal and neither of these organs could be felt. There was no marked tenderness in the abdomen. The patient had passed some urine and the bladder was not distended. No blood or sugar was found in the urine. About an hour before this examination the child had vomited some partially digested food; the vomit contained no blood. The stomach note extended up to the fifth rib on the left side. Some bruising was now apparent round the injured rib and a hæmatoma had formed under the skin. It was thought that there was possibly a tear in the diaphragm immediately under the seat of the injury of the rib. During the night the temperature gradually rose to 100° and the patient recovered somewhat from the collapsed condition. Half an ounce of milk was given every hour. During the second day the pulse was 100, the respirations were 30, and the temperature was 100°. After the administration of a glycerine enema a normal stool was passed. On the third day the patient vomited four times in the early morning. Another glycerine enema was given which did not act. In consequence of the vomiting he was fed by nutrient enemata (two ounces at a time) and beef suppositories alternately every four hours. The stomach note was a little higher on the left side. On the fourth day the general condition of the patient was not improved, the local bruising was more marked, the hæmatoma was less distinct, and the respiration and pulse continued as before, though slightly slower. A slight icteric tint appeared in the conjunctivæ, and the abdomen was distended and resonant, the dulness in the flanks having disappeared. Half an ounce of milk was given every hour by the mouth and the nutrient suppositories were continued. There was much restlessness during the night; the bowels acted naturally twice. On the fifth day the jaundice was more marked and the stools were clay-coloured; the urine was acid and highly coloured and contained bile. The child was very restless all through the next day. The respiration was 52 and the pulse was 128. A mixture containing gentian and nitro-hydrochloric acid three times daily and half an ounce of olive oil every morning were ordered. The general condition remained unchanged until the evening of the eighth day when the patient vomited five times. The bowels had not been open on that day, and therefore a starch and oil enema was given without any result; this was followed on the next day by a glycerine enema but the bowels did not act. On the evening of the ninth day four grains of Dover's powder were given for restlessness and some calomel and a castor oil enema relieved the constipation. By the eleventh day the child was able to take fish, custard, eggs, milk and beef tea, but in spite of this food he had become very thin, the malar bone being very prominent and the face having a worn and wrinkled appearance, whereas on admission he had been plump and well-nourished. The abdomen was distended and resonant all over. There was general icterus, the stools were colourless and clay-like, and the urine contained bile. His favourite attitude for the relief of the pain which he suffered was the genu-pectoral position. On the twelfth day the bowels were open six times. Early on the morning of the thirteenth day the child was very restless and had considerable pain in the upper part of the abdomen, which was uniformly distended, but was dull on percussion for the first time. Much fluid was evidently present. The respirations were 30, the pulse was 128, and the temperature was 98°. At 2 P.M. on the same day, the child having been anæsthetised with chloroform and the surface of the abdomen having been carefully cleansed Mr. Spencer made an incision about two inches long in the middle line of the abdomen above the umbilicus. About a pint and a half of thick bile-like fluid was slowly let out. A finger was introduced into the wound, and the gall-bladder, moderately distended, was felt. As the child did not seem in a fit condition for further operative procedures a drainage-tube was inserted and the wound sutured and dressed. The child was evidently much more comfortable after the operation and could lie upon his back. The temperature rose to 100°. The wound was dressed twice the next day, and the tube was left out at the second dressing. The jaundice diminished slightly for the two days following the operation, but the stools were still clay-coloured and the urine contained bile. From this time the child no longer had any control over his sphincters. He was fed by nutrient enemata and suppositories for twenty-four hours after the operation and then was put on his former diet with the addition of two ounces of brandy or port and some cream. After the tube had been left out the jaundiced condition of the skin returned; the emaciation continued, the child having steadily decreased in weight from the time of admission. On the morning of the eighteenth day a fluctuating swelling limited to the upper third of the abdomen was present; it was dull on percussion. Mr. Spencer operated again at 2 P.M., making an incision in the middle line of the abdomen, higher in position than the previous incision and extending down to the upper end of that incision. This let out a quantity of fresh bile. Some bile-stained mesentery appeared in the wound. On passing the finger into the wound the following conditions were found. Below were adhesions; above on the right side the lower surface of the liver was distinguishable. On feeling to the left it was apparent that the liver had been pushed over to the right, for the under surface of the diaphragm could be felt. The smooth surface of the uninjured diaphragm was felt on the inner surface of the broken rib. Neither at this nor at the former operation was any tear of the liver or gall-bladder felt. A drainage tube was inserted and the wound sewn up. At the subsequent daily dressings it was evident that a large quantity of biliary discharge was flowing from the tube. On the twenty-second day the jaundice of the skin had nearly cleared up and the abdomen was resonant and retracted. Bile was discharging through the tube which was inserted close to the under surface of the liver and the abdominal wound was nearly healed. The stools were still clay-coloured and the urine contained bile. Ox bile was given in a mixture by the mouth, but the emaciation did not improve. The genu-pectoral position was still the favourite one when he was suffering any pain. A few days later ex bile pills coated with keratin were substituted for the mixture, but the emaciation steadily continued, the patient losing half a pound in weight during the last three days before death. He vomited occasionally towards the end and became progressively weaker and died on the thirty-third day after the accident.

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[1] Vol. xxvii, p. 144.

Necropsy.—The body was extremely emaciated and slight rigor mortis was noticed. In the upper part of the abdominal wound was a fistulous opening leading upwards and to the left, a probe entering three inches. On opening the abdomen the peritoneum was found to be dry and dull with numerous recent adhesions; some firmer adhesions existed between the ileum and the bladder. Between the liver, the stomach, the small omentum, and the diaphragm was a cavity shut off by adhesions from the rest of the peritoneal cavity. It contained bile and into it opened the fistulous opening mentioned above. The whole of the peritoneum was deeply bile-stained. The common bile-duct was torn quite across *close to its entrance into the duodenum.* The gall-bladder contained about an ounce of yellow bile. Both pleuræ contained recent adhesions which were easily broken down. The cartilages of the eighth and ninth ribs on the left side had been broken across. The diaphragm was intact and the other organs were healthy. Microscopically the fæces were found to contain numerous oil globules.

Remarks by MR. SPENCER.—Some points of interest in the case are: (1) the injury being limited to the bile-duct; (2) the extreme emaciation, probably partially connected with the escape of pancreatic secretion; (3) the condition of the adhesions would have made a cholecystduodenostomy a very difficult operation; (4) no sugar was present in the urine; (5) the divided gall-duct could not have been reached during life.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Sero-therapy of Typhoid Fever.—Lipoma Nasi.—Intra-hepatic Calculi—Pancreas in Diabetes.—Cystic Disease of the Liver and Kidneys.—Interstitial Lymphadenitis of the Liver in Rickets.

A MEETING of this society was held on Jan. 4th, the President, Dr. PAYNE, being in the chair.

Mr. T. J. BOKENHAM gave an account of researches bearing on the Sero-therapy of Typhoid Fever. He pointed out that all the recent researches on typhoid fever indicated the need for drawing a clear distinction between the principles governing the sero-therapy of this disease and those applicable to the case of diphtheria and tetanus. While the sero-therapy of diphtheria depends on the existance of a true antitoxic function of the remedial serum no such function has yet been demonstrated as possessed by any known "anti-typhoid" or "anti-streptococcus" serum. No definite proof is as yet available that true toxins are actually produced by the life processes of either Eberth's bacillus or of the streptococcus. Until such toxins have been prepared and investigated in the laboratory nothing can justify our talking of either a "typhoid" or a "streptococcus" antitoxic serum. In the face of clinical evidence we cannot but admit that sera obtained from animals immunised by suitable treatment against typhoid cultures or against streptococci have decided and valuable therapeutic properties, but Mr. Bokenham was inclined to attribute the good effects of such sera to their bactericidal and not to their antitoxic powers. Before any advance whatever could be made in the study of the sero-therapy of typhoid fever the question of specificity of the typhoid bacillus and its differentiation from the bacillus coli had to be finally settled. Cultural differences long ago settled the point to the satisfaction of most bacteriologists, while "Widal's reaction" gave additional evidence that admixture of serum from a typhoid fever patient with cultures of (*a*) bacillus typhosus, and (*b*) bacillus coli, produced in the one case perfect agglutination and in the other case no change. The distinction between these two microbes is demonstrated in an equally striking manner by a simple experiment in sero-therapy such as has been performed both by Dr. Funck, of Vienna, and after him by Mr. Bokenham. A tabular record of these experiments was shown on the screen which showed (1) the protective effect upon young guinea-pigs of serum from a horse immunised against typhoid fever when mixed with a ten times lethal dose of typhoid culture; (2) the failure of the serum to protect against a similar dose of bacillus coli; and (3) the apparent power of even normal serum to afford similar protection when given in large doses. The evidence in favour of the specific nature of Eberth's bacillus must therefore be taken as conclusive. As regards immunisation against the typhoid bacillus, Mr. Bokenham's own experiments lead him to endorse Pfeiffer's statements and to consider anti-typhoid serum derived from immunised animals as being chiefly bactericidal in action. Two methods of immunisation have been described. Method 1 consists in using living virulent cultures. The objection to this is that it is dangerous to both animals and investigators and that results are but slowly produced. Method 2 consists in administering cultures of bacilli which have been killed either by heat, chloroform, or some other antiseptic substance. Mr. Bokenham thinks that a combination of the two methods is likely to possess some advantages, although he is now inclined to prefer a plan which differs in some respects from either of the two alluded to. While engaged on the immunisation of horses for the production of diphtheria antitoxin he was much struck by the results obtained from following out the method of immunisation first described by Cartwright Wood. He found that by the use of heated and filtered cultures of diphtheria bacillus grown in albumin-broth not only could a condition of high resistance be rapidly set up but that such injections actually gave rise to the formation of antitoxin in the blood without the use of any ordinary diphtheria toxin at all. Mr. Bokenham showed two charts of the temperature of two animals treated by him with this "serum toxin." Now the good results thus obtained were the result of using a filtrate of which the toxic properties had been destroyed by heat; as it was found later that a course of injections of true toxin had in both the animals quite the reverse of a beneficial effect we must admit that a curative serum for diphtheria is producible without the intervention of toxins at all. Mr. Bokenham wished to see whether a similar method of treatment might not also be applicable to the case of typhoid fever. For this he prepared a bouillon to which was added 10 per cent. of blood serum (converted into alkali-albumin). The medium was then inoculated with virulent typhoid bacilli and incubated for at least three weeks, after which it was filtered through a Berkefeld filter to remove bacilli. Tested on guinea-pigs such a filtrate was altogether devoid of harmful action and gave rise to no symptoms save some rise of temperature. Chemical tests showed the presence of an albumose similar to that isolated some years ago by Dr. Soltau Fenwick and Mr. Bokenham from the spleens of patients dead from typhoid fever. This filtrate was then used to immunise a horse or at least to try to produce some modification of its natural susceptibility to either living or dead typhoid bacilli. Mr. Bokenham then showed the chart of a horse treated first with the above filtrates, then with killed cultures, and finally with alternating injections of filtrate and of killed culture. He also showed for purposes of comparison the chart of an animal treated with killed cultures only. While the first animal remained always in excellent health and was little affected by the injections the second horse reacted most violently to each injection. There were also corresponding differences in the case of the two sera obtained from them, the first producing the agglutination reaction with extreme readiness, the second being far less active. The susceptibility to living cultures of typhoid bacillus was also much less marked in horse 1 than in horse 2. So far then there was some evidence that the filtrate from living cultures, although not toxic, had other properties of at least equal importance. An animal treated with it showed a decidedly increased tolerance to both killed and living typhoid cultures and yielded a serum which possessed marked agglutinative powers. Experiments showed that injections of serum made within three hours of injecting 10 lethal doses of culture were in a large number of cases efficacious. Mr. Bokenham summarised his results as follows: (1) non-toxic filtrates of fresh cultures have distinct immunising powers; (2) the immunising action is displayed towards both living and dead cultures; (3) the serum of an animal treated with filtrates of fresh cultures acquires agglutinative and bactericidal properties; (4) mixed with living cultures in sufficient proportion the serum renders them harmless; and (5) to a certain extent the serum has also protective and curative powers. Mr. Bokenham agreed with other observers in considering the serum as devoid of antitoxic properties. He believed, however, that such a serum will ultimately be obtainable and although unfortunately his own experiments have been interrupted they afforded some indication as to the lines on which progress may be hoped for.—Dr. Bertram Abrahams thought that the specificity of the typhoid bacillus was now thoroughly established. He did not think that experimental injections of typhoid bacilli were altogether conclusive, as they produced death in twenty-four hours and not a chronic disease such as occurred in man. In a few instances, however, true typhoid fever had been communicated to animals through the alimentary canal. Although Mr. Bokenham had said that there was no actual toxin of typhoid fever yet he spoke of the probability of discovering an antitoxin, which appeared contradictory.—Mr. Bokenham, in reply, said that it was generally held by clinical observers that the symptoms of typhoid fever were due to an intoxication, but he wished to convey that until such toxin had been isolated by laboratory methods and submitted to tests it was premature to assume its existence.

Mr. Edgar Willett showed a specimen of Lipoma Nasi from a man seventy years of age. There was no history of alcoholism. Mr. Willett remarked that cases of this condition always occurred in males. If the popular belief that they were due to alcoholism were correct it would be expected that it would sometimes occur in women. On section the specimen showed that the name "lipoma" was misapplied. There was no fat except in the sebaceous secretion, but the mass was made up of hypertrophied fibrous tissue in the deeper layers of the skin which enclosed masses of sebaceous gland acini. In the sebaceous matter were abundant bacilli apparently identical with the bacillus of seborrhœa.

Dr. Rolleston showed large Intra-hepatic Calculi *in situ* from a man, aged thirty-eight years, who died from diabetes and pulmonary tuberculosis and had been jaundiced. It appeared possible that the extension of duodenal catarrh to the pancreatic duct had set up chronic pancreatitis and that this in its turn had set up diabetes. The fibrotic pancreas with its dilated duct containing calculi was also shown. Possibly the extension of catarrh to the intra-hepatic ducts accounted for the calculi. The calculi were large, filled up the hepatic ducts, crumbled, and were composed of bile pigment and cholesterin. There were no calculi in the gall-bladder and the cystic duct was not dilated so the intra-hepatic calculi had been formed *in situ* and had not been conveyed there from the gall-bladder. Intra-hepatic calculi of any size were rare and the occurrence of cholelithiasis in diabetes is quite exceptional; in 220 cases of diabetes quoted by Brockbank from Windle there was one calculus, or 0·45 per cent. Sections of the pancreas showed that there was chronic pancreatitis and that in some of the smaller ducts there were some small concretions, probably phosphatic. He thought that the man through alcoholic habits had suffered from duodenal catarrh and that this had spread up the duct of Wirsung producing chronic pancreatitis, which in its turn had given rise to the diabetes.

Mr. Raymond Johnson brought forward a case of Cystic Disease of the Kidneys and Liver. The patient, a woman, fifty-three years of age, gave a history of two attacks of hæmaturia twelve and four years ago respectively. For five months there had been repeated vomiting after food and progressive emaciation. Each kidney could be felt as a large lobulated tumour, but there was no apparent enlargement of the liver and no jaundice. The daily excretion of urine varied between 25 oz. and 34½ oz. and it contained from 120 to 135 grains of urea; the specific gravity was 1010 and a trace of albumin was present. Death occurred quite suddenly and was not preceded by coma or convulsions. The left kidney weighed 62½ oz. and the right 24 oz.; each was converted into a mass of cysts varying in size and containing clear or opalescent fluid. Here and there between the cysts small areas of indurated renal substance were recognisable. The ureters were normal. The liver was studded throughout with cysts, the largest being of the size of a hazel nut; in other respects the liver was normal. The spleen contained a small softened nodule having all the characters of a softened gumma. There was no hypertrophy of the heart. One ovary was cystic. The brain was not examined. Microscopic examination showed that the smaller cysts in the kidney were lined with cubical or columnar epithelium and the larger ones with flattened epithelium. In the solid tissue between the cysts were abundant remains of renal tubules and normal looking glomeruli. In parts a somewhat dense round-celled infiltration was present. In the liver the cysts arose from dilatation of biliary ducts. They were lined with cubical or columnar epithelium and surrounded by a dense, almost non-cellular, fibrous tissue. Mr. Johnson thought that the appearances supported the view expressed by Dr. Still that the cystic change was to be regarded rather as a developmental error than as a result of inflammation. Assuming that the cystic condition of the kidneys was also due to some similar cause it seemed probable that considerable inflammatory changes had supervened and had probably been concerned in leading to the fatal result.

Mr. Jackson Clarke showed a Section of the Liver of a child suffering from Rickets who died from Tetany. The portal canals contained an increased amount of lymphoid tissue. Sections of the small intestine, spleen, and lymphatic glands also showed a similar lymphoid hyperplasia. Mr. Clarke regarded the adenoids so commonly present in rickety children as part of a widespread tendency to hyperplasia of lymphoid tissue in rickets.—Dr. Rolleston questioned whether the new formations in the portal spaces were due to hyperplasia of lymphoid tissue as he had never been able to convince himself that lymphoid tissue occurred normally in the liver. He thought that it was due to hyperplasia of the connective tissue from the absorption of irritating matter from the intestine.—The President remarked that the pathology of the enlarged viscera met with in some cases of rickets required investigating afresh with modern methods. It had been suggested that they were syphilitic, but he thought that they were of a different type. The appearance of an extreme rickety liver to the naked eye was much more like that of an amyloid liver. It was quite possible that the specimens shown by Mr. Clarke were an early stage of the condition which had been described by Dr. Howship Dickinson and others. Even if it were admitted that the changes in rickets were inflammatory the causation still remained obscure. The most probable explanation was that there was some irritating substance circulating in the blood and that the main incidence of the poison was on the bones much in the same way as the chief incidence of the rheumatic poison was on the joints.—Dr. Parkes Weber strongly supported the view that these changes were due to auto-intoxication from the alimentary canal. Extreme fatty infiltration was not uncommon and he accounted for this by supposing that the auto-intoxication so damaged the vitality of the liver cells that they could not part with fat and became surcharged with it. A similar loss of vitality on the part of the liver-cells might also account for the large fatty livers frequently met with in patients dying from pulmonary phthisis.—Dr. W. S. Lazarus-Barlow said that he had met with a very similar appearance in the livers of some guinea-pigs on whom he had experimented with digitoxin. He could not regard the condition as one of commencing fibrosis as there were only round hyaline cells present, and no spindle-cells or signs of fibrillation. He was inclined to regard it as an acute inflammatory condition due to auto-intoxication.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Typhoid Fever in Leeds.

A meeting of this society was held on Dec. 7th, 1897, the President, Dr. Arnold Evans, being in the chair.

Dr. Major gave a Microscopical Demonstration, including Sections of the Spinal Cord from a case of Tabes Dorsalis, Blood from Pernicious Anæmia, and Sections of Cerebral Cortex.

Dr. Bronner showed a case of Orbital Cellulitis. In the upper part of the orbit was a hard mass which simulated a new growth. Dr. Bronner considered that the hardness was caused by compression of the inflamed cellular tissue by the muscles of the upper eyelid. An incision had been made deeply into the swelling but no pus was obtained. The mass was subsiding under simple treatment.—Dr. RABAGLIATI, Mr. MORTON, Mr. CARTER, and Mr. HORROCKS discussed the case.

Mr. ALTHORP showed a case of Congenital Club Hand which had been operated on in the first instance, not by himself, by removal of portions of the metacarpal bones. Mr. Althorp had again operated twice with a view of liberating some of the tendons which were adherent and had in addition excised part of the first metacarpal bone. He made some observations on club hand in general and the case was discussed by several members.

Mr. HORROCKS showed the Ovum from a case of Ectopic Gestation. The case was operated on by abdominal section, the ovum and clots were removed, the edges of the sac were stitched to the abdominal wound and the cavity was drained with iodoformised gauze. The patient made a rapid recovery.

Mr. GODFREY CARTER gave notes of a limited outbreak of Typhoid Fever in Leeds durirg the months of August and September, 1897. There were thirty-two cases occurring in three small streets of cottages situated in a shallow valley. The likelihood of the disease being imported was not very great as few of the patients had been from home during the previous month. The houses had partly outside water-closets and partly privy middens, from one to four households using one midden. In 25 per cent. of the houses the drains were found to be defective, as shown by the calcium phosphide test. The families of 41·6 per cent. of the cases were supplied with milk by one of two brothers who obtained their milk from separate sources, but often supplied one another in case of deficiency. At the farm from which one of these brothers obtained milk the water came from a shallow spring in cultivated fields and showed very marked animal defilement, but bacteriological examination did not reveal the presence of Eberth's bacillus. Four samples of milk—two from the other farm and two from the one under consideration—were examined and one of the two latter only showed the presence of Eberth's bacillus. This sample of milk had been stored in the milkman's cellar while the other had never entered the house. The cellar had a sink communicating by an imperfect trap with the city sewers, the drain under the cellar was leaking at every joint. The milk before being sent out was occasionally stored in this cellar being placed in open pans on a stone bench three or four feet high. There had been several cases of fever in the vicinity of the dairy and consequently contamination of the drains. Mr. Carter considered that this was a case in which the poison had been aërially conveyed in the shape of spores or otherwise from the sewer through the leaking drain to the pans of milk. The empty milk cans were kept in the cellar, but Mr. Carter did not think that they could be contaminated sufficiently to affect the milk to any extent.—Dr. EVANS, Mr. FARROW, Dr. GOYDER, Dr. BELL, Dr. KITCHIN, and Dr. CAMPBELL discussed the paper, and Mr. CARTER replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Syphilitic Encephalopathy.—Pernicious Anæmia.

A MEETING of this section was held on Dec. 17th, 1897, Sir GEORGE F. DUFFEY, the President, being in the chair.

Dr. W. R. DAWSON read notes on a case of Syphilitic Encephalopathy. The patient was a man, forty-five years of age, who suffered from grandiose delusions and some mental weakness. He had a history of syphilis and chronic alcoholism and some years previously had suffered from some ocular paralysis, recovering with abstinence and iodide of potassium. There were extensive paralysis of intraocular muscles, ptosis, general tremor, flattening of the face, increased knee-jerks, muscular and cutaneous sensory abnormalities, and perhaps girdle pains, cardiac weakness and a rupial skin eruption. Speech was not affected. Abstinence and iodide once more proved effective and the patient, after passing through a melancholic stage, recovered in about seven months.

Dr. J. B. COLEMAN read a note on a case of Pernicious Anæmia. The patient was a man, aged sixty-seven years, who was admitted to hospital complaining of weakness and shortness of breath. He stated that he had been becoming pale and weak for two or three months during which time he had occasional attacks of diarrhœa and vomiting. He was extremely anæmic. His temperature ranged from 99° to 101° F. His urine was normal in quantity and acid in reaction; it contained neither sugar nor albumin; it gave the urobilin spectrum and a marked indican reaction; urea 2 per cent. His blood was pale pink, very watery, did not clot readily, and was of specific gravity 1034; the fresh specimens showed great variation in the size and shape of the red cells which had no tendency to form rouleaux. Hæmoglobin was reduced to 30 per cent. of normal; the red cells numbered 1,000,000 and subsequently 800,000 per cubic mm. (from 20 to 17 per cent. of normal number); there were only 1100 white cells per cubic mm., but on the day of his death they mounted to 21,000. Stained blood preparations, which were exhibited, showed poikilocytes, megalocytes (diameter 14 μ), microcytes (diameter 2–4 μ), and nucleated red cells; the latter comprised both gigantoblasts (diameter 14–21 μ) and normoblasts; some red cells had lost their hæmoglobin (shadow corpuscles) and others showed polychromatophilic changes. He died three weeks after admission to hospital. Regarding treatment arsenic was tried but had to be discontinued; gastric sedatives, intestinal antiseptics, rectal injections of water, oxygen inhalations, and nutrient enemata were given. The post-mortem examination disclosed no lesion to account for the anæmia.—Dr. CRAIG said that in cases of pernicious anæmia much stress had been laid on the proportion of organic to normal sulphates in the urine not only as a means of diagnosis but also as a guide to treatment. The amount of organic sulphates diminishes if the case is progressing well.

SECTION OF SURGERY.

Antitoxin Treatment of Tetanus.

A MEETING of this section was held on Dec. 10th, 1897, Sir WILLIAM THOMSON, President, being in the chair.

Mr. GLASGOW PATTESON read notes of two cases of Tetanus Treated with Injections of Antitoxic Serum both of which recovered. In the first case, a boy aged fourteen years, who trod on a thorn, the symptoms developed eleven days after the injury. Ten c.cm. of serum were injected thrice daily at first and twenty-three injections were given in all. In the second case, a man who fell off a cart and cut his knee, the symptoms came on about twelve days after the injury, rigidity and opisthotonos being well marked. Eighteen injections of 10 c.cm. each were administered in all and the patient was quite well at the end of a fortnight.

Mr. J. KNOX DENHAM read a paper on a case of Tetanus.

Mr. HENRY CROLY read notes on a case of "Cephalic" or "Hydrophobic" Tetanus. The patient, a man aged thirty-five years, was thrown to the ground while driving a horse and trap and sustained severe head injuries, shortly after which he had an attack of tetanus accompanied by unilateral facial paralysis. Tetanus antitoxin (one gramme of dried serum dissolved in two drachms of sterilised distilled water) was injected hypodermically but did not appear to do any good so it was discontinued after some days. The next treatment was chloral hydrate in drachm doses night and morning, which lessened the spasms and produced sleep. From this time onward the spasms grew less daily, the facial paralysis disappeared, and the patient made an excellent recovery.

Mr. HENRY GRAY CROLY related a fatal case of Tetanus which occurred last November and was treated with injections of antitoxin. He had tried the antitoxin treatment in more than one case without any benefit whatever. He had often noticed yawning to be a forerunning symptom of tetanus.

Sir THORNLEY STOKER said that he had seen Mr. Denham's case of tetanus and he had no doubt whatever that the antitoxin did diminish, or at times even abolish, the spasms. The patient nevertheless died. In the application of antitoxin for tetanus it was impossible to say in a given case whether it was the treatment that cured the patient or not. He described a case of tetanus in a boy, aged thirteen years, who recovered after being treated with mercury and with inhalation of the vapour of nitrite of amyl which completely allayed the spasms.

Mr. MYLES said he had met two cases of tetanus, both of which recovered. In one of them he had used antitoxin. Recovery was complete. He thought that the gradually increasing weight of evidence was in favour of antitoxin and that no man could feel that he had done his duty in a case if he did not at least give the patient a chance.

Mr. **McCAUSLAND** described a case of Tetanus occurring in a man with slight wounds on the legs. Under an anæsthetic the skin around the wounds was freely excised and at the same time an injection of French antitoxin was given. A drachm of bromidia every two hours, nourishment, and a large enema were ordered. Only two slight spasms occurred after recovery from the anæsthetic and recovery was complete in ten days.

Mr. **LENTAIGNE** said that he had treated three cases of tetanus with mercury and chloral and all had recovered, whether as a result of the treatment or not he would not venture to say.

Mr. **PATTESON**, replying, said that he had employed fluid serum prepared at the Pasteur Institute. Dried serum was also made and had the advantage of retaining its properties better. He would not like to trust to mercury as a treatment for tetanus.

Reviews and Notices of Books.

Death and Sudden Death. By P. BROUARDEL, Professor of Medical Jurisprudence, Dean of the Faculty of Medicine, Paris, Member of the Institute and of the Academy of Medicine. Translated by F. LUCAS BENHAM, M.D., B.S. Lond., M.R.C.P. Lond. Pp. 270. London: Baillière, Tindall, and Cox. 1897.

THIS book is a veritable classic. It is long since we read a work so remarkable for its conciseness, its diction, and its logical accuracy. As Dr. Benham remarks, "it treats of a subject which is hardly touched on in English medical literature." It should be read by every practitioner and student. The descriptive text is clear. Dr. Brouardel has the happy faculty of distinguishing the certain from the problematical and of nicely adjusting and expressing the degree of probability. The book is divided into two parts, the former dealing with the Signs of Death and the latter with Sudden Death.

The signs of death are described in detail and the value of each is carefully weighed. As a corollary we have presented to us the author's views on Premature and Live Burial, a subject we discussed last year in our columns. Whilst admitting the authenticity of narratives of persons having been buried alive and the possibility of recurrence of such an event he is of opinion that "the danger does not lie in the period of time (between the alleged death and the burial) fixed by law, but in the incompetence of persons appointed to legally confirm the fact of death." A grave indictment is laid against the authorities of not providing efficient medical service both as regards assistance to the poor and the verification of death in country districts. "In the 36,000 communes of France the mayor and his deputy are not necessarily doctors of medicine, they are therefore incompetent, and as they are fully cognisant of their incompetence they do not take much trouble about it; they do not go to deceased's house to obtain actual proof of death, and the person who comes to give information of death is allowed to take away the permission to bury. The law, such as it is, makes this procedure legal." And again: "In the country many people die without any professional man being called in." Dr. Brouardel suggests as a remedy that for these districts medical men should be provided by State aid. We have not space to criticise in detail all the sections of the work so admirable throughout, but we would direct attention to a few subjects which in other treatises are glossed over with cursory notice. We gather that the mortality amongst new-born children is much greater than it should be owing to the fact that "*apparent death* is tolerably frequent at the moment of birth." Long-continued attempts at resuscitation are recommended.

Speaking of the signs of death Dr. Brouardel lays stress upon the fact that rhythmical movements of the abdominal and thigh muscles and of the diaphragm may last for some time after the circulatory and respiratory functions have ceased. "Post-mortem parturition" he attributes to expulsion by gases developed in the abdomen and not to vital uterine contraction.

The chapter on Death from Inhibition is very attractive. Cases are cited where death has arisen reflexly from injuries over the epigastrium, hypogastrium, and the larynx, injuries of so little severity as *primâ facie* to be quite inadequate to cause a fatal result. The argument is supported by facts obtained by experimentation on the lower animals.

The method and mechanism of Sudden Death is fully discussed and its relation to the functions of the different organs and systems of organs described in great detail. The section which treats of Alcoholism is one that should be read not only by medical men but by all others concerned in the investigation of cases of sudden death in alcoholics which so frequently engage legal notice. The author directs attention to the frequency of serious lesions and even death arising from slight blows or excitement in persons habituated to alcoholic excess, remarking that "the gravity of the lesions is often more dependent on the victim than on the culprit."

On the question of the criminal responsibility of inebriates Dr. Brouardel boldy affirms that they should not be exempt from punishment since they must know that excess in the use of stimulants may entail the commission of illegal acts. He contrasts the maddening to crime by drink with the irresponsible acts of "a madman or poor lunatic."

It would take pages to adequately notice the work before us, but we shall have succeeded in our desire if the above comments stimulate our readers to obtain the work for themselves. We can promise them a rare literary and scientific treat.

Dr. Benham has given a most successful representation of the original. It is saying a great deal, but we do not hesitate to affirm that his translation has preserved all the charm and accuracy of Dr. Brouardel's lectures. The letterpress is bold. The work is not illustrated, indeed, the author's pen required no extraneous aid.

English Sanitary Institutions; Reviewed in their Course of Development and in some of their Political and Social Relations. By Sir JOHN SIMON, K.C.B., F.R.S., &c., Past President of the Royal College of Surgeons of England, and formerly Medical Officer of Her Majesty's Privy Council. Second edition. London: Smith, Elder and Co. 1897. Price 18*s*.

To the province of Sir John Simon's sanitation there are none of those restricted boundaries which in popular parlance limit matters "sanitary." The history of English sanitary institutions is in his hands the history of centuries of national movements and individual endeavours which have had for object or result the increase of the health and the happiness of the mass of English people. In the latter half of the present century success in this direction has been achieved to an extent which might well have seemed incredible not many generations ago. The reason is to be sought not merely in the conspicuous increase of exact medical and scientific knowledge during the period, nor can we, except in part, attribute it to the zeal of the sanitary reformers of the Victorian era, great as they have been. We need also to inquire by what process of evolution English social life and English politics had at length come to be impressed by the need for national sanitary progress.

It is not the least part of our debt to Sir John Simon that he has answered this question for us after a fashion which must needs give him high rank among historians. In the first half of "English Sanitary Institutions" he has presented us with a series of outlines—like all Simon's work, fascinating in form and expression—which bring vividly before us the social conditions which from mediæval to pre-Victorian times have operated to diminish or to augment the abiding misery, poverty, and other insanitary circumstances in which the great mass of English people lived; while he at the same time reviews for us the several influences which in successive epochs have tended to alleviate suffering and to promote sanitary welfare. Perhaps the most noteworthy chapters in this regard are those which are devoted to the study of the conditions which, after the lapse of many centuries, established Humanity as an abiding factor in English politics. Here Simon renders homage to the eighteenth century, and shows how much cause sanitary workers of the present day have to be grateful to men who, like Wesley, introduced high ideals of conduct into popular thought, or like Howard set a conspicuous example of self-sacrifice in philanthropy, or like Wilberforce showed that when the public conscience is awakened neither privilege nor political scheming can stand against it.

It is in connexion with the eighteenth century likewise that Simon has to tell us of the labours of early masters of British preventive medicine—Pringle, Lind, Stephen Hales, Blane, Baker, and Jenner. We are tempted to quote, both for its philosophy and for the benefit of any reader unacquainted with Simon's style, the passage in which he pays "alms for oblivion" for these departed heroes.

> "It is a favourite reflexion among philosophers, that, if departed great benefactors of our race could now and then look down on the harvest-fields where mankind age after age is gladdened by the fruits of their labour, they would in general find themselves less remembered than perhaps their terrestrial ambitions had desired. Doubtless this is so; but let the noble compensation be noted that often the thoroughness of a reformer's victory is that which most makes silence of the reformer's fame. For how can men be adequately thankful for redemptions when they have no present easy standard, no contrast between yesterday and to-day, by which to measure the greatness of them? And to some readers that reflexion may well occur at this present point as they say their *Benedicite* for our workers of the eighteenth century. Of the present generation who in summer holidays enjoy their draught of cider in Devonshire, not many know that Baker unpoisoned it for them. Of those who go down to the sea in ships, not many have reading and imagination enough to contrast the sea life which now is with the sea life which was suffered in Anson's days and to be grateful for Lind and Blane who made the difference. And in some cases ignorance best tells its tale by swaggering against the truce which protects it. At the anti-vaccination meetings of which we now occasionally read, where some pragmatical quack pretends to be making mincemeat of Jenner, how small would become the voice of the orator and how abruptly would the meeting dissolve itself if but for a moment the leash were away with which Jenner's genius holds back the pestilence, and small-pox could start into form before the meeting as our grandfathers saw it but a century ago."

In insisting upon the historical and literary quality of "English Sanitary Institutions" we would not seem to ignore the peculiar value of the second half of the volume, which in part constitutes a book of reference, written by one whose life-work is his authority, to the several administrative measures and social changes which in the Victorian era have produced the complex sanitary organisations of the country; in other part also is an appreciative summary of the work of the great sanitarians within that period; and above all, is of value in its critical discussions of the relations which have subsisted and which should subsist between Medicine and the State. Those who have at heart the right guidance of medical politics and the success of public health administration cannot fail to be acquainted with this history and criticism, as Simon gave it in 1890, and as with few modifications he still presents it. Needless to say, the record of the legislature and of successive administrations of recent times is not greatly to the taste of one who so pre-eminently has shown the way of national duty in matters sanitary, and whose fate it has been to prophesy—unhappily with accuracy—the ill which would follow the neglects and shortcomings of various legislative and administrative acts. Simon's censure here falls largely upon the Local Government Board, which when established in 1871 might have become the office of a true ministry of health for the country but which, through political blundering and administrative shortsightedness, deliberately reduced to the minimum its medical and sanitary functions and thus from the onset rendered itself impotent for many of the functions which should be exercised by a board responsible for the sanitary welfare of the kingdom.

Simon's warm tribute to the excellence of the work conducted by successive medical officers and members of the medical staff of the Local Government Board in our view lends all the greater force to his objections. Why, for example, when successive Governments have had at command in the medical department of the Local Government Board such a store of medical knowledge and so great an experience of sanitary administration have they compelled us to witness blunderings such as have characterised the dealings of that Board with questions of vaccination?

We must not end this brief welcome of the new edition of this book without reference to two appendices—one philosophical, the other polemical—which appear in it. Both are reprints of magazine articles written by the author since the first edition was published.

LIBRARY TABLE.

Transactions of the American Ophthalmological Society. Thirty-third annual meeting, Washington, D.C. 1897. Hartford: Published by the Society.—This report of a meeting of the American Ophthalmological Society, held in Washington, and presided over by Dr. George C. Harlan, contains forty-three articles, many of them of considerable interest. Amongst them are cases of Exophthalmic Goitre and Pulsating Exophthalmos described in detail by Dr James Spalding, Dr. Wm. F. Aiken, Dr. Wm. H. Wilder, and Dr. Swain Burnett. In Dr. Spalding's case both eyes had to be extirpated owing to the supervention of panophthalmitis. In Dr. Burnett's case the cause of the exophthalmos was sarcoma of the dura mater. Dr. Lucien Howe gives the pathology of chronic membranous conjunctivitis. In cases under his care diplo- and strepto-cocci were found as well as staphylococci and the Löffler bacilli. He thinks the diagnosis of conjunctival and corneal inflammation should be founded on bacteriological investigation. The same writer advocates in another article the general adoption of Créde's method of preventing purulent ophthalmia in new-born children. Dr. W. F. Norris reports a case of Ivory Exostosis which was completely removed from the roof of the right orbit. Dr. E. Jackson describes a case of Intra-ocular Enchondroma springing from the Choroid. Dr. W. Johnson gives a case of Angio-sarcoma, apparently of retinal origin, which is illustrated by several plates. Several cases are recorded by Dr. William Thomson and Dr. Charles Oliver of foreign bodies in the eye, the presence and position of which were accurately determined by the use of the Roentgen rays; the apparatus devised by Dr. Sweet for this purpose and the mode of its application are described. Valuable papers are those by Dr. Weeks on that form of Retinitis which has received the name of Retinitis proliferans and by Dr. Edward Fridenberg on Retinitis circinata. Dr. de Schweinitz gives several cases with illustrations of Toxic Amblyopia, and Dr. James A. Spalding four cases of Optic Atrophy.

Lastly, Dr. Oliver describes the ophthalmic changes in Chlorosis, Pernicious Anæmia, and Leucocythæmia.

Annales d'Oculistique. Publiées par les Docteurs E. Sulzer et E. Valude. Soixantième Année. Tome cxviii., sixième livraison. December, 1897. Paris: A. Maloine.—The original articles in this number of the Annals are: 1. Dr. P. Pansier on Hysterical Amaurosis; Diplopia and Polygonal Vision. In the course of this article an amusing account of the absent-mindedness of Ampère is given. This distinguished mathematician and physicist one day sallied from his house with a problem in his head and a piece of chalk in his hand. A cab stopped in front of him and he began to jot down his figures on the back of it. The cab drove on, the philosopher trotted after it, and recommenced to write when it stopped. A friendly passer-by at length carried him off amidst the laughter of the crowd. 2. Dr. A. Trousseau on Sponge-Grafting for the purpose of obtaining a Good Stump after Enucleation of the Eye. 3. Dr. Boucheron on Sérothérapie or Treatment by means of Injections of Antitoxic Lymph in cases of Abscess of the Lacrymal Sac. The lymph used was the anti-streptococcic serum of Marmorek, 4 to 6 c.c. of which were hypodermically injected daily into the abdomen. 30 c.c. were injected altogether and recovery took place in less than a week. 4. Dr. J. Duclos records a case of Double Circular Rupture of the Choroid in the Horizontal Meridian with Detachment of the Retina. 5. Dr. L. de Wecker describes the operation of Sphincterectomy of the Iris.

Chemistry for Photographers. By Chas. F. Townsend, F.C.S., F.R.P.S. London: Dawbarn and Ward. 1897. Crown 8vo. Pp. 158. Price 1*s.* net.—This is a good little book full of practical details and common sense. A beginner in photography could have no better guide, for it explains the meaning of each step in the processes of developing and printing and shows why this or that manipulation is necessary. The experienced photographer also cannot read the book without profit and advantage. There are fifteen chapters, each dealing with a separate section of photographic work, and the bichromate printing processes, printing in silver, in iron, and in platinum, and orthochromatism are all carefully considered. The last eighteen pages are devoted to a "cyclopædic index" of formulæ, solubilities in water and alcohol, and symbols, with references to what has been written in the body of the work respecting the various substances enumerated. The chapter on developers is especially good and the advantages or disadvantages of the newer developers are clearly set forth. We notice that rodinal is mentioned as being an useful developer for x-ray work and this we consider to be a valuable hint. X-ray work has compelled a number of people to learn something about development, and they require a developer which will bring up all the detail possible in a plate which is probably under-exposed and will also give good contrast and density and be simple to work with. Rodinal probably meets these requirements as well as any developer known.

Leonis XIII. Carmina Novissima. Ex typis S. Joannis et S. Augustini. Romæ: 1897. (*Leo XIII.'s Latest Poems.* From the Printing Office of S. John and S. Augustine. Rome: 1897.)—The reigning Pontiff, it is well known, beguiles the scanty leisure he allows himself with Latin versification and from time to time gives to the world a little volume of such "nugæ metricæ" as he thinks best worth preserving. Sometimes, indeed, he does not wait till he has thrown off enough of these to make up a volume, but if the "metrical trifle" is at once opportune and happy he sends it forth independently. One of these fugitive pieces came into our hands last summer and was noticed[1] under the title of "The Pope on Diet"—a subject on which Leo XIII. writes at once playfully and instructively and, after his Horatian model, tells us the articles of food and drink he has found conducive to the "green old age" of which he is a striking exemplar. In the volume before us we recognise our friend of last summer and, re-perusing it with the attention its official dress demands, we are still more convinced of its sound sense, its practical tone, its man-of-the-world wisdom, and its "happy finish" (*curiosa felicitas*) of style. We can follow the author through every "note" of the dietetic "scale" and are quite prepared for the "harmony" of its results. Let nothing enter the stomach or even pass the lips that is open to the slightest suspicion of "adulteration" is a rule of his to which The Lancet from its youth up has striven to get the British public to conform; and that other rule, that while the "ingesta" must be "purissima" they must be consumed in moderation, is also one it has never failed to enforce. At the dinner table the Pope would allow the guest the "option of milk" and justifies its use on the ground that—

> "Nil vitale magis, nil lacte salubrius; infans
> Qui lac suxisti, senior bene lacte valebis."

(Nothing is more life-giving, nothing wholesomer than milk; you who as an infant have sucked it will maintain your health on it in old age.) Not that he has any quarrel with wine; on the contrary, he counsels—

> "Apponi in mensa jubeas purissima vina;
> Et, vacuus curis, grato praecordia potu
> Demulce et recrea, convivas inter amicos.
> Sobrius at caveas, nimium ne crede lyaeo."

(Order the very purest wine for your table; and, free from care, soothe and refresh your vitals with the pleasant beverage, in the company of friends; but in all sobriety, taking care not to rely too much on it as a restorative.) Leo XIII., following the custom of his compatriots, recommends a cup of black coffee after dinner, but is careful to omit the *chasse*:

> "Postremo e tostis succedat potio bacis
> Quas tibi Moka ferax e litore mittit Eoo:
> Nigrantem laticem sensim summisque labellis
> Sorbilla; dulcis stomachum bene molliet haustus."

(To wind up, let there follow the beverage made from the roasted berries which fertile Mocha sends you from the eastern shore; sip the black liquid gradually and with the margin of the lips; the agreeable draught will gently influence the stomach.) This brings us to the end of the first part of the poem; the remaining half is a vivacious serio-comic description of what to shun in eating and drinking. Excess—

> "Ingluvies, crudelis et improba Siren"—

is religiously to be avoided if we would escape the premature collapse of body and mind that overtakes the gourmand. There are other poems in the volume, appealing, however, rather *ad clerum* than to the medical reader, and to these we give a general recommendation, singling out the fine Sapphic Ode on the conversion of France to Christianity as a proof that even as a Latin versifier Leo XIII. is not inferior to Nicholas V. or to Pius II. or to Urban VIII. among his predecessors—or, indeed, to any of the contemporary *dilettanti* who court the "dulce periculum" of imitating Horace.

JOURNALS.

Transactions of the British Institute of Preventive Medicine. London: Macmillan and Co., Limited. 1897.—This the first volume of transactions of the Institute opens with an introduction by Lord Lister giving a short account of the work of the Institute since its foundation in July, 1891. The premises which have been occupied up to now in Great Russell-street are only temporary but the new buildings at Chelsea are expected to be soon ready for occupation. The papers in the present volume of transactions are nine-in number, all of which except one deal with bacteriological matters, the exception being a note on a Peculiar Movement of Certain Intra-cellular Particles in Yeast Cells, by Dr. W. St. C. Symmers of Aberdeen. Dr. A. Macfadyen and Dr. R. T. Hewlett contribute an interesting paper on the Sterilisation of Milk. The milk was passed through a double set of heating and cooling coils so that it was twice heated and twice cooled. Though not rendered absolutely sterile pathogenic organisms sown in the milk were destroyed. The temperature used in the hot coils was 70° C. Mr. Joseph Lunt contributes a research upon the sterilising of water by means of the Berkefeld filter. The paper is very long and full but the main result arrived at and the one of most interest to householders was that the filter should be cleaned and sterilised once a week. Dr. Macfadyen and Mr. Lunt publish the results of some researches into the amount of bacteria and dust present in ordinary town air. The quantities of the former were reassuringly low for in the dust of a room among 184,000,000 particles of dust there was only one organism detected.

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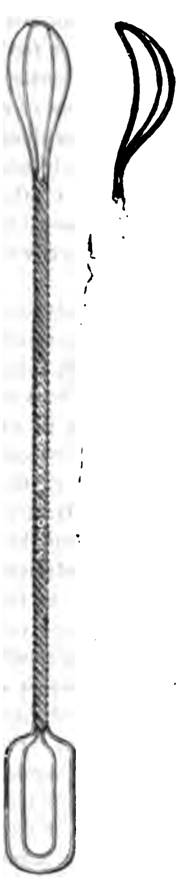
[1] The Lancet, June 5th, 1897.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., and W. F. R. WELDON, F.R.S. London: J. and A. Churchill, 1897. April and December Numbers. Price 10*s.* each.—The April number of this journal (accidentally overlooked) contains the conclusion of Professors Grassi and Sandias' article on the Constitution and Development of the Society of Termites, an article that contains many curious details in regard to the habits of these highly developed insects, such for example as the nature of their food (which may be particles of decayed wood or the materials disgorged by their fellows, the dejecta of their fellows, the dead bodies of their own or other colonies, or the salivary secretion of their fellows), the production of complementary royal personages, and other points in their life history—a very valuable and interesting series of researches. An account is also given of the parasitic protozoa of the termitidæ. The next article is by Miss Margaret C. Collcutt, of University College laboratory, on the Structure of Hydractinia Echinata, with one plate. Mr. J. T. Cunningham contributes a paper on the Histology of the Ovary and of the Ovarian Ova in Certain Marine Fishes, with three plates. Other articles are by Dr. A. Willey on Ptychodera flava, with a plate; by Mr. Edwin Goodrich on the Nephridia of the Polychæta, including those of the Genera Hesione, Tyrrhena, and Nephthys, with four plates; by Dr. A. Willey on the Pre-ocular and Post-ocular Tentacles and Osphradia of the Nautilus; and lastly, by the same writer, Heteroplana, a New Species of Planarians.—The December number contains three memoirs: (1) a Note on a New British Echiuroid Gephyrean, with remarks on the Genera Thalassema and Hamingia, by Dr. W. A. Herdman, F.R.S., of University College, Liverpool, with two plates; (2) the Placentation of Perameles, being a first contribution to the Embryology of the Marsupialia, by Mr. James P. Hill, of Sydney, New South Wales, with five plates; and (3) on the Green Pigment of the Intestinal Wall of the Annelid Chaetopterus, by Professor E. Ray Lankester, with four plates.

Archives de Physiologie. Publiées par MM. BOUCHARD, CHAUVEAU, and MAREY. Cinquième série, Tome IX., No. 3. Juillet, 1897.—This number contains nineteen articles, amongst the more important of which are those by M. C. Rouget on the Structure of the Terminal Plates of Motor Nerves in the Higher Vertebrata, with three plates; by M. G. Weiss, on the Functional Adaptation of Muscles, in which the author is opposed to some of the conclusions drawn by the late Rev. Professor Haughton in his work on "Animal Mechanics"; by M. B. Danilewski, Researches on the Excitation of Nerves by Electric Rays; by Dr. H. Bordier on the Laws of Sensory Shocks in Man deduced from Experiment; by MM. A. Charrin and E. Bardier, on the Influence of Toxines on the Heart, the experiments being chiefly made on the frog, rabbit, and guinea-pig; by MM. Doyon and Dufourt, a Contribution to the Study of the Bile—the authors appear not to have seen the report by Professor Rutherford and Mr. Vignal of their experiments; by M. Alezais, on the Urine of the Guinea-pig; by MM. C. Bohr and V. Henriques, Experimental Researches on the Production of Carbon Dioxide and the Consumption of Oxygen in the Lungs (Pulmonary Combustion); and by MM. Hedon and J. Ville, on the Digestion and Absorption of Fats after the Formation of a Biliary Fistula and Extirpation of the Pancreas. One of the above-named authors, M. Hedon, has an article on the Rôle of the Pancreatic Juice and of the Bile in the Absorption of Fats; MM. C. François-Franck and L. Hallion contribute an article on the Circulation and Vaso-motor Innervation of the Pancreas; M. J. H. Keiffer describes the Glandular Function of the Uterus; M. C. Delezenne gives the results of his experiments on the Action of the Serum of the Eel and of the Extracts of Various Organs on the Coagulation of the Blood; and there are also some short accounts of New Instruments for registering the weight of the body (by M. G. Weiss) and for noting the movements of the heart, the last being devised by M. Bardier. Finally, there is an article on Accurate Stereoscopy applied to Radiography.

New Inventions.

A NEW CHOLECYSTOTOMY SPOON.



I HAVE often found that the spoons in use present drawbacks. They are frequently too large and generally too thick, and unless the operator possess a graduated series the opening in the gall-bladder has to be accommodated to the size of the spoon, which in many cases means that it is larger than necessary—a very important point when it is the intention to close both the bladder and parietal wounds without drainage. Messrs. Arnold and Sons have made to my instructions an instrument in which the spoon part is formed of malleable wire, which admits of its being pressed by the fingers into the necessary breadth, so that in cases where the calculi are small a very much smaller opening than usual is sufficient. The stem portion is also sufficiently flexible to allow the gall-bladder to be easily reached when it is awkwardly placed, as by being tucked up deeply under the liver and held by adhesions, and is yet firm enough not to bend too readily. It should answer as well in removing the smaller calculi from the urinary bladder in lithotomy. It is designed less for use in hospitals than for surgeons who carry their operation-bags with them and to whom *multum in parvo* is a desideratum.

Bishop Auckland. MARK WARDLE, L.R.C.P. & S. Edin.

THE LANCET.

LONDON: SATURDAY, JANUARY 8, 1898.

THE attitude of the Government in regard to the recent proposals which a Select Committee drew up after sitting for three sessions is feeble in the extreme—indeed, we fail to see how except in a few particulars the Bill to be introduced in the forthcoming session can be regarded seriously as amending the Acts relating to the sale of food and drugs. The Bill prepared and brought in by Mr. KEARLEY, Sir JAMES WOODHOUSE, Mr. HORACE PLUNKETT, Mr. LAMBERT, Mr. JEFFEREYS, Mr. NICOL, Mr. CHANNING, Mr. LOUGH, and Mr. MAURICE HEALY, which was printed in January, 1897, was a much more comprehensive measure and certainly in closer line with the recommendations of the Food Products Committee. This Bill, however, "to Consolidate and Amend the Law relating to the Sale of Food and Drugs" was evidently abandoned. We certainly anticipated in a leading article in THE LANCET of March 6th, 1897, that the proposed new measure would when introduced meet with considerable opposition, but we did not think that practically all the recommendations of the Select Committee would be rejected; yet a glance at the new Bill will show that this is so. The new Bill will certainly "consolidate" the law relating to the sale of food and drugs, but we cannot accept it as offering any important amendment. And this is the outcome of the labours of a committee which was appointed in 1894, which sat for three sessions, and which collected an enormous mass of evidence from a great number of witnesses from all parts of the country, who gave all the information they could possibly afford upon just those matters which the committee was appointed to consider.

We cannot help thinking that the recommendations embodied in the first Bill have scared the Government. It is true that the clauses in this Bill, especially in some instances, were severe, but as we have before remarked no one can say honestly that what were described in its provisions as offences were wrongly or unjustly so described. Now on consulting the twenty-sixth annual report of the Local Government Board for 1896-97 we find that the Government have placed themselves in this matter in a somewhat anomalous position. In this report occurs the statement that "it is more than probable that this [referring to the percentage of samples of milk reported against] does not represent the full extent of milk adulteration in England, for, as we have before remarked, public analysts adopt a very low standard so that injustice may not be inflicted upon vendors of poor but genuine milk." It is added that "the standard of some analysts is open to comment." Again, analysts have reported to the Local Government Board that where a milk is returned as adulterated with three or four per cent. of added water the actual mixture is much larger, probably nearer 15 or 20 per cent. Another sample which was certified as containing 20 per cent. of added water (we are still quoting the Local Government Board report) "was a very poor sample and just came within the very low standard which we are obliged to adopt." Another analyst confessed that where there is any doubt about watering or abstracting cream he takes as his standard a milk so poor that normal milk never falls below it. The Local Government Board admit that this establishment of so low a standard "affords an opportunity to unscrupulous traders to add to their milk a considerable quantity of water or of separated milk from which nearly every particle of fat has been extracted by machinery." In spite of this admission the new Bill provides nothing to mend matters in this very important direction. In the same report mention is made of the increasing practice of adding preservatives to milk and in some instances the proportion was very large; yet, again, the Bill provides no definite remedy against this practice. Finally, this section of the report concludes with the very significant remark that "it is a matter for regret that London has not yet been successful in bringing down its high rate of milk adulteration." Surely this in itself is a powerful appeal that the provisions of the Act should be strengthened.

The fact is, the most important recommendation of the Select Committee on Food Products Adulteration has been absolutely rejected. In effect this was that an authority should be constituted which should act as a court of reference upon scientific and other questions arising under the Acts and which should be empowered at its discretion to prescribe standards and limits of the quality and purity of food. As an outcome of this proposal the Committee refrained from making any definite recommendations on the questions of standards, colouring matters, preservatives, and on those additions to food which may be lawfully permitted. The new Bill, therefore, in ignoring this proposal to establish a court of reference leaves the administration of the Sale of Food and Drugs Act much in the position it was in regard to the use of preservatives in food, to the addition of colouring matters to food, and to the important question as to those articles which may be rightly defined as food and which may therefore be controlled under the provisions of the Act. The new Bill contains no amendment at all of the definition of the word food. As is well known, the present definition of food, according to a remarkable judgment of the High Court, enables injurious, adulterated, or objectionable baking powders and certain other commodities to be sold with impunity, on the absurd contention that they are not themselves food, despite the fact that they are sold for the sole and deliberate purpose of being introduced into food and consumed with such. There are other important points omitted in the new Bill with which we have not now space to deal. We may point out, however, another incongruity which appears from a comparison of the Local Government Board report and the new Bill. The Local Government Board admit that the local authorities are in many instances to blame for the high rate of adulteration on account of neglecting to take a sufficient number of samples. This of course could be obviated if pressure were brought successfully to bear upon the authorities thus concerned, and it might be expected that

THE LANCET RELIEF FUND.

For Members of the Medical Profession and their Widows and Orphans when in Distress.

——:O:——

ALMONERS.

THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.
THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.
THE PRESIDENT OF THE GENERAL MEDICAL COUNCIL.
THOMAS WAKLEY, F.R.C.S. Eng.
THOMAS WAKLEY, Jun., L.R.C.P. Lond.

HON. AUDITOR.

SIR HENRY PITMAN, M.D. Camb., F.R.C.P.

——:O:——

THIS FUND will be provided year by year in the month of January to the amount of at least £300 solely by the Proprietors of THE LANCET, and administered free of cost, for the purpose of affording immediate pecuniary assistance to Medical Men, or their Widows and Orphans, *in cases of Acute Distress and Emergency*, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require.

Applicants must satisfy the Almoners of the Fund that they are qualified under the following regulation:—

> * "The recipients shall be such persons as satisfy the Almoners that they possess one or other of the following qualifications—that is to say: (*a*) That the applicant holds a registered medical qualification, and that he has fallen into pressing need of immediate pecuniary relief; or (*b*) That they are persons who have been, previously to the date of application, legitimately dependent upon some person holding a registered medical qualification, and that they have pressing need of immediate pecuniary relief."
>
> (*In the case of Widows and Orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.*)

To ensure the utmost despatch, the "Application Form" upon the other side should be filled up and forwarded (in an envelope superscribed "THE LANCET Relief Fund") to the Secretary, Mr. EDWARD DAVIES, THE LANCET Offices, Strand, London, W.C.

The application should be accompanied by two separate testimonials, one from the Clergyman of the Parish or other resident Minister of religion, and one from a registered Medical Practitioner, stating—that the application addressed to the Almoners has been read, how long they have known the applicant, and that they believe the statement to be perfectly truthful, and such as may be acted upon without further inquiry.

Private and Confidential.

APPLICATION FORM.

To the Almoners of the Lancet Relief Fund.

The applicant should here state shortly :—

1. The nature of the emergency that has arisen.

2. The circumstances out of which it has arisen.

3. The amount of the grant desired, and whether by way of loan (free of interest) or of gift.

4. If by way of loan, state when the loan will be repaid; and from what source the funds to repay it are expected to be forthcoming.

5. Whether the applicant is entitled or able in the circumstances which have arisen to look to any other source of assistance ; and if so, what is the expected nature and extent of such assistance.

6. Whether the applicant is receiving, or has received during the past six months, pecuniary aid from any Medical Charity.

7. State how the applicant is qualified to receive assistance ; vide regulation* on first page.

8. Particulars of :

*Applicant's age*____________________

*Number in family*____________________

*How many are self-supporting*____________________

*How many are partially dependent*____________________

*How many wholly dependent*____________________

*Applicant's Signature*____________________

*Address*____________________

Date ____________________

No.__________

THE LANCET RELIEF FUND.

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Received______________________________

Considered______________________________

Result______________________________

Date______________________________

the new Bill would provide a clause compelling the authorities to avail themselves of the fullest advantages afforded by the Act. But it is not so, no means being provided or suggested for enforcing the performance of that which is recognised as a duty.

No body has given greater attention, time, and zeal to the question of a pure food-supply for the people than the Society of Public Analysts, the members of which in their public capacity were acknowledged by the Select Committee as having carried out their duties efficiently and well. The public analyst is of course in a position every day which enables him to remark with no uncertainty the defects of the Act, and the circular dealing with the new Bill which the Council of the Society of Public Analysts have recently issued is therefore worthy of deliberate and serious consideration. We are in practical accord with their opinions—(1) that the draft Bill is unsatisfactory inasmuch as it does not embody the most important recommendations of the Food Products Adulteration Committee, and that if passed it would not lead to the removal of the difficulties experienced in carrying out the present Sale of Food and Drugs Act; (2) that the recommendations of the Food Products Committee, subject to but few modifications, should be embodied in any Bill which may be put before Parliament during the coming session; and (3) that the most important recommendation referring to the formation of the court of reference should be acted upon if new legislation is to lead to satisfactory results. For ourselves we believe that all those who are interested in the maintenance of a pure food-supply will share in these opinions and we earnestly hope that the time and energy that have been spent upon this subject will not be thrown away by passing the feeble measure which, we presume, it is intended to introduce in the next session of Parliament. In our opinion the Bill is not in accordance with public requirements or with the necessities of the case.

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WE have already given our readers the figures of the Numerical Summary of the Members of the Medical Profession in Great Britain as contained in that most useful work, CHURCHILL'S Medical Directory. But the facts will justify a little more attention than we could bestow on them in a short annotation. The overcrowded profession has become more overcrowded in the year that is past, so that there are in the Directory for 1898 619 more practitioners than there were in the Directory for 1897. This is a substantial addition, remaining after allowance for those whose deaths are reported or whose names have in any other way been removed from the Register, and one which cannot fail to add to the sense of pressure and competition which has done so much to lower the public estimate of medical services. We are furnished with a table on page 2 of the Directory which gives the numbers of increase for each of the past ten years. The highest numbers were in 1894, amounting to no less than 1013 over the numbers in the Directory for the preceding year. Last year the increase of the numbers in the Directory over those of the Directory for the year preceding was 958. The average annual increase for each of the ten years included in the table is roughly 675. We may take what consolation is to be got out of the fact that the increase for last year is the lowest recorded increase for five years, lower than the average of ten years by 56, and lower than the average annual addition of the last five years by 229. Such figures may show that the ever-increasing difficulties of the examinations, the extension of the curriculum to five years, and the accumulating proofs of the inadequate rewards of the profession are slowly having their natural effect in deterring young men from entering it in the crowds which of late years have been so noticeable. But it is too soon to believe that any adequate check has been given to the over-supply and we must still regard the addition of 619 in one year to the ranks of the profession as one justified by no corresponding additions to the population or to its medical wants. The continued addition of over six hundred a year to the profession may at any rate reassure the General Medical Council that in their recent cautious endeavours to add to the stringency of those Preliminary Examinations, which are supposed to guard the entrance to the profession, they are not likely to cause any risk to the public from a defective supply of medical men.

We have heard much of late of the mortality of medical men and of its comparing unfavourably with that of other professional classes. Meantime the evidence of the Directory on this point is not unsatisfactory. As we reported last week the number of deaths recorded in the obituary of the Directory for this year is 599, which for a total profession of 34,284—the number in the Directory of 1897—gives an average mortality of about 1·75 per cent., a number that does not seem excessive when the labour and the risks of our arduous and perilous profession are taken into account. The distribution of the profession is by no means regular or according to population. Thus the four and a half millions of London, speaking roughly, have 6081 medical men to minister to their necessities, while the slightly larger population of Ireland has only 2615, or much less than half. It does not follow that the profession in the wealthier community is as much better off as the greater wealth would imply or that the public is so much benefited as the greater numbers of medical attendants would suggest. The very numbers take from the appreciation of the profession and people are apt to prize more that which is scarce and distant. Still there can be no doubt that medical men could do something to diminish the disadvantage of their excessive numbers by distributing themselves more equally.

It remains to answer a curious and interesting question, Why do men crowd into a profession in which, and in the study of which, there is much to deter? The offence of the dissecting-room at the very outset, contact with the sorrowful and suffering side of life, hard work and scanty leisure, with poor financial rewards, are not attractive features. Dr. JOHNSON is said to have described the work of the profession as a melancholy attendance on misery, a mean submission to peevishness and a total interruption to pleasure. Yet men in a luxurious age crowd into it and BOSWELL tells us that JOHNSON had in general a peculiar pleasure in the company of physicians. In attempting to account for the increasing numbers of the profession we may put something down to the wealth of the age and the natural preference of educated men for professions as compared with mere commercial pursuits. We have lately heard a distinguished divine lament that so many men took to the study of medicine who should have given themselves to the Church—much to the impoverishment of the Church. We should gladly spare the Church some of our superfluous numbers. But we will not affect to be surprised at the preference. It is possible to be as religious in the one calling as in the other. After early difficulties have been overcome the study of medicine and of the fundamental sciences of it is fascinating beyond that of most other subjects. Then too the practice of medicine, if not rewarded by large fortunes—and, as Johnson himself pointed out, it seldom is—is not always the melancholy business he described. It is largely an attendance on recovering and grateful patients who are themselves an interesting study. That so many young men should be attracted to such pursuits is a redeeming and creditable fact in an age of much that is unsatisfactory to the moralist. The processes of medical education—we do not say medical examination—are distinctly interesting to the most thoughtful minds. All we need to do is to eliminate at an early stage the unfit and the medical profession will continue to be one of the best callings both in itself and as an avenue to many forms of higher culture.

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In the report on the Chemical and Bacteriological Analyses of the Farleigh water-supply just presented to the chairman of the Sanitary Committee of the Maidstone Town Council by Mr. M. Adams, the medical officer of health of Maidstone, and Dr. J. W. Washbourn there is most interesting reading for those who have a concern in the health of the public. After dealing with the question of the date at which samples were taken — i.e., during the height of the epidemic — and the relation of this date to the probability of finding infective material remaining in the water the writers of the report proceed to discuss the methods by which they have arrived at the conclusion that, although they could not find any evidence of specific contamination, there was evidence of pollution by animal organic matter or sewage and that the occurrence of specific infection was not by any means impossible or even improbable. With respect to the value of the chemical and bacteriological analyses both are agreed that "proof of pollution of water may be obtained either from chemical or from bacteriological examination."

In his preliminary remarks Mr. Adams draws attention to the fact that, owing to the different character of the gathering grounds and springs, the nature and amount of dissolved matter extracted vary considerably, the local characteristics leading to an infinite variety of composition in natural spring water. "It therefore," he says, "becomes essential to have an intimate knowledge of the normal composition of the pure water of the district before it is possible to form an accurate estimate as to the purity of any sample from a source within such district." This is a point too often lost sight of in these investigations, but it is one that Mr. Adams now turns to good account. Having as the result of his long experience constructed a local standard, which he gives for comparison with results obtained from the analyses made for the purposes of this report, he proceeds to point out that the main points—three in number—to be borne in mind are the following: (1) "That except within very narrow limits there should be no departure whatever; (2) that departure from the standard signifies pollution; and (3) that the nature of the pollution *though of a harmless sort one day* may be changed for a *dangerous sort another*." In these three propositions is contained the gist of all chemical answers to questions which have to be settled in determining whether any water is being polluted or is at any time liable to specific infection; and every medical officer of health who has had to deal with the question of the interpretation of the results of water analysis will recognise how pertinent and important they are. It may be accepted almost as an axiom that any water which at all seasons and under varying conditions remains unaltered for, say, twelve months may be looked upon as a "permanently" good water; whilst any water from whatever source which undergoes even slight changes as regards its mineral and organic constituents in solution must be recognised as a water which, though not necessarily actually polluted, is always open to suspicion from the fact that it is open to contamination—sometimes, of course, of a specific nature. Even slight irregular variations are more important than the presence of moderate but invariable quantities of certain substances which are sometimes supposed to indicate by their presence a certain amount of contamination. Working on this basis Mr. Adams finds that in most of the waters (twenty-two in number) which he examined in connexion with this inquiry there was a distinct departure from the local standard as regards the amount of oxidised nitrogen — nitrates and nitrites — in every sample but one, and that albuminoid ammonia was in considerable excess in at least five of them. The exact meaning of the various changes recorded can only be grasped by those who have access to all the circumstances involved in the Maidstone outbreak, but the interest attaching to the general questions discussed is one that will be appreciated by all medical officers of health.

With respect to the bacteriological examination two points will strike even the most superficial observer: (1) that bacteriological examination often serves to bring to light faults in the water that are not discriminated by the chemist—the converse also holding good—and (2) that bacteriological examination may often clinch suspicious features in the chemical analysis. Dr. Washbourn in his preliminary remarks maintains that the number of bacteria in water gives some indication of its purity, whilst recognising that "it is impossible to make an arbitrary limit as to the number of bacteria which is to be taken as the standard of purity," this varying with the natural characteristics of the water. He accepts Koch's dictum that a water containing fewer than 100 bacteria in the cubic centimetre may be considered to be a good water provided the bacteria present are the ordinary water bacteria. For evidence of sewage pollution Dr. Washbourn depends on the information afforded by the presence or absence of bacteria belonging to the "coli" group, but even this factor is not accepted in its entirety as Dr. Washbourn states "that the presence of one or two coli bacteria in 100 c.c. of water is probably not a matter of much importance" although "the presence of a large number (such, for example, as the sixty colonies in the c.c.) in one of the samples examined is a definite proof of contamination with animal excreta." As the result of comparing Mr. ADAMS's conclusions with Dr. WASHBOURN'S it is found that the chemical and bacteriological data point to a central pollution in several of the springs and supplies; indeed the rise in the number of micro-organisms per cubic centimetre follows actually but not proportionately each marked increase in the amount of albuminoid ammonia. This agreement between the results of chemical and bacteriological investigation is of great interest, as are many other details contained in the report, with which we may ere long have further opportunities of dealing.

Annotations.

"Ne quid nimis."

THE REPRESENTATION OF DENTISTS UPON THE GENERAL MEDICAL COUNCIL.

THE desirability of a dentist, of course holding full medical qualifications, having a seat upon the General Medical Council is amply apparent to everyone who has watched the conduct of dental business during the sittings of that body and apart from the abstract justice of the case it is a matter in which the general body of medical men have an indirect interest, as it would conduce to the saving of the time and the energies of that body, already fully taxed by the mass of business which comes before it. The reasons why this is desirable have been forcibly set forth by Mr. Victor Horsley in his address lately published in these pages, and also by two letters which have recently appeared in the *Times*. Briefly the reasons are these. The keeping of the Dentists' Register has been placed by Act of Parliament in the hands of the General Medical Council; there are about 5000 registered dentists who, to say nothing of the large sum contributed by the initial registration, at the present time provide some £600 a year to the funds administered by the Council, yet have no direct representative. Much time and many slight or sometimes important false steps—which sometimes cannot, and sometimes can and have been, rectified—might be saved by the presence of someone very thoroughly conversant with the ins and outs of the dental questions which come before the Council. But there is a practical difficulty in the way; it is not to be expected that the general body of medical men will give, by a majority of their votes, one of the few seats devoted to their direct representatives to a dentist, however well qualified he might be to take part in the general business of the Council, nor is it particularly likely that one of the licensing bodies would nominate one as their representative. When the Acts under which the General Medical Council is constituted were passed the power of nominating five members was retained by the Crown acting under the advice of the Privy Council, and it has been forcibly contended that the intent of giving to the Privy Council a free hand in nominating a certain number of members was to enable them to place upon the Council men otherwise desirable but who had not, perhaps could not readily obtain, a seat by other methods. Now not one word can be said against the personal qualifications of those gentlemen upon whom the choice of the Privy Council has fallen in the past and in the present; the roll is one of very eminent names. It may be remarked that the Privy Council have with very few exceptions not gone far afield in making their nominations, generally placing upon the General Medical Council just such persons as might well have been returned by one or other of the Royal Colleges of Physicians or Surgeons, and so, in effect, have given to sometimes one and sometimes another of these bodies an increased representation; the exceptions have been mostly gentlemen occupied in the department of public health and they have, we think, most properly been given seats. And it is suggested that in these nominations the Privy Council has acted precisely upon the lines intended when the Crown nominations were reserved to them, and that were they to nominate a dentist holding full medical qualifications they would be acting upon similar lines and would be redressing an anomalous state of things which has arisen from nobody's fault but through the force of circumstances. The contention seems eminently reasonable, and we hope that the Privy Council may see its force, for it appears to be just such a case as was contemplated when a certain number of nominations, to be independent of the licensing bodies and the vote of the general body of the profession, were set aside.

THE LANCET RELIEF FUND.

THE Almoners of this Fund have made their report for the year 1897 of which a copy will be found in another part of this impression of THE LANCET. Upon a comparison of this report with that which appeared last year the most striking feature is the reduced aggregate amount of the benefactions. This is the more remarkable because it results not alone from the reduction in the number of recipients but also from a reduction in the average amount of the grants which fell from £12 in 1896 to something under £9 in 1897. Both these indications point to the satisfactory conclusion that upon the whole the cases of emergency brought during this past year to the notice of the Almoners have been less severe than during the previous twelve months and these are corroborated by the additional circumstance that although the number of cases relieved fell from 29 to 22, the number of applicants showed no diminution, standing, by a curious coincidence, precisely at 37 in either year. In discussing the Almoners' report last year we pointed out that the trend of the figures over the eight years during which the Fund had then been administered showed that gifts are upon the whole more serviceable than loans in that class of cases with which the Almoners have to deal. The ninth report confirms this conclusion, bringing out an even greater disparity between the two classes of grants, the result being still in favour of gifts. Yet the opportunity of making loans affords to the Almoners of the Fund the means of very greatly increasing its usefulness. In the first place there are many cases in which the recipient would shrink from accepting a gift who is glad enough, and properly glad, to accept the benefit of a loan. And in the second place the repayments made in respect of loans become a source of income to the Fund, enabling the money so bestowed to do double or even multiple duty. It is indeed not a little remarkable how steady this source of income is. It was augmented last year by one comparatively large repayment of £10, but that apart it stood at almost the same figure in 1896 as in 1897. This work, as we have before remarked, is so intimately associated with THE LANCET that we feel ourselves privileged when noticing it to express our heartfelt thanks to the Almoners and the Auditor who have during the past year officiated in the administration of the Fund. To Sir Samuel Wilks, President of the Royal College of Physicians of London, to Sir William MacCormac, President of the Royal College of Surgeons of England, and to Sir Richard Quain, President of the General Medical Council, who have assisted in the disbursement of the Fund and personally interested themselves in its work of charity, to Sir Henry Pitman, who from the commencement of the Fund has audited the accounts, and to the many brother practitioners throughout the country who have undertaken the duty of investigating on the spot and advising upon the merits of applications we tender our hearty thanks for their valuable and gracious help in the cause of our distressed brethren and their dependents. The application form of The Lancet Relief Fund will be found in our present issue and can be readily detached should occasion arise for its use. We again take the opportunity of asking those of our readers who may have occasion to employ the form or to sign one of the required accompanying certificates to carefully note the conditions on which applicants become entitled to a participation in the benefits of the Fund. All applications should be made (in writing) to the Secretary, Mr. Edward Davies, The Lancet Offices, 423, Strand, London.

THE OLD STORY.

One more example, and that a very distressing one, of the foolishness of playing with firearms has come to hand. Upon New Year's night a party of young people were assembled together at Kirk Ella, a village near Hull, and were playing at dumb charades. One of the chosen words was "suicide," and it fell to the turn of a boy, aged sixteen years, to act the complete word, which he did by putting a pistol to his head and pulling the trigger. A report followed and the unfortunate boy fell with a bullet in his brain. Of course the pistol was supposed not to be loaded, but as has been said over and over again any firearm should always be handled as if it were loaded. The poor boy was taken home and the x rays were used for ascertaining the position of the bullet which was quite clearly seen. These accidents will, we suppose, continue to happen, and the mere fact of them being so easily preventable makes them all the more distressing. We can only express our sympathy with the relatives of the victim, who has, we regret to learn, succumbed to his injuries.

THE CLINICAL AND PATHOLOGICAL INTERPRETATION OF "TIC."

In the *Medical News* (New York) of Dec. 11th, 1897, is a well-written paper by Dr. Joseph Collins, Professor of Nervous and Mental Diseases in the New York Post-Graduate Medical School, on the Clinical and Pathological Interpretation of Tic with Special Reference to its Treatment, a subject which, as Dr. Collins remarks, has received entirely inadequate consideration. This paper is well worth perusal; we can only give a brief abstract of it here and would refer those of our readers who desire further information to the original article. The word "tic" as here used means literally a twitching. It is applied to an abrupt, rapid, and usually uncontrollable movement, the result of abnormal contraction of individual muscles or groups of muscles which usually act together to fulfil some physiological purpose. It has been difficult for some to believe that the ordinary tics are not in reality habits, while others have unfortunately considered the tics as a typical manifestation of chorea, and the phrase "a kind of chorea" has been applied to them. The writer, however, considers that tic has nothing in common with chorea. He further says that it is important to understand that the term, although it suggests only the most prominent symptom, oftentimes bespeaks an abnormality of the nervous system quite as demonstrable as those to which the terms epilepsy, hysteria, and migraine are applied. The twitchings to which the term tic may be applied vary in severity from the slightest movement of a part up to the "most complex coördinated movement associated with obsession and the externalisation of mental activity." All tics may be classified primarily into (1) senile (acquired) tic, and (2) early tic, the last being further divided into two varieties—viz., (*a*) degenerative and (*b*) acquired. These various forms are then fully considered with illustrative cases and the treatment is fully entered into. Dr. Collins in conclusion says that he has endeavoured to show that tic is in the majority of cases a degenerative neurosis of which the twitching is the most prominent outward manifestation, just as hemi-anæsthesia is a "stigma" of degeneration in hysteria; that its next most common stigmata are psychic and consist of compulsions, obsessions, and possessions; that tic occurs in individuals who have stigmata of degeneration; and that it is one of the degenerative diseases which develops early. He does not contend that all forms of tic are of the degenerative kind or the concomitant of a degenerated neurosis. On the contrary he emphasises that simple motor tic, as for instance tic of the musculature of the seventh nerve, is often a reflex condition dependent upon irritation of some of the branches of the fifth nerve, that in elderly persons it is often associated with degeneration of the blood-vessels, and that in the young it is sometimes seen with perverted states of nutrition, and that it recovers when these are overcome. Furthermore, Dr. Collins reiterates that tic has nothing in common with chorea, that the term chorea should never be thought of in connexion with this disease, and finally that tic being in a majority of instances a degenerative neurosis it conforms, in occurrence, in development, in progression, and in obstinacy and unresponsiveness to treatment with other degenerating diseases. With regard to treatment Dr. Collins concludes that the same principles should guide us as in the treatment of hysteria, epilepsy, and congenital defects in general, and in his experience the salts of copper and silver, when given in comparatively large doses and for a prolonged time, while the bodily health and the general *morale* are cared for, are more efficacious in the degenerative form than other therapeutic measures.

THE NEW YEAR HONOURS.

Following after the Jubilee Honours of last year the New Year's list has the appearance of being unduly small and six only of the recipients are members of the medical profession. It is noticeable that while the New Year's list for 1897 was essentially English and the Jubilee list Irish the present list is a Scotch one, four gentlemen possessing Scotch degrees, one English and one Irish. John Struthers, M.D., F.R.C.S. Edin., LL.D. Glasg., upon whom has been conferred a knighthood in recognition of his late official position as President of the Royal College of Surgeons of Edinburgh, is a member of the General Medical Council and his well-merited honour will receive the unanimous approval of the profession. A knighthood, too, has been bestowed upon John Batty Tuke, M.D., F.R.C.P., F.R.S. Edin., President of the Royal College of Physicians of Edinburgh, who is also a member of the General Medical Council. His work—practical and literary—in connexion with insanity is well known to the profession and although he receives the honour of knighthood by virtue of his official position the reward is a well-earned one. William Tennant Gairdner, LL.D., M.D., F.R.C.P. Edin., F.R.S., Physician-in-Ordinary to Her Majesty the Queen in Scotland and Dean of the Medical Faculty of Glasgow University, has been created a Knight Commander of the Bath. He, too, is a Member of the General Medical Council. So far the Civil List. Among the promotions in the most Eminent Order of the Indian Empire will be found the name of Brigade-Surgeon-Lieutenant-Colonel George King, C.I.E., who has been raised to a Knight Commander.

Surgeon-Lieutenant-Colonel Samuel John Thomson and Surgeon-Major Frederick Fitzgerald MacCartie are appointed to be Companions of the same Order.

ISO-KREATININE.

THIS body has recently been isolated in the form of definite yellow crystals from the muscles of the cod fish by Dr. Theesen of Christiania. It differs from ordinary kreatinine as was pointed out in an annotation in THE LANCET of Dec. 1st, 1897, in various particulars, but it reduces Fehling's alkaline solution of copper. This interesting property, although we expressed curiosity about it in the annotation referred to, was as a matter of fact observed in Dr. Theesen's paper. On adding Fehling's solution to a solution of iso-kreatinine an intensified blue colour is produced, and on heating the solution to 80° C. it eventually turns brown from the reduction and separation of copper.

SAD DEATH OF A HOUSE SURGEON.

We regret to announce the death of Mr. W. H. J. Paterson, M.R.C.S. Eng., L.R.C.P. Lond., one of the house surgeons to St. Thomas's Hospital. It appears that Mr. Paterson was apparently in his usual health on Dec. 26th, but on the following evening he complained of feeling unwell, and then some jaundice was observed. He visited his wards on the 28th, but was unable to do so on the 29th; the jaundice had deepened and the temperature rose at night to 104°F. No reason for suspecting an unfavourable ending to the illness manifested itself until the 31st, when after a short period of mild delirium he passed into a state of coma and died on Jan. 2nd. During the last two days of the illness a rapid diminution in the size of the liver was apparent. Mr. Paterson was completing the second period of his office as house surgeon, having already been assistant house surgeon and house physician. A special service was held in the hospital chapel at 1.30 P.M. on the 6th inst., at which members of the staff, many students, nurses, and other friends of the deceased were present.

ENDOGENOUS FIBRES IN THE LUMBO-SACRAL REGION OF THE CORD.

IN the recently issued autumn number of *Brain* Dr. Alexander Bruce gives an interesting description of two tracts in the lumbo-sacral region of the cord containing what have been named by Marie "endogenous fibres." These fibres occur in the posterior columns of the cord and are so named because they are derived from cells in the cord itself and do not originate in the posterior roots. One of these tracts named the cornu-commissural tract lies in the anterior part of the posterior column in close apposition to the posterior commissure and septum and in part to the surface of the cord. The second, the septo-marginal tract, as its name indicates, has a close relation to the posterior median septum. The cornu-commissural tract does not degenerate in locomotor ataxia even in its advanced stages, or in injury to, or compression of, the cauda equina. It undergoes degeneration in conditions which lead to atrophy or degeneration of the cells of the posterior cornu. According to Fajersztajn it is composed of fibres of short course, mostly descending, while Déjérine and Spiller maintain that it contains a considerable number of ascending fibres. A series of drawings from sections at different levels shows that this tract attains its greatest size at the level of the lower lumbar region and diminishes somewhat rapidly above, and more gradually below this level. Throughout its whole longitudinal extent it stands in close relation to the posterior commissure and the anterior part of the inner margin of the posterior cornu. Its inner margin below the third lumbar segment lies in contact with the posterior median septum. Above this it is gradually displaced outwards by the ascending fibres of the posterior roots of the lower spinal nerves, as they pass upwards to enter the postero-median column. Posteriorly the tract has no definite margin. Its outer portion merges gradually into the part of the column behind it, while its inner part is continuous with the septo-marginal tract. This tract also remains undegenerated in ataxy and its position corresponds closely with an area of fibres already described by Dr. Bruce and Dr. Robert Muir as degenerated after a crush of the cord at the level of the upper lumbar segments. In the case they record very little degeneration was found in the cornu-commissural tract, indicating that the greater part of the fibres of the latter arise below this level while many of the fibres of the septo-marginal tract have a higher origin. At the level of the lowest sacral root this tract is situated at the postero-internal angle of the posterior column. It is triangular in shape with the angles rounded off, the anterior angle merging into the cornu-commissural tract. Higher up it becomes much narrower and is more elongated antero-posteriorly. At the level of the upper sacral segment the tract is distinctly larger, but at the fifth lumbar segment there is a marked diminution in its extent, and it occupies only about a third of the length of the posterior median fissure and no longer reaches either the cornu-commissural tract or the periphery of the cord. At the fourth lumbar segment there is a further diminution in its size and a change in its position. It has again passed backwards and forms an angular band outlining the postero-internal angle of the cord, and is now separated by a considerable interval from the cornu-commissural tract. The tract gradually diminishes upwards until at the level of the twelfth dorsal segment it is represented by a small group of fibres, somewhat triangular in shape placed at the periphery of the cord quite away from the septum about one-third of the distance between the middle line and the posterior root. As regards the cells from which these two tracts originate it is not yet possible, Dr. Bruce remarks, to make a definite statement. Nor can anything be asserted with certainty as to their function except that they are probably commissural. Their position suggests a connexion with the lower organic reflexes.

DEFECTIVE DRAINS AND POLLUTED WATER.

THE importance of sound drain fittings and connexions has never perhaps before been more forcibly emphasised than during the past six months. The epidemics of enteric fever at Maidstone and at Lynn have afforded excellent but sad object lessons. The same thing of course happens every year on a smaller scale in our rural districts and there is probably not a single medical officer of health who has not had practical experience of the connexion between disease and the pollution of the water-supply from a defective drainage system. Our attention has been drawn to an interesting case of the sort which came under the notice of Mr. Hugh Stott, the medical officer of health of the combined sanitary authority, East Sussex. In this instance the sewer on examination was found to pass the well at a distance of about 30 ft. It consisted of 9 in. glazed socket pipes laid without any jointing material or any regard to fall, some of the pipes being half-filled with silt through having a fall in the wrong direction. The house connexions were said to be in a deplorable condition and we have received a photograph for inspection which quite bears this out. The pipes were telescoped into each other without any clay or jointing at all. Here and there the pipes had been chipped to make them fit (*sic*). Altogether it is quite evident that this was a wicked piece of construction, if construction indeed is a word that can be applied with any truth to such a job. Of course in most cases of this kind where the pipes were laid perhaps long ago it is impossible to punish the parties responsible for such infamous work, but nowadays our public sanitary authorities are able to enforce the proper and efficient fitting and placing of new drains upon which so much may depend, especially when the water-supply is derived from the ground near at hand.

THE HOME SECRETARY ON THE "VIVISECTION ACT."

THE Home Secretary has recently written a letter to a correspondent on the "Vivisection Act" in which he remarks: "The Act is not a dead letter. Its provisions are most carefully enforced by my office and myself personally, as it was by my predecessors. It is not the case that centres of vivisection are rapidly increasing all over the country or that any operations upon living animals are carried on in this country except under licences, the scientific value of which for the curing of disease is rigidly scrutinised and the conditions most strictly limited and watched under the provisions of the Act." It would be well if certain kindly intentioned folk and others whose words and actions, though nominally inspired by humanity, have a remarkable resemblance to self-advertisement would ponder those words of the Home Secretary. Sir Matthew White Ridley would not have written this letter without being sure of his facts, and the statements controvert all idle talk about the frequent infringements of the Act and the gross cruelty or idle curiosity of the operators. Licences can only be obtained to perform operations *the scientific value of which for the curing of disease has been rigidly scrutinised.* In reference to possibilities of secret evasions of the Act the Home Secretary says that the point might form the difficulty in the administration of the law, but, in our opinion, the risk of vivisection being performed in secret and without a licence is very small.

"THE FEDERATION FOR THE ABOLITION OF THE STATE REGULATION OF VICE."

THE courageous and sensible action of Lady Henry Somerset in writing to the *Times* of April 21st, 1897, proposing a scheme for safeguarding the health of soldiers in India with regard to the most virulent and far-reaching form of infectious disease naturally created a great stir among those who oppose "regulation." Among these were the members of the British Women's Temperance Association of which body Lady Henry Somerset was president. So great was the feeling that she resigned her position of president, although the executive committee asked her to re-consider her determination seeing that the chief object of the association was temperance. The larger organisation, the World's Women's Christian Temperance Union, however, elected Mrs. Josephine Butler as superintendent of its Purity Department some years ago but in October, 1897, re-elected Lady Henry Somerset as a vice-president, whereupon Mrs. Butler resigned her post as superintendent. The executive committee of the Federation for the Abolition of the State Regulation of Vice have accordingly just passed a resolution applauding Mrs. Josephine Butler for her action but expressing the opinion that the action of the World's Women's Temperance Christian Union confuses the public sentiment and is injurious to the principles of "this committee." Mr. James Stuart has communicated all these facts to the public in a letter to the press. We have expressed our opinion over and over again as to the necessity for dealing with this form of infectious disease in some similar method to that in which other infections are met, and we need not repeat the arguments now. To return to the resolutions of the executive committee the last one runs as follows:

> "And this committee expresses its determination to continue the most uncompromising warfare against regulation in all forms and under every name and by whomsoever maintained."

This strikes us as a somewhat sweeping resolution. The abolition of "regulation" in all forms and under every name would no doubt be pleasant for a time if it could be universally carried out, but until the millennium arrives we doubt its practicability. Probably the executive committee do not read such frivolous books as the "Water Babies," but they might look up the history of the Doasyoulikes and see what happened to them or, if they prefer a more serious example, let them consult the Book of Judges and study the state of a community where "every man did that which was right in his own eyes."

THE CINEMATOGRAPH AGAIN.

AN accident—or "alarming incident," as it is called by the *Huddersfield Daily Examiner*—which attended the Christmas entertainment at the Huddersfield Infirmary should make organisers of charitable entertainments pause before allowing the cinematograph to be included among the attractions they provide. The entertainment was held in one of the wards, and whilst the expectant audience of patients, friends, nurses, and servants was waiting for the appearance of the "living pictures" a blaze of flame shot from the apparatus to the alarm of the children and female section of the audience, who, but for the prompt action of the attendant in charge of the cinematograph, would have rushed headlong from the room. Owing to a "leak in the alum tank of the apparatus the liquid escaped and caused the film, which had become overheated, to ignite." We feel sure that the kind-hearted ladies who annually delight to entertain the patients of the Huddersfield Infirmary took pains to see that the cinematograph was in competent hands. But this seeming security serves but to emphasise the dangers of the apparatus. For if accidents occur when every care is taken, what is to be expected if a careless or incompetent operator should perchance be the exhibitor? It is not many months since a panic occurred at Baildon, near Bradford, owing to the explosion or ignition of a cinematograph; moreover, the lesson of the Paris disaster is recent enough and should be deeply kept in remembrance by all amateur organisers of entertainments.

PUTRID PLEURISY: PNEUMOTHORAX FROM DECOMPOSITION.

THE possibility of pneumothorax arising from gaseous decomposition of effusion, doubted by some, appears to have been established by a number of communications recently made to the Société Médicale des Hôpitaux. To MM. Widal and Nobecourt is due the credit of having demonstrated the fact. In a case of pyo-pneumothorax on account of the dyspnœa and pain a litre of fœtid pus was removed by puncture. The relief was not great. On the next day a bright-red tumefaction which crepitated to the touch had formed around the puncture. Before further operation could be performed the patient died. A necropsy showed that the left pleura, was covered with false membranes and contained a large quantity of extremely fœtid sanious pus mixed with gas. No trace of gangrene could be found in the lung or the pleura and the former showed no lesion of any kind. The fluid previously removed had been examined immediately and showed several varieties of cocci and bacilli. Subcutaneous inoculation of a guinea-pig produced a gaseous, gangrenous abscess pointing to the conclusion that the production of gas in the pleural sac was similarly due to infection of the subcutaneous tissue by the germs in the pleura on the withdrawal of the needle and not mechanically to the introduction of gas. This was further borne out by the fact that the tumefaction did not develop until several hours after puncture. MM. Widal and Nobecourt drew attention to the fact—the importance of which in this connexion does not seem to have been realised—that gaseous decomposition in the living body has long been recognised in spreading gangrene. The existence in the above case of fœtid pleurisy without gangrene of lung or pleura is noteworthy. Two other such cases in which also gaseous abscess formed after puncture were reported at the following meeting of the society. In one, under the care of M. Achard, the empyema was drained and washed out and the patient recovered. There was no fœtor of the breath or other sign of gangrene. The other, under the care of M. Courtois-Suffit, terminated fatally and the necropsy gave exactly the same results as in the first case. Fœtid pleurisy must be distinguished from that condition known as primary gangrene of the pleura, described in 1875 by M. Besnier, in which the lung is entirely unaffected. But it is possible that the former condition may in time produce the latter. At the same meeting M. Galliard read an important paper on Subcutaneous Emphysema Consecutive to Puncture of Pneumothorax. He principally referred to the form in which the emphysema was due to the passage of the gas from the pleura into the subcutaneous tissue. There were but few cases known. It was distinguished by the appearance of the emphysema immediately after puncture. Still more rarely the same result had been produced spontaneously by ulcerative perforation of the pleura and intercostal muscles.

BURIAL v. SANITATION.

THE condition of our public cemeteries has recently become a subject of unfavourable comment among various metropolitan local authorities and in the daily press. For certain reasons we are thankful that this is the case. There can be no question that such comment is in no small degree justified, for it may be freely admitted that in no place has the progress of sanitary reform been slower than in our public burial grounds. Time and space would fail us were we to attempt here any exhaustive examination of the controversy, now a quarter of a century old, as to the relative advantages of burial and cremation. Our present object is rather to discuss the means by which the ordinary method of interment may become as innocuous to the living population and as efficient for its proper purpose as it is now inadequate and capable of becoming injurious. The important questions of site, soil, and environment in this connexion are generally recognised. If in some cases they appear to have been overlooked this is due as much to a choice compelled by necessity and to the encroachments of a rapidly-growing city as to original faults of judgment. It is probable also that too much has been made in some instances of the dangers attributed to a town-surrounded cemetery. On the other hand, it is indisputable that gross errors of method prevail within the precincts of every burial-ground, and that while these enjoy the sanction of unwholesome custom any great advance in the direction of healthy reform is impossible. Among such errors the wooden coffin must ever take the first place. It is the answer of a blind prejudice to nature's final claim that burial shall imply disintegration and that this work shall be done in her own time and manner. For twenty years or more the principle of direct burial without the intervention of any but the lightest and most perishable covering has been widely and ably advocated in this country. Still the thick elm or oaken shell, strengthened often by an inner metal case, forms almost invariably the last home of mortal man. It is needless to state that burial under such conditions is as prodigal of the earth's surface as it can well be. Re-interments if permitted can only be allowed where a grave is deep, and even then they imply a needlessly retarded, concentrated, and therefore aggravated process of decay. In this connexion it is interesting to recall to mind the experiments carried out by Mr. (now Sir Francis) Seymour Haden and referred to in THE LANCET of April 4th, 1896 (p. 938). The result of these was to show that the disintegration of buried animals was rapid and complete in proportion to the superficiality of their earthy covering. In this case the earth and air, it would appear, act as absorbents of gaseous and other products of putrefaction, somewhat after the manner of an absorbent surgical dressing, and apparently without much offence by effluvia. In this way also the work of nitrification is most efficiently carried out by the surface earth, which in little more than a year fully does its duty as a place of burial. Surely no further argument is needed to prove that "earth to earth," all trade interests and prejudices notwithstanding, denotes our only possible means of sanitary interment. It has been proposed that an inquiry should be instituted by the Home Office into the relation of town cemeteries to the public health. In this proposal we heartily concur, but we would add as a most important object in any such inquiry the consideration of the method or methods which are advisable for safe and healthy burial.

WISE GENEROSITY.

AN anonymous donor has given £25,000 to the London Hospital for the building of a new out-patients' department outside the hospital. The offer is made on two conditions—one that the patients pay a small sum towards the cost of the medicine or dressings supplied and the other that hospital letters shall be done away with. This latter condition will meet with the approval of every sensible person. The system of hospital letters is bad in every way; it converts what should be charity into a commercial speculation—i.e., the donor of a guinea expects so many letters and feels offended if he does not get them, and again these very letters are in most cases distributed with no sort of regard to the merits or demerits of the case. What happens? A patient who is no object for charity comes up armed with a letter and is rightly refused treatment. Result—the patient considers himself or herself insulted, and so does the "governor" whose name is on the letter. Of course there are subscribers who take a sensible view of matters and also take trouble to see that their letters shall only go to deserving objects but often the reverse is the case. At a large hospital like the London Hospital cases of this kind are rare; it is the smaller charitable institutions which are most prone to offend, but it is all the more creditable that a charity like the London Hospital should set an example which before long we hope to see followed everywhere. The London Hospital serves an enormous area, does its work well, and has always kept before its eyes a very high standard as to what a hospital should be, so that we offer our congratulations to all its staff, both medical and lay.

THE WATER-SUPPLY OF CHICAGO.

THIS city, as our readers are aware,[1] draws its water-supply from Lake Michigan by means of intakes situated at various distances from the shore, and the results of the analyses of these waters made during 1895 and 1896 are very interesting. The bacillus coli communis was by no means a rarity in the bacteriological examinations, and the tests to which another organism responded raised grave suspicion as to the presence of the bacillus of enteric fever. As a general rule the water obtained from the four-mile intake gave the best results, while those obtained from the intakes two miles out in the lake were of an inferior quality. The average of the chemical and bacteriological analyses showed the Chicago water to be "suspicious" in quality, and all that can be said of the water from the four-mile intake is that its degree of contamination is less than that from the other intakes. There is, it appears, an area of contaminated water along the lake front and although under favourable conditions this area extends only a short distance from the shore it may, after heavy rains and certain winds, spread a very considerable distance—in fact, for several miles out into the lake; so, at least, would seem to be the indications from the analyses. Furthermore, it was discovered that during 1896 sudden and unaccountable pollutions were noticed in all the sources of supply, but more especially from the four-mile intake. It seems that these sudden pollutions were due to the "dumpings" of dredgings conveyed in barges out into the lake. As a result of these analyses no "dumpings" are allowed over a specified area, while efforts are being made to prevent the sewage of Chicago from polluting the lake water.

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[1] Vide the Report of THE LANCET Special Sanitary Commission of Inquiry concerning the Water-supply of Chicago, U.S.A. (THE LANCET April 8th, 1893).

NEUROLOGICAL SOCIETY: THE PRESIDENTIAL ADDRESS.

THE Presidential address will be delivered to the Neurological Society at 11, Chandos-street, on Thursday next, the 13th inst., at 8.30 P.M. by the newly-elected President, Mr. Victor Horsley, on the Degree of Discharge of Different Nerve Centres. It promises to be one of great interest and will consist of two parts, the first dealing with the methods of estimating the degree of discharge of nerve energy from the cortical and spinal centres, and the second giving an account of observations of work done by a muscle when its contraction is initiated from the cortex cerebri and spinal cord respectively. The address will be illustrated by lantern slides exhibiting the graphic tracings obtained in the course of the investigation, and doubtless the results which they show will have considerable interest for neurologists and also for all who are interested in the physiological aspects of the nervous system.

THE SURGICAL TREATMENT OF SUPPURATIVE PERICARDITIS.

DR. JOHN B. ROBERTS has published in the *American Journal of Medical Sciences*, December, 1897, an important paper on this subject. He deprecates tapping as both ineffectual and dangerous. In one case as many as ten aspirations had to be performed in thirty-four days; then death occurred. The heart has often been punctured, sometimes from a mistaken diagnosis, sometimes because it was adherent to the anterior wall of the pericardium; fluid confined behind the heart by adhesions cannot be evacuated. The prognosis after incision is good provided it is done early and there are no serious complications. An exploratory aspiration to determine the presence of pus should first be performed. The pleura is in danger of injury from puncture in the usual situations. From anatomical researches, following Delorme and Mignon, Dr. Roberts recommends that the needle should be thrust upwards and a little inwards in the upper part of the left xiphoid fossa. If pus is found he recommends resection of the thorax in the following manner: two vertical excisions are made, one about a centimetre to the left of the middle line of the sternum and the other four or five centimetres external to this. The fourth and fifth costal cartilages are exposed at their sternal junctions and divided. Care must be taken not to puncture the pleura. The soft tissues in the fourth and fifth spaces and along the upper border of the sternum are cut through. The trap-door so formed is raised and the mediastinal tissues are separated. The triangularis sterni and internal mammary vessels are then exposed. The former is divided close to the sternum within the line of the latter. With the finger or blunt instrument the fascia and muscular fibres are separated and the vessels and pleura pushed outwards. The white surface of the pericardium comes into view and is incised. If irrigation is employed two tubes should be used, one for exit. The drainage-tubes can pass through the fifth space or through a hole in the fourth.

WHAT IS VITALITY?

MR. HERBERT SPENCER'S definition of the nature of life implies, as is well known, a continuous adjustment of internal to external relations. In other words, vitality is preserved by interactions going on between the constituents of the protoplasm. On the face of it this view must be very materially modified in the light of some exceedingly interesting experiments recently brought to the notice of the Royal Society by Mr. Horace Brown, whose classic researches on that interesting class of ferments the enzymes are well known. He has found that by submitting seeds to the very low temperature of evaporating liquid air—i.e., from −183° C. to −192° C.—for 110 consecutive hours their power of germinating is not in any way impaired. Since the above temperature is considerably below that at which ordinary chemical reactions take place the result is very remarkable and would appear to show that although a state of complete chemical inertness in protoplasm may be established it does not necessarily lead to a destruction of its potential activity. Is the protoplasm thus brought to a "resting" condition to burst into activity on restoring favourable conditions? If so, what becomes of life during this "rest"? These observations are also of interest in connexion with the suggestion of Lord Kelvin that the origin of life as we know it may have been extra-terrestrial and due to the "moss-grown fragments from the ruins of another world" which reached the earth as meteorites. That such fragments might circulate in the intense cold of space for a perfectly indefinite period without prejudice to their freight of seeds or spores is, Mr. Horace Brown remarks, almost certain from the facts we know about the maintenance of life by "resting" protoplasm; the difficulties in the way of accepting such a hypothesis certainly do not lie in this direction. Here is an interesting problem for biologists and the development of the question will be followed with the keenest interest.

WE wish we could say that the epidemic of plague in India showed signs of ceasing, but such is not the case as will be seen by reference to our correspondent's special notes. Since our last report telegraphic intelligence has reached this country to the effect that there has been a serious recrudescence of the disease in Bombay where, according to the accounts in the Anglo-Indian journals received by the last mail, fresh attacks of plague were occurring daily and the mortality rate from other causes was also much above the average. At Poona the disease was still very prevalent in the city, suburbs and district, and cases were occurring at Sholapore, and in the Jullundur and Lahore districts of the Punjab, but the disease was not spreading there. We are glad to hear the work done by medical officers spoken of on all sides in eulogistic terms.

AT the meeting of the Medical Society of London on Monday next a discussion on Adherent Pericardium will be opened by Sir William Broadbent, Bart., M.D. Lond., who will be followed by Sir R. Douglas Powell, Bart., M.D. Lond., Dr. John Broadbent, Dr. W. Ewart, and Dr. S. West.

WE understand that Dr. Charlton Bastian, F.R.S., has been requested by the solicitors of the Treasury to investigate and report upon the mental condition of R. A. Prince who has been committed for trial at the Central Criminal Court on the charge of murdering Mr. William Terriss.

H.R.H. THE DUCHESS OF YORK has consented that the board of management of the East London Hospital for Children, Shadwell, shall name the new convalescent home at Bognor the "Princess Mary Convalescent Home" in memory of the late Duchess of Teck.

THE Spring Lectures at the National Hospital for the Paralysed and Epileptic will commence on Tuesday, Jan. 11th, with an address by Dr. Beevor, at 3.30 P.M., on "Cerebral Localisation."

THE death is announced of Professor Zakharin, the eminent Russian physician, which has just occurred at Moscow.

REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD, 1896-97.

FIRST NOTICE.

SIR RICHARD THORNE is to be congratulated on the early appearance of his report of 1896-97, more especially as it contains matter of considerable interest. That part of the volume which has reference to glycerinated calf lymph we have already dealt with and it will not therefore be necessary in the two notices which we shall devote to the report to refer to the subject further. In connexion, however, with vaccination it may be noted, although with much regret, that from the last return of the vaccination officers to which the report relates it appears that only 70·4 per cent. of the children born during 1894 were accounted for by vaccination, no less than 17·5 per cent. of the remainder having been entered as "removed" or "not to be traced." These latter figures would seem to indicate that the communication between vaccination officers is not of such a satisfactory nature as is contemplated by the Board's instructions to these officers. The number of births not finally accounted for amounted to 20·6 in the metropolis and 19·0 in the provinces. In addition to the details with regard to vaccination in the several unions throughout the country, Appendix A of the volume contains certain reports by the medical inspectors of the Board, while in Appendix B is a record of the scientific investigations conducted at the instance of Sir Richard Thorne.

An outbreak of enteric fever at Bicester, in Oxfordshire, which is reported upon by Dr. Theodore Thomson, affords yet another instance of the manner in which nature asserts her dominion over defaulting sanitary authorities who have neglected to provide their district with a supply of water not liable to become specifically polluted despite the fact that they have been warned of the dangers which are incurred by such omission. We may commend to the ratepayers of Bicester a little homily in the current volume of the *National Review* on "Suicide by Typhoid Fever." Dr. Deane Sweeting's report on an outbreak of diphtheria in the Gillingham urban district has been inserted into the volume, Sir Richard Thorne tells us, in order to illustrate the importance of a medical officer of health, in matters relating to school closure, acting in strict accordance with the code of regulations issued by the Lords of the Committee of Council on Education, which provide, among other things, that the school managers must at once comply with any notice of the sanitary authority of the district in which the school is situated. In the case in question the medical officer of health tendered verbal advice to the School Board and as a consequence friction and unpleasantness eventually arose. Sir Richard Thorne points out that it is only by the notices of the sanitary authority or two of its members acting upon the advice of their medical officer of health that school closure can legally be brought about. Dr. G. S. Buchanan contributes two reports to the volume under review, one on an outbreak of illness at Mansfield caused by the consumption of "potted meats" the other on certain cases of bubonic plague which occurred in the Port of London in 1896. Two of the cases were Goanese "knifemen," or stewards' helpers, on board an ocean-going vessel which had recently returned from Bombay, and the history of both cases was such as to leave little doubt that infection must have been derived from certain infected articles from Bombay which were unpacked only after the arrival of the vessel in London waters.

Not the least interesting report from a purely epidemiological aspect is that by Dr. Bulstrode on an outbreak of enteric fever at Chichester. It is interesting more particularly because certain provisional conclusions arrived at by Dr. Bulstrode have become in large part confirmed by bacteriological investigations conducted by Dr. Sidney Martin into the behaviour of enteric fever bacilli in the soil of Chichester. Enteric fever appears to have been in the past practically endemic in this district and several reports have been written upon this endemicity. Some have regarded the recent outbreak as due to a new system of sewerage, but a thesis of this nature, in addition to its inherent improbability on general principles, receives no support from a study of the distribution of the disease either in the past or recently. From such a study it is clear that before the system in question was introduced, and before, too, the public water-supply was instituted, enteric fever, to at least an equal extent, has from time to time invaded the district, on each occasion the same localities being picked out with remarkable uniformity. It would seem, indeed, that the polluted soil of Chichester has been in the main responsible for the endemicity of enteric fever hereabouts and the result of Dr. Sidney Martin's researches, which are contained in Appendix B of the volume before us, are such as to lend considerable support to this view; indeed, these experiments as far as they go open up fresh avenues of thought and speculation. The thesis that the endemicity of enteric fever is due to the persistence and periodical sprouting in the soil of the enteric fever bacillus is in no sense new. As early as 1877 Mr. W. H. Power, F.R.S., in a report to the Local Government Board, clearly foreshadowed what now seems to be in a fair way to be experimentally demonstrated, and in an address recently delivered before the Midland Medical Society, which was reprinted in full in our columns on Nov. 6th last year, Sir Richard Thorne deals in a comprehensive and lucid manner with this aspect of the question under the title of "Soil and Circumstance in their Control of Pathogenic Organisms." In connexion with the subject of enteric fever at Chichester attention may be drawn to three maps and a chart which are contained in the report, and which show the distribution of enteric fever in the counties of England and in North and South Wales during the decennial periods 1871-80 and 1881-90. The enormous fall in every instance is very graphically depicted and the manner in which on the maps the colour used to denote the lowest incidence in 1871-80 has become generally diffused in the map relating to the next decennial period is very instructive. The county of Durham heads the list for its excessive enteric fever rate in both periods, and Yorkshire, Lancashire, Nottingham, and Northamptonshire retain places in both periods which are the reverse of complimentary. The remarkable fall in the case of every other county suggests that there have been at work influences which are not generally classed as amongst those to which the term "sanitary" can be properly applied.

TYPHOID FEVER AT CAMBORNE.—At the meeting of the Camberne Urban District Council held on Dec. 31st, 1897, Mr. Telfer Thomas, L.R C.P. Lond., M.R.C.S. Eng., the medical officer of health, reported an outbreak of typhoid fever in the district. The first case was notified on Dec. 4th and since then 84 cases had been notified, mostly in children and young adults. The affected houses were only in those districts which were supplied with water by the Camborne Water Company. Mr. Thomas added that he had visited the company's reservoirs at Blackrock and as a result had sent a letter to the secretary of the company stating that it appeared evident the surface waters of Tregoning hamlet and the drainage from the fields adjoining must ultimately find their way into the leat which supplied the larger reservoir. It was eventually decided to ask the water company to meet the council at the reservoirs.

THE LANCET RELIEF FUND.

NINTH ANNUAL REPORT OF THE ALMONERS.

THE LANCET Relief Fund, which has for its Almoners the President of the Royal College of Physicians of London (Sir SAMUEL WILKS, Bart., M.D. Lond., F.R.S.), the President of the Royal College of Surgeons of England (Sir WILLIAM MACCORMAC, Bart.), the President of the General Medical Council (Sir RICHARD QUAIN, Bart., M.D. Lond., F.R.S.), Mr. THOMAS WAKLEY, F.R.C.S. Eng., and Mr. THOMAS WAKLEY, jun., L.R.C.P. Lond., with Sir HENRY PITMAN, M.D. Cantab., F.R.C.P. Lond., as Honorary Auditor, came into operation on the 1st of February, 1889.

In presenting the ninth annual report the Almoners think it well again to direct attention to the object for which the Fund was established.

The Fund is sustained solely by the Proprietors of THE LANCET, who provide every January the sum of at least £300, and is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners, or to the widows and orphans of members of the profession in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require.

When the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established; and as a result the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. Attention was called to this fact in THE LANCET of Feb. 16th, 1889, in the following words:—

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—and who, it may once more be pointed out, are likely to be permanently benefited thereby.

The balance in hand at the end of 1896 amounted to the sum of £53 9*s.* 10*d.* On Jan. 1st, 1897, the Proprietors of THE LANCET placed to the credit of the Fund the sum of £300. During the course of the year repayments of loans to the amount of £14 have been made. The sum of £194 has been granted in relief either by way of loan or of gift, leaving a balance of £173 5*s.* 8d. as per bank pass-book.

There have been considered altogether during the twelve months ending Dec. 31st, 1897, 37 applications for relief (the number the previous year having also been 37). In 22 cases assistance was awarded either as a loan or as a gift, according to the request of the applicant, the amounts of the grants ranging this year from £2 to £15.

The Almoners are glad to find from the number of letters received from recipients of the Fund that it continues to be of service to unfortunate members of the profession, and that the express object of assisting cases of emergency and immediate distress has been attained.

(Signed)

RICHARD QUAIN.	THOMAS WAKLEY.
SAMUEL WILKS.	THOMAS WAKLEY, JUN.

NOTE.—Sir William MacCormac being away from England was unable to be present at the meeting of Almoners or sign the report.

E. DAVIES, Secretary.

Statement of Accounts for the Year ending Dec. 31st, 1897.

DR.

	£ s. d.	£	s.	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1897		53	9	10
,, Proprietors of THE LANCET		300	0	0
,, Repayment of Loans :—				
Case No. 339	£2 0 0			
,, ,, ...	2 0 0			
,, ,, ...	2 0 0			
,, ,, ...	2 0 0			
,, 361	2 10 0			
,, ,, ...	2 10 0			
,, ,, ...	1 0 0			
		14	0	0
		£367	9	10
To Balance at Bank		£173	5	8

CR.

	£	s.	d.	£	s.	d.
By Loans :—						
Case No. 349	10	0	0			
,, 359	15	0	0			
,, 361	15	0	0			
				40	0	0
By Gifts :—						
Case No. 346	5	0	0			
,, 348	10	0	0			
,, 352	5	0	0			
,, 355	5	0	0			
,, 356	5	0	0			
,, 358	5	0	0			
,, 360	15	0	0			
,, 363	15	0	0			
,, 358	5	0	0			
,, 365	2	0	0			
,, 367	10	0	0			
,, 368	2	0	0			
,, 369	10	0	0			
,, 371	10	0	0			
,, 373	15	0	0			
,, 374	10	0	0			
,, 377	10	0	0			
,, 378	10	0	0			
,, 379	5	0	0			
				154	0	0
,, Cheque Book					4	2
,, Balance at Bank, Dec. 31st, 1897				173	5	8
				£367	9	10

I find by the Bankers' Book that the actual balance on Jan. 1st, 1897, to the credit of the Fund was £53 9*s.* 10*d.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 1st, 1897.

The balance at the Bank at the present date is the sum of £173 5*s.* 8*d.* I have also checked the receipts for disbursements and find the above account strictly accurate.

December 30th, 1897.

HENRY A. PITMAN, Hon. Auditor.

PROGRAMME OF THE NINTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

IT will be remembered that the Ninth International Congress of Hygiene and Demography was to have met last year at Madrid. The disturbed condition of Spain, due more particularly to the insurrection in Cuba and the Philippine Islands, rendered a postponement of the Congress inevitable. It is now announced, however, that the Congress will meet this year at Madrid from the 10th to the 17th of April. A preliminary programme has been drawn up by the "General Committee of Propaganda and Organisation." Dr. Amalio Grimeno, professor of the Madrid Faculty of Medicine, senator, and member of the Academy of Medicine, is the general secretary of the Congress. All communications should be addressed to Dr. Amalio Grimeno, at the Ministry of the Interior, Madrid. Papers that are to be read to the Congress must be written either in Spanish, Portuguese, Italian, French, English, or German, as these are to be the official languages of the Congress. In all cases these papers must be accompanied by a short summary either in Spanish or in French. It is further said that such papers should have been sent in by Jan. 1st; but considering the shortness of the notice it is anticipated that some exceptions will be made, at least for the more distant countries. Of course no paper that has already been communicated to any other society will be accepted.

The Congress is open to the delegates of governments, municipalities, and other local authorities, universities, academies, scientific societies, and special schools. Further, all persons who are specially engaged in the study of questions relating to hygiene or demography and who apply to the organising committee, may take part in the labours of the Congress. But the committee reserves the right of refusing admission where such admission does not seem justified by the circumstances of the case.

Ladies, wives or relatives of the members of the Congress, will not be considered as members unless they can produce a medical diploma or some other official title connected with the science of hygiene or demography. Those ladies who cannot fulfil these conditions will nevertheless be able to enjoy all the advantages given to the members of the Congress, such as journeys, excursions, invitations, and entertainments, on payment of a subscription of 10 pesetas (8*s*.). The subscription for full members of the Congress is 25 pesetas (£1) and should be sent to the treasurer, Sénor Pablo Ruiz de Velasco, president of the Chamber of Commerce, Madrid.

There will be an exhibition in connexion with the Congress to be divided into ten classes—namely, didactic hygiene, the prophylaxis of transmittible diseases, town hygiene, home hygiene, the hygiene of exercise and of work, military and naval hygiene, the hygiene of schools and of childhood, the hygiene of food and of clothing, demography and statistics, and miscellaneous.

The Congress is divided into ten sections for hygiene which in a great measure correspond with those of the exhibition and in three sections for demography. The first section will deal especially with bacteriology—the culture, classification, &c., of pathogenic bacteria. There is to be a discussion on the most recent discoveries with regard to the propagation of enteric fever, cholera, &c., on the means of securing immunisation, on bubonic plague, yellow fever, &c.

The second section will deal with prophylactic measures—the action of the State; compulsory vaccination; the prevalence of leprosy in Spain; pellagra, its cause and prevention; sanitary services on the frontiers; disinfection, &c., in times of epidemic; the prophylactic effects of cremation; and the most economic methods of domestic disinfection.

The third section will discuss medical topography and climatology and afford a good opportunity of obtaining information as to the climatic advantages of the winter stations on the Spanish coast of the Mediterranean. The question will be raised as to whether there is a higher death-rate in rice-growing countries. The connexion of the duration of life with climate and the geographical distribution of tuberculosis will likewise be submitted to this section.

The fourth section will deal with town sanitation—the disposal of sewage, sewage farms, the pathogenic influence of sewer air, filters and public fountains, cheap but healthy houses, public slaughter houses, the microscopic examination of meat, &c. There are two questions somewhat out of the common; the first is an inquiry whether the watering of streets does harm or good and the second as to whether, by the use of chemicals and a system of subsoil drainage it would be possible to disinfect old cemeteries which in consequence of the growth of towns are now surrounded by dwellings.

The fifth section, devoted to alimentary substances, should give rise to interesting debates, for the Spaniards as a great wine-producing and yet a particularly sober people promise several papers on the various processes of preparing and preserving wines, together with the more recent methods of discovering impurities in alcohol. A paper will also be read suggesting that the method of giving prizes at agricultural shows should be altogether altered. The prizes, it will be urged, should be given not for the size and breed of the cattle but for the wholesomeness of the meat.

The sixth section, dealing with the hygiene of childhood, will debate school colonies, maratime sanitoria, the boarding-school as opposed to the day-school, the prophylaxis of ophthalmia, infant mortality, &c.

The questions of physical exercise and labour come up in the seventh section. The labour of women and children in factories, workshops, and mines, Factory Acts, explosions, the sanitary police of mines, the classification of unwholesome industries and kindred subjects are down for discussion. Then there will be papers on sport and cycle riding and the question will be raised at what age can disciplined exercise or gymnastics be substituted for natural, untrained exercise?

In the eighth section military and naval hygiene, the management of troops in tropical climates, their clothing, &c., will be debated. Then there is to be a paper on asepsis under fire and in field ambulances and on disinfection and hygiene on board transport and war ships. Finally, the sanitation of the stoke-hole will claim the attention of the congress.

The ninth section is devoted to the means of preventing the spread of tuberculosis among domestic animals and its transmission to human beings. This is the section for veterinary surgeons and all that relates to animals and cattle.

The tenth is the architectural and engineering section. Here the construction of penitentiaries, asylums, hospitals, crèches, &c., will be investigated and there will be debates on the disposal of town refuse, ventilation and warming of buildings, and the accidents arising from the transmission of electric force.

In the first section of the division devoted to demography the simple, rapid, economical collection of statistics and information is to be discussed. The best methods of drawing diagrams and of teaching demography as applied to hygiene, labour statistics, longevity in connexion with all occupations, the rational and scientific classification of diseases and the unity of such classification are also among the subjects on the programme.

The second section deals with the results to be deduced from available statistics—do they prove an average increase of the duration of human life during the present century? Among the other subjects to be debated are the consequences of marriages between those of near kin, the statistics of prostitution as compared with the frequency of marriages, fecundity in its relation to the age of the parents, statistics as to the average measurement of conscripts, the prevalence of mental diseases and epilepsy in different epochs and countries, &c.

The third section will discuss the migration of populations and its effects on public health; the laws that cause the exaggerated increase of urban populations and how this can be checked; Spanish emigration, its causes and dangers; the evils of absentee rural landowners, their effects on population and public wealth; and the influence of sanitary measures on the physical quality of the populations and the consequences that may arise therefrom. This last question will supply the pessimists with an opportunity of arguing that good sanitation, by securing the survival of the unfit, tends to deteriorate the human race.

Altogether it will be seen that even the preliminary programme suffices to indicate that there will be no lack of interesting subjects for discussion. We trust that Great Britain will be better represented on this than on former occasions. Holding a leading position in the practical progress of sanitary science Englishmen should make it a point of honour and duty to spread far and wide the knowledge which they have been able to acquire. Great Britain, by reason of its wealth, the absence of crushing military burdens and its political freedom, has been able to do more for practical sanitation than most continental countries. The knowledge we have acquired from actual experience is the most valuable of all knowledge and should not be kept to ourselves. On the other hand, it would be a great mistake to conclude from this that we have nothing to learn on the continent. Though behind us in many respects there are numerous instances where even in regard to sanitation continental nations can set us a good example.

THE INDIAN FRONTIER CAMPAIGN.

THERE is not much to be chronicled in connexion with the Indian frontier war. With the concentration of the first division in the Khyber Pass the active military phase of the expedition closes. The campaign as planned by Sir William Lockhart has been carried out, but the ultimate results of it have not yet been manifested. It is quite true that the Afridi tribes have not after all submitted, but it still remains to be seen whether the neck of their opposition has not been broken and whether they are capable, even if desirous, of engaging in further hostilities on any large scale. They have not yet had time to realise the extent of their losses and what must be the ulterior effects of them, and it is possible that they will submit to terms rather than run the risk of a threatened re-invasion of their country in the spring. Meanwhile the complete submission of the Oraksais has been accomplished, the Khyber Pass has been re-opened, and the whole of the Afridi country has been visited and its defences destroyed. It is clear, however, from the latest operations in the Khyber Pass that the tribes are not sufficiently subdued to desist from attacking us and pursuing their usual tactics. Apart from the great geographical and topographical difficulties of the country, which are all in favour of a defensive and harassing guerilla warfare, these mountain tribes are among the finest marksmen in the world and how they procured their large supplies of modern rifles and ammunition has not yet been satisfactorily explained. The Anglo-Indian papers are naturally full of military dispatches and information regarding this war on the frontier. It is impossible to deal with voluminous reports, but we may refer to a few points of medical interest. Sir Bindon Blood's dispatches contain a reference to "the gallantry of Surgeon-Captain J. Fisher, Indian Medical Service, who made a most determined, though unsuccessful, attempt to take medical aid to the wounded of Captain Ryder's detachment through hot fire." The commissariat transport and medical arrangements were excellent.

The special correspondent of the *Times of India* with the 2nd Division of the Tirah expeditionary force, after adverting to the difficulties and dangers connected with the carrying of the wounded, remarks that the total losses of the 2nd Division for the month ending Nov. 18th have been 462 in killed and wounded alone, not counting sick—a very heavy casualty list; with the sick the numbers amount to 908. With regard to the requirements of a force in the field he mentions the excellence of nearly all articles supplied by the Commissariat Department. "The warm clothing supplied to the troops would indeed be hard to beat. Waterproof sheets, boots (the sewing might be a little better), socks, warm coats, Balaclava caps, Cardigan jackets, warm pyjamas, are one and all just as good as you could possibly hope or wish to get from anywhere and are good enough for anybody and are practically universally worn by officers and soldiers alike. The food-supply, too, is very good, the tinned beef and mutton excellent, as also is the bread, which is made almost immediately we arrive in camp daily. The chocolate, too, is good and most necessary. We notice, on the other hand, that according to the *Pioneer Mail* there was a great deal of grumbling among the medical officers in Tirah with regard to the quality of the stores of tinned milk and articles like arrowroot for the treatment of patients suffering from fever and dysentery. there were often, it is alleged, so bad as to be unfit for consumption.

Early in December last there were about 700 sick in the Peshawar Hospital, and these numbers will be augmented now that the expeditionary force is beginning to be concentrated at stations along the Khyber and Peshawar becomes the base of operations.

Brigadier-General Elles's despatch regarding the engagement near Shabkadr in August last has been received at the India Office and published in the gazette. Among the officers brought to favourable notice is Surgeon-Captain T. H. J. C. Goodwyn of the Army Medical Staff.

The sad death of Sir H. Havelock-Allan, V.C., M.P., who was killed in the Khyber Pass, removes a notable personage who had in his time shown himself a very brave and distinguished soldier. We regret also to hear that Major-General Yeatman-Biggs, C.B., has died from dysentery.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Lancashire County District.—Mr. Edward Sergeant, the medical officer of health of this district, is of opinion that in order to enforce the carrying out of the statutes relating to public health county councils should possess powers similar to those by which, under Section 299 of the Public Health Act, 1875, the Local Government Board are empowered to appoint some person to perform the neglected duty of a sanitary authority. The parish councils in Lancashire do not appear to be very energetic in matters touching the public health as during 1896 one complaint only was received by the county council, under the Local Government Act, 1874, as to unwholesome water-supplies, and this in spite of the fact that there is much room for improvement in this particular. In referring to the question of infantile mortality Mr. Sergeant points out that although under Section 17 of the Factory and Workshop Act, 1891, the employment of a woman in a factory within four weeks of her delivery is prohibited there is no one whose duty it is to enforce the section. An instance of the resistant power of the small-pox virus is to be found in the contraction of the disease through the unpacking of a trunk belonging to a man who had died from small-pox on his way home from South Africa. Isolation hospital provision does not, it is regrettable to notice, make much headway in the county, and there are still no less than thirty-three districts without such provision. Two appeals were made to the Local Government Board during the year against the grouping of districts by the county council under the Isolation Hospitals Act, 1893, but in both cases the decision of the county council was upheld by the Board. As with hospital provision so with means of disinfection, more than half the districts in the county being without a proper apparatus. House-to-house inspection is not taken sufficient advantage of in many districts, and the subject of common lodging-houses seems well-nigh neglected. The smoke nuisance is not one upon which much improvement can be recorded and Mr. Sergeant observes that by allowing the emission of black smoke for more than ten minutes per hour the nuisance referred to is practically sanctioned; in Burnley the limits are twenty minutes per hour and in Lancaster two minutes. Mr. Sergeant advises that county councils be given concurrent power with district councils for carrying out Section 91 of the Public Health Act, 1895. There is much to be said for the proposal, as it is obvious that district councils are not sufficiently removed from local influences to deal adequately with this matter. In respect to sewerage considerable progress has been made during 1896, but in only a few instances has improvement been made in the water-supplies.

Newark Urban District.—A noticeable feature in this district is the marked fall in the incidence of enteric fever since the introduction of a new water-supply. The notifications of this disease during each year from 1890 to 1893 were 53, 125, 69, and 78. In 1893 the new water-supply was introduced and since that time the notifications have been 10, 8, and 7 for 1894, 1895, and 1896 respectively. There has, too, been a marked drop in the number of deaths attributed to tuberculous disease, and Mr. Charles Wills, the medical officer of health of the district, thinks this reduction may possibly be due to the improved water-supply, more especially as a considerable amount of tuberculous material is conveyed by water. It would, however, have been well to have separated the intestinal cases from the pulmonary cases in order that a more correct idea of the intestinal disease might have been obtained. There is, too, the question of the vitality of the tubercle bacillus in water to be considered in this connexion.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5954 births and 5256 deaths were registered during the week ending Jan. 1st. The annual rate of mortality in these towns which had been 20·6 and 17 7 per 1000 in the two preceding weeks rose again last week to 24·9. In London the rate was 27·6 per 1000, while it averaged 23·1 in the thirty-two provincial towns. The lowest death-rates in these towns were 14·1 in Birkenhead, 14 7 in West Ham, 15·5 in Gateshead, and 16·4 in Croydon; the highest rates were 27·6 in London and in Leeds, 30·6 in Blackburn, 32·7 in Halifax, and 37·4 in Norwich. The 5256 deaths in these towns included 647 which were referred to the principal symotic diseases, against 562 and 480 in the two preceding weeks; of these, 289 resulted from measles, 150 from whooping-cough, 88 from diphtheria, 46 from "fever" (principally enteric), 37 from scarlet fever, and 37 from diarrhœa. No death from any of these diseases was registered in Plymouth or in Gateshead; in the other towns they caused the lowest death-rates in Portsmouth, Derby, and Newcastle-upon-Tyne, and the highest in London, Swansea, Birmingham, Blackburn, and Halifax. The greatest mortality from measles occurred in London, Croydon, Brighton, Swansea, Bristol, Blackburn, Burnley, and Halifax; from whooping-cough in Birmingham, Wolverhampton, Norwich, Salford, and Leeds; and from "fever" in Bolton. The mortality from scarlet fever showed no marked excess in any of the large towns. The 88 deaths from diphtheria included 63 in London, 6 in Cardiff, 4 in Birmingham, 4 in Liverpool, 4 in Leeds, and 3 in Manchester. No fatal case of small-pox was registered last week in any of the thirty-three large towns, and no small-pox cases were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 3572, against 3806, 3733, and 3619 on the three preceding Saturdays; 273 new cases were admitted during the week, against 319, 260, and 222 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 457 and 353 in the two preceding weeks, rose again last week to 702, and were 132 above the corrected average. The causes of 92, or 1·7 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Oldham, Hull, Newcastle-upon-Tyne, and in eight other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Norwich, Liverpool, Burnley, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3 and 18·6 per 1000 in the two preceding weeks, rose again to 24·1 during the week ending Jan. 1st, but was 0·8 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·2 in Leith and 18·4 in Aberdeen, to 26·7 in Edinburgh and 31·3 in Greenock. The 717 deaths in these towns included 27 which were referred to whooping-cough, 18 to diarrhœa, 15 to measles, 8 to scarlet fever, 3 to diphtheria, and 2 to "fever." In all, 73 deaths resulted from these principal symotic diseases, against 72 and 65 in the two preceding weeks. These 73 deaths were equal to an annual rate of 2 4 per 1000, which was 0·7 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 29 and 26 in the two preceding weeks, were 27 last week, of which 16 occurred in Glasgow and 3 each in Dundee, Paisley, and Greenock. The 15 deaths referred to measles showed an increase of 4 upon the number in the preceding week, and included 13 in Glasgow and 2 in Greenock. The fatal cases of scarlet fever, which had declined from 12 to 9 in the three preceding weeks, further fell to 8 last week, of which 3 ocurred in Glasgow and 3 in Edinburgh. The 3 deaths from diphtheria included 2 which were recorded in Dundee, and the 2 fatal cases of "fever" were registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 138 and 149 in the two preceding weeks, further rose to 186 last week, and were 34 above the number in the corresponding period of last year. The causes of 44, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·5 and 21·8 per 1000 in the two preceding weeks, rose again to 33 3 during the week ending Jan. 1st. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the city averaged 24·6 per 1000, the rate during the same period being 18·8 both in London and in Edinburgh. The 223 deaths registered in Dublin during the week under notice showed an increase of 77 upon the number in the preceding week, and included 13 which were referred to the principal symotic diseases, against 19 and 13 in the two preceding weeks; of these, 6 resulted from "fever," 2 from diarrhœa, 2 from whooping-cough, 1 from measles, 1 from scarlet fever, and 1 from diarrhœa. These 13 deaths were equal to an annual rate of 1·9 per 1000, the symotic death-rate during the same period being 3·8 in London and 2·0 in Edinburgh. The deaths referred to different forms of "fever" which had been 10 and 5 in the two preceding weeks rose again to 6 last week. The mortality from whooping-cough and from diphtheria also showed an increase upon that recorded in the preceding week, while the mortality from scarlet fever showed a further decline. The 223 deaths in Dublin last week included 34 of infants under one year of age and 61 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded those recorded in any recent week. Fourteen inquest cases and 10 deaths from violence were registered; and 74, or one third, of the deaths occurred in public institutions. The causes of 23, or more than 10 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

THE following appointments are announced:—Staff-Surgeons: J. Jenkins to the *Sirius*, and J. Lowney to the *Northampton*, additional for *Calliope*. Surgeons: T. Austen to Malta Hospital; J. Grant to the *Ramillies;* J. Barry to the *Pelorus;* S. Croneen to the *Impregnable;* and E. E. Kershaw to the *Sirius*. W. Sinclair, civil practitioner, to be Surgeon and Agent at Collierton, and W. E. Baylie, civil practitioner, to be Surgeon and Agent at Misner Haven.

ARMY MEDICAL STAFF.

Brigade-Surgeon-Lieutenant-Colonel Moore is appointed Embarking Medical Officer at Portsmouth. Surgeon-Captain Smithson assumes medical charge of the Royal Artillery, staff and details, Marlborough Lines, Aldershot. Surgeon-Lieutenant-Colonel Scott is appointed to the medical charge of troops at Yarmouth, and Surgeon-Major Day takes over medical charge of departments and families at Portsmouth. Brigade-Surgeon-Lieutenant-Colonel Edge joins at Woolwich for duty. Surgeon-Colonel Eaton has embarked for India.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant Arthur H. Vernon, 4th Volunteer Battalion the Hampshire Regiment, to be Surgeon-Lieutenant.

The under-mentioned officers having resigned their Volunteer appointments, cease to belong to the Army Medical Reserve of Officers:—Surgeon-Major W. T. Whitmore, F.R.C.S. Edin., and Surgeon-Lieutenant A. H. Marsh.

VOLUNTEER CORPS.

Artillery: 3rd Middlesex; Surgeon-Captain A. Lingard to be Surgeon-Major. *Rifle:* 5th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Captain J. A. Gray to be Surgeon-Major. 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment: Surgeon-Captain Alexander James Boyd, M.D., resigns his commission and is appointed Captain. 1st Volunteer Battalion the Royal Scots Fusiliers: Thomas Hamilton, M.B., to be Surgeon-Lieutenant. 1st Volunteer Battalion the Cheshire Regiment: John Brown Yeoman, M.B., to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Duke of Wellington's (West Riding Regiment): Surgeon-Captain J. Sutcliffe to be Surgeon-Major. 5th (Ardwick) Volunteer Battalion the Manchester Regiment: Surgeon-Captain Arthur Henry Smith resigns his commission and is appointed Captain. 5th (Irish) Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant J. J. O'Hagan to be Surgeon-Captain.

Volunteer Infantry Brigade.

Sussex Brigade: Surgeon-Major W. M. Vores, M.B., 2nd Volunteer Battalion the Royal Sussex Regiment, to be Brigade-Surgeon-Liutenant-Colonel on being appointed Senior Medical Officer to the Brigade.

Volunteer Medical Staff Corps.

The London Companies: Surgeon-Lieutenant-Colonel-Commandant A. T. Norton, C.B., resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement.

Deaths in the Services.

Deputy Inspector-General of Hospitals J. Kellie, late Deputy Inspector-General of Hospitals, Madras Army, on Dec. 16th, 1897, at Ealing, in his ninety-second year.

Deputy Surgeon-General John Houston, Indian Medical Service (retired), on Christmas Day at Edinburgh, aged sixty-five years. He received his medical education at Edinburgh and Glasgow, becoming M.D. of Glasgow University and L.R.C.S. Edin. He entered the Medical Service of the Madras Government in August, 1855, served in Mysore, and was Chemical Examiner and Superintendent of the Gaol. He became Surgeon-Major in 1867, and subsequently served as Durbar Physician to the Maharajah of Mysore, as Surgeon to the Mysore Commission, as officiating Residency Surgeon, and as Surgeon to the Mysore Government. He reached the rank of Brigade-Surgeon in 1881, and retired in 1886. The deceased officer leaves a widow, two sons, and two daughters to mourn their loss besides a large number of friends.

Inspector-General Thomas Russel Pickthorn, R N. (retired), at Rockbeare, Emsworth, on Dec. 31st, 1897, aged eighty years. He entered the Navy as Surgeon in 1842, was promoted to Staff-Surgeon in 1851, and served in the *Spartan* in China from 1852 to 1855. He was promoted to be Fleet-Surgeon in 1866, Deputy-Inspector-General of Hospitals in 1870, and Inspector-General of Hospitals in July, 1878.

The Soudan Campaign.

There has been and still is much excitement in Egypt in regard to the renewal of military operations in the Soudan. The movement of troops naturally led people to believe that an advance on Khartoum was to be made at once. These military movements may possibly, however, have been rather of a defensive than an offensive character and have been brought about by the intelligence received of a threatened advance of the Dervishes northwards. The present is an opportune time for such an attempt on their part, for the railway to Berber has not been completed, the Nile is low, and the Egyptian army in the field has not as yet received any British reinforcement. Some battalions of British infantry are leaving for Wady Halfa for frontier work and the Cameronian Highlanders will soon follow. Their places will be supplied by troops from the Mediterranean and by battalions on their way home from India. The Sirdar (Sir H. Kitchener) is still at Wady Halfa. Among the officers recently ordered up the Nile are three army surgeons. Before any forward movement takes place in the direction of Khartoum the Egyptian army must be materially strengthened by a British contingent and the number of army surgeons will have to be materially increased. The preparations that are being made and the activity that is being manifested look as if a speedy advance were anticipated.

The Indian Frontier Campaign.

The latest intelligence is to the effect that there has been sharp fighting in the Khyber Pass and in the direction of Lundi-Kotal. The Bunerwal tribe having refused to comply with the terms offered them will be at once proceeded against and more fighting is expected, but the winter and snowfall will soon cause a suspension of all military operations. The cold is already very severe. General Sir William Lockhart returns to England on three months' leave, and what with the presentation of his reports to the Indian Government and the interviews which he will no doubt have with the India Office in this country the future frontier policy will probably be soon considered and definitely settled. The troops are fairly healthy and the wounded are, speaking generally, doing well. The prevailing forms of sickness have been fevers (chiefly malarial), dysentery, and respiratory diseases. The tribes in the Kurram are suffering much from the cold owing to the destruction of their dwellings and the valley is quiet; but the Afridis, on the other hand, have shown no disposition to send in jirgahs to make terms; on the contrary, they are actively pursuing their usual tactics in attacking our columns on every opportunity favourable to themselves. Whether they will endeavour to make terms before the spring remains to be seen.

The Gallantry of Medical Officers.

The gallantry of Captain D. C. F. Macintyre and Surgeon-Captain W. Selby, 1st Battalion 2nd Gurkhas, has, we are glad to say, been specially brought to notice with a view to these officers' claims for the Victoria Cross being considered. The gallant and devoted services of Surgeon-Captain T. H. I. C. Goodwyn, A.M.S., on the occasion of the engagement on Aug. 9th last with the Mohmands and other tribes have been specially referred to by Brigadier-General Elles in his despatches, and it is hoped that this medical officer may also have a Victoria Cross conferred upon him.

Surgeon-Major-General A. A. Gore, A.M.S., Principal Medical Officer to Her Majesty's Forces in India, has been awarded a distinguished service pension of £100 a year. On leaving Simla in December he inspected the base general hospitals at Peshawur and Pindi, the 3rd Battalion Rifle Brigade at Umballa, the 2nd Battalion Royal Irish at Pindi, and the 1st Battalion Somersetshire Light Infantry. The headquarter offices for 1898 will be in Fort William, Calcutta.

The *Times* states that the Government of India propose to engage three sanitary officers to carry out bacteriological investigations in cases of enteric fever among British troops.

Correspondence.

"Audi alteram partem."

"THE HOSPITALS, THE PROFESSION, AND THE PUBLIC."

To the Editors of The Lancet.

Sirs,—Every one of the millions who now read the newspapers must be aware of Sir Henry Burdett's views on "hospital abuse" and his desire for the "reforms" he advocates. Among the out-patients at every hospital are persons who might be sent away without help as slight cases to be dealt with at the dispensary, but here and there comes one who happens to be sickening for serious illness—perhaps pneumonia or typhoid fever—and who under our present system would be at once taken in, sent to bed, and properly cared for, while under some organisations he might be sent away as an "improper object." Let anyone imagine himself poor, ill, and in pain, after having walked miles and waited long for his turn and then to be told he may go to—the dispensary. Would the "undeserving" be the only ones "shut out" by the wonderful net by which Sir Henry Burdett proposes to secure the portals of every hospital? Of late the public and the profession have been told much about the few who are supposed to abuse hospitals—very little about those on the other side. Sir Henry Burdett and his friends seem hardly to believe in the existence of clean-faced misery and misfortune or that people once well off may become wretched, ill, and get into a state verging on despair who need help *at once* and deserve it without being first organised. Has it never occurred to him that we save hundreds of people every year in our public hospitals to the advantage of the public and to the credit of our country—

people who would have died before organisation could have reached them?

Why should not the present committees and their friends, the staffs and other officers of our hospitals be still trusted by the public to administer the institutions built and paid for by them, their friends, and their predecessors?

Nothing is easier, especially in these days of difficulty, than to set one branch of the profession against another. With few—very few—exceptions, professional men have to work very hard whether their services are remunerated or not.

I am thankful that all the confident and far-seeing organisers in the world cannot prevent us from giving our professional help where we think it right to do so, and especially in cases in which our would-be helpers would be powerless. They do not know the facts as we do and do not understand our position with regard to the sick and to one another. Having little knowledge or experience as to things medical they set to work as the only persons able to help us, the poor, and the public out of our difficulties. They essay to prevent us from being cruelly imposed upon by the unscrupulous sick who ought to pay for medical advice but who do not. Out of pure kindness, and in order to safeguard all interests, they undertake to improve our administration, to spend our money more economically and wisely than we can, to manage committees and staffs, patients and nurses far better than they can manage themselves, and claim to be the only persons able to divide big funds with justice to those who are to participate and for whom the funds were subscribed. Everyone who wants to assist the poor is to send them his subscription and they will take care it is distributed only in their own particular authorised way.

I am, Sirs, your obedient servant,
LIONEL S. BEALE.

HYDROCYANIC ACID AS AN ANTIDOTE IN CHLOROFORM POISONING.

To the Editors of THE LANCET.

SIRS,—Having recently[1] pointed out the similarity of the symptoms in certain chloroform fatalities with those exhibited in death from sudden hæmorrhage and in cases of poisoning by hydrocyanic acid, I am naturally surprised to find hydrocyanic acid suggested as an antidote in chloroform poisoning by Professor Hobday in THE LANCET of Jan. 1st, 1898, p. 27. Having had no experience in the administration of anæsthetics to animals I do not in any way question the utility of the treatment adopted in the cases reported, but considering the accepted views as to the physiological action of hydrocyanic acid it is difficult to understand the *rationale* of its beneficial effects in cases of chloroform accidents. Hydrocyanic acid is referred to as a *respiratory stimulant* by Professor Hobday, and is presumably given as such, but surely it is the reverse of a respiratory stimulant. In works on therapeutics—e.g., Dr. Lauder Brunton's—it is described as one of "the most powerful and rapid poisons," which has "a special paralysing effect on the respiratory centre."

It is true that in poisonous doses rapid respiration is one of the symptoms, but this is merely secondary to the failure of the circulation and not the result of stimulation of the respiratory centre by the drug. To quote the same work—the symptoms of hydrocyanic acid poisoning are "giddiness, uncertain gait, a few slow breaths, and then rapid respiration and irregular action of the heart ...... succeeded by violent convulsions tonic and clonic ...... complete loss of sensibility, paralysis of the voluntary muscles, almost imperceptible pulse, slow and weak respiration, the expiratory movement predominating, and death."

Dr. Brunton notes the similarity between these symptoms and those of carbonic acid poisoning, and considers them due to "rapid asphyxia," apparently from "paralysis of the respiration." There is certainly asphyxia of the tissues, but not in the ordinary sense of the term and it is not due to paralysis of the respiration. From the same account we gather that there is also "great dilatation of the peripheral vessels," and excessive depression of the arterial pressure. It seems evident from this that in hydrocyanic acid poisoning by a medium dose there is a paralysis of the circulation and consequent anæmia of the cerebral centres and general blood starvation of the tissues which causes the rapid respirations and convulsions. On these grounds it is difficult to see how the drug can be of use in ordinary chloroform accidents. It would be a help if Professor Hobday could give an account of the effects of the dose he recommends on a healthy animal.

I remain, Sirs, yours truly,
ALEXANDER WILSON,
Administrator of Anæsthetics, Royal Infirmary, Manchester, &c.
Jan. 3rd, 1898.

"TYPHOID FEVER IN BELFAST."

To the Editors of THE LANCET.

SIRS,—Dr. J. A. Lindsay complains in THE LANCET of Jan. 1st that my reports on the above subject may by their exaggerations tend to retard rather than to advance the cause of sanitary reform in Belfast. Yet on reading what Dr. Lindsay has to say concerning the state of affairs in that town the chief difference between his description and mine seems to be one of form rather than of fact. To those however who have not read my reports an impression might be conveyed by Dr. Lindsay's opening remarks that I had failed to describe the sanitary improvements which have been taken in hand and did not allude to the constant remonstrances made by the superintendent medical officer of health, Dr. Whitaker. Anyone who has read my report will, on the contrary, know that I frequently quoted the very excellent criticisms made by Dr. Whitaker and described at great length the main drainage scheme, the old waterworks, and the proposed new supply.

Dr. Lindsay then somewhat confuses the issue by protesting that statistics extending over only the first nine months of the year 1897 should not be taken as a criterion of the health of the town and he proceeds to give the number of deaths from typhoid fever which have occurred during the previous five years. But in my report published on Nov. 27th, 1897, I gave exactly the same figures, the only difference being that Dr. Lindsay goes back to the year 1892 and I did not go farther back than the year 1894. I never sought to prove Belfast suffered more from typhoid fever as an endemic disease than all the other great towns of Europe, but simply quoted the statistics published by the chief medical officer of the Gresham Life Assurance Company, showing that during the year 1897 Belfast had acquired an unenviable predominance in this respect. These figures were very startling as indicating the widespread nature of the present epidemic which occasioned during nine months deaths from typhoid fever in Belfast equal to the proportion of 965 per 1,000,000 of the population, whereas in the worst town in Europe, Namur, the figure is only 434, and in London it does not amount to more than 77. This surely had a direct bearing, not on the general health of Belfast as taken on the average of several years, but on the present epidemic. Dr. Lindsay then proceeds to show that the average death-rate from typhoid fever is higher in some parts of England and in many parts of the Continent. This I most freely admit, as I also recognise that two blacks do not make one white. No one can have read THE LANCET for some years without having noticed the extremely severe criticisms of the insanitary condition of continental towns published more especially during the recent cholera epidemic.

The main difference, therefore, remains one of form rather than of substance and I am quite willing to bow to Dr. Lindsay's superior tact and knowledge with regard to the style of language that is likely to produce the most favourable impression on the members of the Ulster Medical Society. Writing for a medical paper I ought doubtless to have adopted that courtly persuasiveness and soothing suavity of tone for which the profession is so eminently distinguished. If I have been remiss towards the medical men who at Belfast treated me with uniform hospitality, courtesy, and kindness I tender them my humblest apologies. But I do more, I credit their higher humanitarian sentiments with the power of freely forgiving me when I confess that in writing those reports I thought very little about them but a great deal about the suffering population that is under their care. The medical profession may give very efficient help towards the attainment of the necessary sanitary reforms; but, after all, theirs is only a work of propaganda. Action must be taken by the electors, and the electorate of such a town as Belfast is not likely to arise in response to a mild criticism uttered in dulcet tones. The influence of The Lancet, especially on such subjects, extends beyond the ranks of the medical profession. It seemed to me necessary to point out to the electors of Belfast that though the town had been saddled with heavy burdens for sanitary improvements comparatively little had been done to ameliorate the condition of property in which some among the elect were interested. I do not believe that even abroad it would be easy to find a town where there are 20,000 privies that have to be emptied by carrying the filth through the dwelling rooms. Certainly £300,000 have been spent on the main drainage of Belfast, but I take it that a smaller sum would have sufficed to enforce the building of back passages to these houses. On the Continent, also, there are not the good sanitary laws and the wealth to carry them out which we possess in Great Britain. Why has the law been broken in Belfast and houses allowed to be built on ground made up with the fæcal matter and garbage taken out of privies and ashpits? Certainly £610 000 are to be spent to obtain an ideal water-supply, but in the meanwhile a solution of decomposed rats is served as drinking water to the customers of a restaurant situated in a central part of the town. The ratepayers are to be taxed to the extent of £610,000 for a new water-supply; but how difficult it was to override the individual interests of master plumbers so as to obtain a by-law enforcing the use of first-class water-fittings. The community at large will probably be encumbered with a debt of more than one million sterling for sanitary improvements, but there will still be a high death-rate if the owners of insanitary property are not forced to put their houses in order. Domestic sanitation is more needed than public hygiene. Therefore if we sincerely desire to save human life in Belfast it is necessary to speak to the electors in the forcible language they best understand rather than content ourselves with polite protests. King Hildebrand may if he chooses hang his victims "most politely." For my part I was certainly more anxious to denounce abuses than to plead attenuating circumstances, particularly as such attenuating circumstances, such sanitary measures as have been adopted, have a tendency to place taxes upon people who are innocent instead of imposing burdens on owners of jerry built houses who are guilty. Perhaps as a matter of tactics I was mistaken, but anyone who has visited the jerry-built houses of Belfast will understand my indignation and may even join with me in invoking the united voice of civilisation against the 20,000 privies that have to be emptied through rooms inhabited by citizens of the wealthy commercial capital of Ireland.

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[1] THE LANCET, Sept. 11th, 1897.

I am, Sirs, yours faithfully,

Jan. 3rd, 1898. Your Special Commissioner.

THE MEDICAL ACTS.

To the Editors of The Lancet.

Sirs,—By your courtesy about eighteen months ago I drew the attention of the profession to the inferior general powers it possessed, as compared with the legal profession, for the suppression of quacks and unqualified practitioners. May I again refer shortly to this subject? In the past session of Parliament a Bill was passed which comes into force to-day as an Act entitled "The Land Transfer Act," and it is interesting to note that besides the general powers which the legal profession already possess for the punishment of unqualified practitioners this Act contains a clause providing "that any person not being a member of the legal profession drawing *for pay* instruments of transfer shall incur a penalty of £50." Again, the third part of the Bill originally provided for *compulsory* registration of both and yet the members of the legal profession induced the Government to modify their original proposals and now it is enacted that the adoption of these clauses shall be *optional*.

How is it that it never occurs to the members of the local medical societies and associations to follow the example of their neighbours in appointing deputations to interview the individual members of, and candidates for, Parliament on proposed legislation which materially affects their status and interests? The medical profession should be able to enforce its views upon Parliamentary candidates with more show of power than the legal profession, for surely medical men have more opportunities for influencing the votes of their patients on a public question like the suppression of quacks than the lawyers have in the voting of their clients; but by the persistency of their intervention the lawyers always appear to gain all that is worth fighting for. In almost every constituency at the last election the legal profession obtained the views of the candidates on the above-named enactment and worked and voted accordingly. Why cannot the medical profession arise and do likewise on its own behalf? Lastly, I would point out again that Section 40 of the present Medical Act provides, not as it ought to do, that any person not being a registered qualified medical man who for pay treats patients, &c., but "any person who shall wilfully and *falsely* take or use the name or title of a physician, doctor, &c., implying that he is registered under the Act," so that one is compelled to admit that the Act protects a mere title and not the person who practises the profession—in other words (as it is a legal maxim that penal Acts are construed strictly), in any action against an unqualified practitioner it must be proved that the defendant exercised fraud in obtaining his patients. A court of law will always hesitate to convict for fraud unless such is proved to the hilt. I am, Sirs, yours faithfully,

Leeds, Jan. 1st, 1898. J. H. Wigham.

WOODFORD URBAN DISTRICT COUNCIL.

To the Editors of The Lancet.

Sirs.—It was stated by a member of the above council a short time since that diphtheria was not now regarded as infectious, and he further said in support of this statement that that disease was received and treated in the general wards of hospitals. I demurred to these statements but he assured me that he had lately seen more than one case in the surgical wards of a hospital where the cases had been admitted in order that tracheotomy might be performed. I must confess that this is rather startling news to me, and I therefore appeal to you, Sirs, for an opinion as to how this matter stands Why do we go to the great expense of providing special hospitals for the treatment of this disease if it can be safely treated in the wards of a general hospital? I am, Sirs, yours truly,

Woodford-green, Dec. 28th, 1897. William G. Groves.

⁂ We were not aware that cases of tracheotomy for diphtheria were ever treated in general surgical wards. Surely the general hospitals could not provide accommodation for more than a mere fraction of the number of cases of diphtheria.—Ed. L.

"THE UNQUALIFIED ASSISTANT AND THE GENERAL MEDICAL COUNCIL."

To the Editors of The Lancet.

Sirs,—In the observations I am about to make on the above subject I must premise that I am referring solely to that class of unqualified assistants who are employed by their principals in a most limited capacity and under the strictest supervision and control, by far the major portion of whose duties being unconnected with the medical portion of their practice. These assistants therefore help their principals only in a small degree in their medical work, but this assistance is a great boon to them when there is pressure of work and when the principal is not in the way or otherwise engaged. These assistants do all the dispensing and book-keeping and attend to a number of minor matters which the qualified assistant would consider beneath his notice. By prohibiting this small assistance, which the principal cannot do well without, the General Medical Council will compel the principal to dismiss his assistant who discharges so ably the non-medical portions of his duties and to take a qualified man who has no aptitude as a rule for such work and who probably would consider some portions of it *infra dig*. The principal will be thus placed in a predicament, for he cannot keep a qualified assistant and a dispenser, &c., also. Undoubtedly this notice is most sweeping and drastic and will produce widespread havoc among the assistants and fetter the principals financially and otherwise. I should like to be informed what *rôle* is to be played by the dispenser and surgery attendant. Is either the one or the other to be allowed to attend to any injury, to give any simple medicine for a slight ailment in the surgery, or to attend an ordinary case of midwifery? If not they are in a worse position than an ambulance man, who can go as first aid to the injured, or the prescribing chemist, or the midwife. If they do attend they will, I suppose, be in fear of being confronted with the spectre of "infamous conduct" against their principal and will therefore avoid the afflicted as they would a leper or the arch-tempter himself. This notice will produce no unmixed blessing, for such will be its practical outcome and it will lead to confusion and chaos. In this notice the objects, which are no doubt laudable, are twofold—viz., (1) the prevention of unqualified assistants from being used fraudulently and to the danger of the public; and (2) the substitution of the qualified for the unqualified assistant. As to the first point I have never found that the restricted and supervised use of the assistant has been fraught with danger or fraud, but the very contrary. As to the second point it will be gathered from the preceding remarks that it will not be an easy matter to find a qualified man to take the place of an unqualified one in all his various duties. Those principals, however, who keep unqualified assistants to do a large amount of their practice and also a dispenser will have little difficulty in conforming to this notice and will not be put to much inconvenience, as the substitution can easily be effected and their position then rendered less vulnerable, whereas the other principals by this notice will be placed on the horns of a dilemma. Have the Council calculated and measured the far-reaching effects of this great innovation and the wholesale and indiscriminate annihilation of these assistants and permanent injury to the principals without corresponding benefit to the public?

It is all very well for the Council to pose as purists in this matter and to cleanse what they may think is an Augean stable regardless of the consequences to the principals, assistants, and the public; but perhaps the day will come when in their zeal for reform they will find they have crippled the principals and wronged those useful, harmless, and fraudless assistants of whom I speak, many of them being gentlemen by birth and education, and who will now be cast adrift and all similar appointments closed to them. Surely to have hurled such fulminations at the heads of principals and assistants the Council must have had in their minds a far different class of assistants from those I allude to, and hence the great necessity for discrimination so that no injustice may be done. It certainly seems a great hardship that these assistants should be stigmatised as fraudulent and dangerous to the community and be cast adrift because other principals have used them improperly so as to bring themselves within the pale of "infamous conduct" If the Council had decided on a *via media* and followed the motto, *in medio tutissimus ibis*, they would have destroyed the abuses which everyone would welcome and retained the uses of the unqualified assistant, but by this action they have placed both principal and assistant in a regular quandary and upset all former arrangements. Moreover, to make matters worse, the Council refused to support the humane and reasonable proposition of Mr. Teale to postpone the operation of this notice till Jan. 1st, 1900. I unhesitatingly assert that a greater blow has not been struck at principal and assistant for many a year and in these days assuredly the profession requires assistance not blows, friendly not hostile enactments. In conclusion, I venture to think that had the Council found a *via media* so as to have spared this class of assistants they would have given general satisfaction to the profession and have earned the thanks and gratitude of those principals who keep such assistants instead of causing great irritation and calling forth righteous indignation and almost anathemas.

I am, Sirs, yours faithfully,

Dec. 23rd, 1897. JUSTITIA.

To the Editors of THE LANCET.

SIRS,—In the recent notice in reference to unqualified assistants passed by the General Medical Council, the word "midwife" was inserted at the last moment, without defining at the same time whether it meant male or female, or both. Of course, if it was the former a principal could still employ an unqualified man as dispenser and midwife only, which would be a very proper arrangement. There are hundreds, I might say thousands, of doctors in the United Kingdom who through advancing age or delicate health are unable to do night work unless almost at the peril of their lives, but who are well able to do day work. How about these men? They are not able very often to afford £90 or £100 a year for a qualified assistant, and yet they must take midwifery cases so as to keep their practices together. The result of the General Medical Council's notice if they meant female only when they added "midwife" will be to throw more power, and eventually registration, into the hands of the so-called certified nurses, trained midwives, &c. I hope this matter will be cleared up properly at the next meeting of the Council.

I am, Sirs, yours faithfully,

Jan. 1st, 1898. J. C. W.

*** It seems to us that if a practitioner is incapacitated for night work he should either give it up or keep a qualified assistant. Even in the latter case the principal might very often have to attend as well; but it is not logical to say that because a man is unable to do his own work he should therefore be allowed to hand it over to an unqualified person.—ED. L.

To the Editors of THE LANCET.

SIRS,—As one of the sufferers by the recent action of the General Medical Council permit me to express a hope that at the next meeting of that body some member may have the courage to intercede for the poor unqualified assistant. I am fifty-six years of age, having entered the medical profession as a pupil-apprentice with Dr. —— in 1863. I subsequently studied under —— and qualified in obstetrics From 1870 up to the present time I have served satisfactorily many well-known practitioners in London and the provinces. It is to my mind cruelly unjust to be told that after more than thirty years' practical experience I am incompetent because want of funds prevented my obtaining the necessary *sciant omnes*. In conclusion permit me to thank "An Old G. P." for his able appeal on our behalf.

I am, Sirs, yours faithfully,

Jan. 2nd, 1898. AN OLD ACCOUCHEUR.

To the Editors of THE LANCET.

SIRS,—Now that the General Medical Council has signed the death-warrant of the unqualified assistant and placed him in the condemned cell I hope that they will allow mercy to step in and give all possible consolations to the dying man. The measure which was hailed with joy by so many members of our profession may not be, after all, an unmixed blessing. In his proper sphere the unqualified assistant is a very useful man to a great number of general practitioners. He does work which subordinates of non-medical training could not be entrusted to do and which qualified assistants might resent as *infra dignitate*, the nature of which work is a matter of detail and is foreign to the object of my letter.

It is only in keeping with the general liberal-mindedness of the medical profession that they should steer clear of anything in the nature of high-handedness or apparent injustice and I am sure it is only necessary to draw the General Medical Council's attention to the fact that some injustice may have been inflicted by the sweeping and revolutionary by-law in question. Men who have spent their whole careers as assistants are totally unfit for any other employment. Many of these have undergone their full curricula of medical study but did not get qualified. They now have the poor prospect of becoming sandwich-men, betting-men's touts, or perhaps worse!

A judicious compromise will avert this unpleasant outlook. By the Apothecaries Act, 1815, every pill-moulder and salts' vendor in the country became an apothecary (and was dubbed "doctor") by Act of Parliament. Again, in 1878 the Dentists Act epilated half the German barbers of the east-end of London from their saloons and huddled them together with nearly every chemists' assistant in the United Kingdom into the earlier editions of the Dentists Register. Why, then, should not the unqualified assistants who are in the main better educated than the two former classes get a like chance? A register of existing *bonâ-fide* assistants could easily be prepared, necessary restrictions can be imposed, and a great deal, if not all, of the suffering may be relieved while the qualified principals will not run the risk of being guilty in a professional sense of a newly created crime. There is an agitation going on to get a Midwives Register, Nurses', &c., why should not unqualified men be registered as well as unqualified women? What is sauce for the goose ought to be sauce for the gander.

I am, Sirs, yours faithfully,

Jan. 4th, 1898. X. P.

SCIENTIFIC WORK IN INDIA.

To the Editors of THE LANCET.

SIRS,—The retirement some months since of the Foreign Plague Missions has practically left India without a scientific body of men engaged in the investigation of the causes of bubonic plague. That the missions visiting Bombay last cold weather were all from foreign countries and there was none to represent England will always be a source of regret to Englishmen in England and India. There is, however, sufficient time to remedy this omission. Unfortunately plague is raging in some parts of India, especially in Poona about 120 miles from Bombay, with almost unprecedented virulence, and though active measures are being adopted by the laymen who have chief charge of such arrangements scientific investigation is conspicuous by its absence. With the exception of Professor Haffkine no well-known specialist appears to be engaged in it. The time would appear to have more than arrived when a scientific mission should be sent from England to investigate the causes of the origin and spread of bubonic plague, and should Government not do so I would suggest that there could hardly be a more worthy object on which the rich corporate medical bodies of the United Kingdom could expend a portion of their wealth than in sending out a mission to investigate a subject so fraught with scientific interest and momentous issues to humanity.

I am, Sirs, yours faithfully,

Jan. 3rd, 1898. N.

NOTES FROM INDIA.

(FROM A SPECIAL CORRESPONDENT.)

THE PLAGUE.

THE plague still rages in the Bombay Presidency. A recrudescence of the disease seems to be developing in Bombay City, each week showing a higher mortality from the plague. In Surat and Sholapur it still continues rife, while at Poona it is raging with great ferocity. In the latter city about 400 deaths from the disease are recorded each week, the mortality from the commencement of the outbreak being considerably over 4000. The disease seems to attack women more readily than men and children are very largely victims. At present all the efforts that have been made do not seem to have effected much progress against the epidemics. The comforts of the sick are, however, now well looked after in the various hospitals and great efforts are made in each city to discover the sick and separate them from the healthy. The Poona General Plague Hospital is admirably equipped and well managed but the condition of the city is wretched in the extreme. The mortality in the hospital is between 60 and 70 per cent., but the death-rate from plague in the whole district reaches over 80 per cent. In other places this terrible death-rate equally reigns. No specific has been discovered for the disease, the general plan of treatment being merely a stimulant one. Digitalis, strychnine, arsenic, quinine, and ammonia have each their supporters, but it is difficult to say that in any case they have proved of unmistakable value. The open-air treatment of the hospitals together with every attention and nursing does seem, however, to lower the mortality from that of the whole district. Very large numbers who survive the onset succumb to complications or to one or more of the numerous sequelæ. A few drag on through a long convalescence.

THE PARSEE LYING-IN HOSPITAL AT BOMBAY.

This institution, the only one of its kind in India, illustrates very admirably the advantages of the spread of scientific knowledge and the possibilities of overcoming some of the prejudices and superstitions of a religious caste which have hitherto acted so injuriously. Supported entirely by voluntary contributions and with a staff of Parsee medical men who have been educated up to European methods the results achieved here probably compare favourably with any other lying-in hospital in the world. The number of patients is limited as there are only about forty beds and the Parsee population is comparatively small. The building is constructed of stone, and the very lofty wards, ample cubic space and cemented floors, together with cross ventilation by large open doors and windows, afford opportunities of air change equal almost to life out of doors, and place the patients under most favourable conditions. The ordinary routine is somewhat as follows. The patient in labour is delivered in the operating room. The hands are dipped in perchloride of mercury solution (1 in 1000) and used while wet for examination. Labour on the average probably lasts as long as with Europeans but is said to be easier and not to require manual or instrumental assistance so frequently. If the afterbirth be not expelled from the uterus in about twenty minutes expression is adopted and if this be not successful in about half an hour longer withdrawal by the hand is resorted to. Ergot is given immediately after labour and 5 gr. doses of quinine night and morning for two or three days together with vaginal injections of perchloride solution (1 in 3600) twice a day constitute a routine practice.

The patient remains in the operating room a few hours and is then placed in a ward on the first floor for about ten days, after which she is moved to a higher floor and remains in the hospital until forty days have elapsed since her delivery. The Parsee custom at home, whether among rich or poor, is to be delivered and remain on the ground floor for forty days and the husband not to be even seen until this period has elapsed. The object of this seclusion is that sexual intercourse should not be indulged in until this time has passed by—a custom which might be followed by white people all over the world with considerable advantage. The patient does not necessarily remain in bed all this time, but she is resting the greater part of it. This of itself must be conducive to more perfect recovery. Another custom consists in destroying all the clothes and bedding brought by the patient or used by her during the time she is in the hospital. She leaves therefore with an entirely fresh supply. In the case of the poor this is of course provided by charity, but the custom must obviously be a distinctly salutary one.

The children are hung in a cotton hammock suspended from a metal bar between two uprights. This arrangement is generally placed near the foot of the bed. The child can be easily rocked and the cotton hammock is cheaply and readily replaced. Among the Parsee women there is a general objection to all operative and instrumental interference. The custom therefore is to wait so long as the pulse continues good and the temperature remains normal. As a consequence the employment of forceps only occurs once in about twenty-five cases. The breaking up of the wards by partitions into spaces for four patients is adopted out of consideration for the feelings of other patients.

Out of the last published series of 800 cases there were 765 vertex presentations, 25 breech, 7 face, 2 foot, 2 shoulder, 4 other parts, 1 placenta and breech, and 1 placenta prævia. Of deliveries 762 are classed as natural and 38 as instrumental; of the latter there were—forceps, 31 cases; turning, 4; craniotomies, 2; and symphysiotomy, 1. Of the forceps cases half were in primiparæ. Pelvic deformity is rare, the only diameter found narrow being the antero-posterior due to the promontory of the sacrum projecting forward. The measurements of the pelvis are less than among Europeans, but the fœtal diameters are also smaller. The stillbirths were 4 per cent. while the average in the Parsee community is 7 per cent. The infantile mortality in the hospital is 3 per cent.; in the community outside 6 per cent. The maternal mortality recorded 1 case of cardiac and renal disease, 3 cases of septicæmia (all attended by one nurse), 1 case of small-pox, 1 of abdominal tumour, 1 of phthisis (with hæmoptysis), 1 of continued fever dying on the second day from admission. It will be seen, therefore, that with the exception of the three deaths from septicæmia the fatal cases were probably inevitable. Laceration of the perineum occurred in 6¼ per cent. of the total number of cases—26·5 per cent. of the primiparæ. Severe post-partum hæmorrhage occurred in four cases (1 in 200). Out of the 800 deliveries there were seven twin births. From the above satisfactory results it is to be hoped that the Hindus and Mohammedans will follow the lead of the Parsees and build their own lying-in hospitals.

Not the least advantage is the educational effect that the practice of the institution gives to the whole Parsee female community so that the unhealthy surroundings on the ground floor wholly unventilated and subject to foul emanations which have previously been the delivery-room in every private house are now changed for much more sanitary quarters. This together with many other improvements in their customs has followed the establishment of this admirably conducted institution.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Sir John Holder.

SIR JOHN HOLDER, to whom the New Year's honours have brought a baronetcy, is the chairman of the committee of the General Hospital. From the inception of the scheme for building the new hospital Sir John Holder has taken the most active interest in furthering its progress. On all occasions liberal and bountiful, he has not only largely augmented the building fund but by personal and keen supervision has enlisted the enthusiasm of those associated with him. The addition of this title to his name has met with universal approbation, coupled with the hope that he will still continue to exercise the influence that has so largely contributed to the success of the present hospital.

Deaths under Chloroform.

Two instances of deaths under chloroform have occurred lately. One at the General Hospital was in the case of a child, five years old, who was undergoing an operation for excision of the tonsils and removal of adenoid growths. The jury in this instance expressed the opinion that an interval of time—say a week—should elapse between the two stages of the operation. In this opinion they evidently failed to recognise the professional aspects of the case and in their knowledge of the condition for which the operation was performed. The second case was at the Queen's Hospital the patient being a man, aged forty years, who had an abscess of the kidney. At the post-mortem examination it was shown that both kidneys were extensively diseased and that the muscular walls of the heart were thin and deficient in tone. There were no previous indications of heart affection.

Christmas Festivities.

As usual the time-honoured customs of Christmas have been upheld in the different hospitals. Where admissible there have been entertainments for the patients given by the residents and their friends; Christmas-trees for the little ones, and an abundance of good cheer for those who have been able to partake of it. The stream of charitable contributions has this year been ample to supply all these wants, and much pleasure has been experienced by the inmates of the various institutions. . The cause of charity appears to be promoted by association with the sufferings of others, and hearts are expanded by benevolent deeds which appeal to the sight and senses in addition to the understanding.

Deaf and Dumb Union.

On the first day of the year an interesting and somewhat singular union was held at which over 150 deaf mutes were present. Over 400 such are living in the town and efforts have been made to establish a permanent home in the form of an institute. Other large cities have buildings of this kind, where instruction and social enjoyment help to render the lives of this class of sufferers more happy. It is to be hoped that the efforts will be successful and that brightness will be added to a very deserving number of people who are incapable of the pleasures others enjoy.

Smothering of Infants.

On Dec. 30th the city coroner held inquests on four infants who had been overlain in bed. On the previous day inquests took place upon the bodies of three children who had died from a similar cause. Thus seven children were shown in two days to have lost their lives from this apparently preventable cause. The holiday season is responsible in a great measure for this wholesale death-rate. Common humanity ought to be more influential than Acts of Parliament in the prevention of this mode of destruction of infant life. The habits of people living under such circumstances as conduce to the occurrence of these lamentable accidents demand closer attention and stricter regulations than those obtained by legislation, though even this seems to be needed.

Jan. 4th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Literary and Philosophical Society: The Mechanical Equivalent of Heat.

EVEN the non-scientific of the Manchester people are aware that the name of Dalton is one to be proud of, for it is perpetuated by an important thoroughfare—John Dalton-street. So also that Joule is a name shedding lustre on this work-a-day place and some are glad to know that his determination of the mechanical equivalent of heat has been confirmed by an inquiry conducted by Professor Osborne Reynolds and Mr. Moorby in the Owens College Engineering Laboratory on a principle and by a method entirely different from that of Joule. This method was to measure the amount of water raised from the freezing to. the boiling point when the energy of an engine is entirely expended on the brake. The investigation was conducted on a large scale and with every possible precaution against error. A 100 horse-power triple expansion engine was used in rotating a special form of brake, fitted with vanes somewhat after the manner of a turbine. The load upon it could be varied by a lever and the amount of horse-power expended deduced from the rate of rotation and the load jointly. Water from the town's mains was led into the brake and cooled to freezing point by passing through about 200 feet of piping surrounded by ice. In the brake itself its temperature was raised to boiling point and issued in that condition. "The weight of water multiplied by the rise in temperature was the measure of the heat produced, as the former product was that of the work expended." All intermediate temperatures and the sources of error inseparable from them were avoided. About 960 lb. of water were boiled. The experiments had taken months of careful and anxious preparation and were, as is evident, on a very large scale. After making every imaginable correction the final value for the completed interval of temperature came out as 776·94 foot pounds per degree Fahrenheit in the latitude of Manchester, or 777·07 in latitude 45°. "Allowing for the diminished specific heat of water at 32° as compared with its average value over the whole range the number is reduced to 773·07, whereas Joule's was 772·55," which is a very small difference, "and Joule's value is thus vindicated against the attacks made upon it by Rowland and Griffiths." Professor Reynolds gave full credit to Mr. Moorby for his "prolonged and arduous labours."

Dangers from Flannelette.

An inquest was held on Dec. 28th, 1897, respecting the death of a child, three years of age, who was burnt to death, when Mr. Smelt, the city coroner, said that the wearing of cotton and flannelette had been the cause of a great increase in the number of burning cases. "Out of forty-seven children who died from burns in one winter month last year forty-three wore flannelette clothing and it was the experience of the staff at the infirmary that burning cases had become far more serious since flannelette had been so generally worn." He believed that if woollen clothing were worn to a greater extent by children "fifty lives would be saved every year in Manchester."

The Club Question in Manchester.

The Manchester and Salford Medico-Ethical Association and the Medical Guild, the former of which has just celebrated its jubilee, have abundant reasons for continuing their existence. Never surely was the profession of medicine so seriously attacked as it is to-day and though the older society is chiefly concerned with the relations of medical men towards each other it may do good service in safeguarding the just claims of the profession. The Medical Guild is the direct outcome of the movement going on all around us for sweating the medical men, and so reducing their means of living that the struggle to keep up anything like independence of spirit and self-respect is becoming more and more hopeless for a large proportion of our brethren. As it is the age of industrial conflicts, which to an outsider look more like attempts at suicide thanrational efforts for the welfare of the working classes or any other, so it is necessarily the age of combination, defensive or offensive. The time has come when the medical men in Manchester and Salford must follow suit and stand loyally by each other if they are to escape the degradation and poverty which threatens them in the future. Individually little can be done, collectively something may be; but the prospect is not cheerful, for there are always those who desert their fellows, it may often be not willingly, but pressed down by the need for bread; and so, to change the simile, there are weak links in the chain. A long correspondence has been going on in the local papers as to medical clubs and in a letter to the *City News* of the 1st inst. Dr. Worswick points out how much is already done for the poor of this city. Nearly 200,000 people receive gratuitous aid at the various hospitals and dispensaries. In every quarter of the city there are resident Poor-law medical men. "Next there are provident dispensaries for a penny per week and less providing for their tens of thousands," countenanced and patronised by well-to-do gentlemen who indulge their taste for vicarious philanthropy at the expense of the unhappy members of our profession. In addition to all these there are the "sixpenny dispensaries" run by private practitioners "in every poor locality," and the various clubs and societies, Foresters, Druids, Temperance, Working Men's Aid Associations, and many more, besides the medical clubs to be found at most large works. The payments of these various aids to cheap physic are on so small a scale that the medical man's life, if he is dependent on them, is not to be envied, and some men would prefer to break stones on the high road. But these are days for everyone wishing to manage everyone else's affairs and the medical profession is to be managed and controlled by those outside. We often enough hear when the "clergy of all denominations" are "responding to the toast" that the clerical and medical professions walk hand in hand, that the latter is the best friend of the former, that those who minister to the body are helpers to those who seek to benefit the soul. The converse does not always hold true, for it must reluctantly be confessed that too often the "clergy of all denominations," by their non-scientific and ignorant love of quackery and by their well-meant but officious and mischievous meddling, are the medical man's and the patients' most troublesome foes. The extraordinary procedure of the pastor of a Nonconformist chapel in Manchester noticed in your last number who is establishing clubs "open to healthy people of any station in life" is a case in point. There are many slums, there is gross immorality and sin—streets almost wholly given up to it—within easy reach, almost within a stone's throw of his chapel. Plenty of work is close at hand for him in his proper vocation. There is no evidence that he has succeeded in cleansing the moral atmosphere of the district, which no doubt he wishes to benefit, but he must needs leave that work in order to regulate the affairs and arrange the duties of the medical men of Hulme who, however, have not seen eye to eye with him in this matter. These clubs have therefore become affiliated with a medical aid association which "has had three surgeries and three medical men for its members," finds drugs and pays its medical men fixed salaries. One of the medical men so kept has £150 a year, with house, &c., but the kind of house may be imagined when for dining-room he has the choice of kitchen or bedroom or may dine among his patients in the waiting-room. The details of his work for the twelve months for which he engaged himself show that it is cruelly arduous and that he is one of the victims of white slavery. Medical men are so numerous that their price in the market is very low.

Jan. 5th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Dr. Montgomery Ward.

DR. MONTGOMERY WARD, whose death took place rather suddenly on the 30th ult., was well known and esteemed by the medical profession of Dublin and by the general public. After being ill with influenza for a week he died apparently from cardiac failure. Dr. Ward was a graduate of Dublin University, where he obtained the degree of M.B. in 1865; he became a Fellow of the Royal College of Surgeons in Ireland in 1874 and was subsequently for many years a member of the teaching staff of the Ledwich School of Medicine and one of the visiting surgeons to Mercer's Hospital. Dr. Ward resided in Rathmines and held the position of medical officer of health to that township.

Memorial to the late Dr. Haughton.

At a meeting of the council of the Zoological Society of Ireland on Dec. 18th a resolution was passed in favour of perpetuating in some manner the memory of the great services rendered to the society by the late Dr. Haughton, formerly its president, and of attaining that object by the erection of a memorial building in the society's gardens.

Irish University Education.

At a meeting of the members of the committee appointed by the Central Catholic Club, held in Belfast on Dec. 30th, the following resolution was passed: "That this representative meeting of Catholics of Belfast desires to place on record its sense of the immediate and imperative necessity of such a settlement of the Irish University question as will place all the Catholics of Ireland on a perfect equality with their non-Catholic fellow-countrymen and at the same time desires to express the hope that in such a settlement the special needs and circumstances of the Catholics of Belfast and Ulster will not be lost sight of, and the conviction that the claims of the Catholics of this city and province cannot be done justice to except by the establishment and endowment of a Catholic university college in Belfast."

The Christmas Recess.

Medical classes began again at Queen's College, Belfast, on Jan. 4th after a short Christmas holiday.

The Royal Victoria Hospital, Belfast.

It is gratifying to be able to report that nearly one-half of the sum promised (£100,000) for the erection of this new hospital has been paid in. A sub-committee of lay and medical men are at present working out details as to the form and construction of the new building.

Cork Hospital Saturday Collection: Allocation of the Fund.

A meeting of the Cork Hospital Saturday Committee was held recently in the municipal buildings for the purpose of receiving the honorary treasurer's report and deciding on the allocation of the amount collected. One of the honorary secretaries stated that a total sum of £431 3s. 10d., including £60 from the Hospital Record Reign Fund, had been received. The expenses amounted to £42 10s. 5d., leaving a balance of £388 13s. 5d. available for distribution. The Mayor, who presided, said under the circumstances they should consider this a very satisfactory and gratifying statement when they bore in mind that they had been the means of distributing amongst the hospitals of the city within the past four months a sum of very close on £3500. He need hardly say he alluded to the Hospital Record Reign Fund, which was undoubtedly a most gratifying success and which had been the means of relieving the pressing wants of some of the hospitals. As a matter of fact they had got during the year between the Hospital Record Reign Fund and the Hospital Saturday Collection practically £4000. The following allocation after some discussion was agreed on: North Infirmary, £83; South Infirmary, £83; Mercy Hospital, £57; Women and Children's Hospital, £34; Fever Hospital, £34; Eye, Ear, and Throat Hospital, £30; St. Vincent's Hospital for Women and Children, £24; Lying-in Hospital, £20; and Cork Maternity, £20.

Jan. 6th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Fractures by Massage.

AN important discussion has taken place upon this subject at the last two meetings of the Academy of Medicine upon Dec. 21st and 29th. M. Lucas-Championnière, the pioneer in France of this method, showed a patient in whom a fracture of the lower end of the humerus had been united. There had been a great deal of movement between the bones and it had been found impossible to immobilise the fragments. Massage and immediate movement were found sufficient to restore the power of useful motion and to bring about rapid consolidation of the fracture in a good position. M. Lucas-Championnière took advantage of the occasion to remind his audience that he had employed this method for thirteen years and always with great success, and never during this time had he employed a plaster bandage or any other kind of immobilising apparatus. In fifty cases of fracture of the clavicle he had obtained by massage far superior results to those given by the most perfect form of immobilising apparatus. In the case of fracture of the humerus which he showed the fracture was one of the worst kind at a place just above the elbow-joint and comminuted. The man suffered great pain and the least movement dislocated the elbow-joint. During the first four days the elbow was placed in a moulded splint, from the fifth to the eighteenth day the arm was supported by an ordinary sling and after that had no support at all. The mere weight of the limb sufficed to keep the fragments in a good position. From the first day the patient was massaged the acute pains rapidly disappeared. As soon as the limb appeared to be so firmly united that no chance of future displacement was likely the patient left the hospital—on the twenty-eighth day—but continued to attend as an out-patient. In place of six weeks, which was the time ordinarily given as necessary for a fractured humerus to unite, the bone in the present case was quite firm in less than three weeks and in addition the treatment used was almost painless. During the last two years M. Lucas-Championnière had treated more than twenty cases of similar fractures of the humerus and always with the same result. He had also treated many fractures of the radius, of the scapula, and of the leg. Immobility did not favour repair of the tissues; movement was necessary for repair, for movement was a necessity of life. M. Lucas-Championnière concluded by affirming that immobility as a therapeutic method should be made to disappear from surgery. M. Marc Sée, in answer, said that in his opinion the only effect of massage would be to make the callus thrown out round the fracture disappear and prevent consolidation. He himself had employed for many years compression by an indiarubber bandage—a treatment which had given him very good results and was very simple. M. Péan had recently confirmed the excellence of the results obtained by M. Lucas-Championnière's method. It was especially useful when there was not great displacement of the fragments. If the displacement was too considerable the lack of any immobilising apparatus brought about, in his opinion, union in a bad position which necessitated an operation later. M. Labbé considered that massage was excellent in articular and peri-articular fractures, but that there were other kinds of fractures in which the immobilising treatment should still be used. Such were fractures in the middle of a long bone and specially fractures of the lower third of the leg. To treat such in any other way would be to expose the patient to the risk of a false joint forming, a result which has become only too frequent of late years and which M. Labbé attributes to the too general use of the method of M. Lucas-Championnière. The latter surgeon in winding up the discussion maintained that immobility appeared to him to bring about a condition of lowered vitality in a limb, while what was desired was an active process of repair. He would move the osseous fragments every time that there was no muscular spasm to pull them out of place, but he agreed with M. Labbé that in a certain number of fractures—notably those of the lower third of the leg—the old fixation treatment ought to be maintained. He had worked out statistics comparing accidents occurring in fractures treated by immobilisation and by movement and found that they were very much more common in the first class than in the second.

The Increase of the French Population

The Minister of Commerce has just published statistics of the population of France for the year 1896, which come as an agreeable surprise to those demographers who affirm that the population of France has been steadily decreasing for some years past. In 1895 the deaths exceeded the births by 17,183, being the worst result of any civilised nation on the face of the globe. In 1896 the births exceeded the deaths by 93,700, a result due not only to an increase in the birth-rate but to a decrease in the death-rate. In 1896 the deaths diminished by 88,100, being 851,986 in 1895, but 771,886 in 1896. The births which were only 834,173 in 1895, increased in 1896 to 865 586. As a result, therefore, the birth-rate which in 1895 was only 21 4 per 1000 has increased to 22·7 per 1000, while the death-rate which in 1895 was 22 4 per 1000 has decreased in 1896 to 20 2 per 1000 No such increase has been noticed since 1883 and every department has shared in the amelioration.

Legislation relative to the Practice of Medicine.

The new Bill which was sanctioned by the Chamber two years ago and referred ten months ago to the commission appointed by the Senate has at length reached the stage of consideration by the Senate. Dr. Treille, a member of the Senate, strongly opposed the Bill and moved the withdrawal of the first section, which provides that certain sanitary enactments shall be made applicable to all the communes in France without exception. If the ministry imposes a special regulation it could not be applied to all the communes; if the communes are left to make independent arrangements for themselves, it is not certain that in the smaller hamlets persons would be found who are possessed of the sanitary knowledge requisite for the carrying out of a special regulation. Dr. Treille is convinced that under the present laws municipalities possess sufficient powers for dealing with epidemics and for maintaining public health in the communes without resorting to fresh legislation which will interfere with personal liberty. In like manner Dr. Treille is opposed to that part of the Bill in which the notification of every infectious disease is made obligatory on medical men and midwives, and in their absence on heads of families, house stewards, managers of institutions, and in general on everyone in whose care the patient may be. Seeing that the exact diagnosis of these complaints and the giving of an opinion as to their infectiousness are often difficult even for the most accomplished specialist it would be unreasonable to lay the responsibility of notification on practitioners of less expertness and *a fortiori* on persons without medical knowledge. The same is the case with regard to compulsory disinfection which if carried out in all the communes in France in the manner prescribed by the Bill would necessitate the providing of an immense stock of portable disinfecting apparatus together with a numerous staff of attendants and would involve an expenditure quite disproportionate to the results.

Jan. 3rd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Anatomical Studies of Leonardo da Vinci.

MEDICINE and fine art are alike interested in the "Manoscritti di Leonardo da Vinci nella Reale Biblioteca di Windsor," the first of which entitled "Della Anatomia, foglio A," now sees the light in sumptuous form, thanks to the munificence of the Russian Maecenas, M. Theodore Sabachnikoff, and the editorial intelligence and skill—"superiore a tutti elogi" (beyond all praise)—of Professor Piumati, of the Roman University. The anatomical studies of Leonardo cover the whole sphere of his scientific and artistic activity. Even on his death-bed he drew the attention of his friends to "più notomie le quali ritraeva nello Spedale di S. Maria Nuova" (several anatomical drawings he made in the S. Maria Nuova Hospital) in Florence. Long before then a leaf in manuscript in the Windsor collection, still unpublished, contains the design of two skulls dated 1489 and in the new publication above referred to there is a note in Leonardo's own handwriting which says: "Questa vernata del mille 510 credo spedire tutta tal notomia" (this winter of 1510 I think I shall get off all the anatomy of this description). Later in Rome religious intolerance, inspired by a personal grudge, arrested for the time the anatomico-physiological speculations of the mighty nature student and artist, but only for a time, as we find him afterwards showing the astonished Cardinal di Aragona "designs and notes," the fruit of anatomical studies "begun with his earliest novitiate and continued indefatigably down to the sunset of life." Florence, Milan, Rome, and France are the several stages of Leonardo's anatomical work pursued by him in harmony with his conception of creative art. "The mind of the painter ought to transmute itself uninterruptedly (*di continuo*) into the mind of nature"; the artist must master the human form in its most intimate constitution and thence win his way into the world of psychical and ethical phenomena. "E così piacesse al Nostro Autore che io potessi dimostrare la natura delli omini e i loro costumi nel modo che io descrivo la sua figura" (And so may it please the Author of our being that I should be able to demonstrate the nature of men and their manners in the very mode in which I describe their figure). Golden words these, to be taken to heart not only by the artist but by the metaphysician and moralist, if the work or the speculation of either is to correspond to reality. As to the composition now issued by M. Sabachnikoff and Professor Piumati, its existence was known to anatomists late in last century and early in this, particularly to our great Hunter, who had the highest appreciation of its value. It has remained, however, practically a sealed book till this faithful reproduction of it in its manuscript and in its drawings has made it accessible to the scientific world. Leonardo's handwriting, very close and written from right to left, is as now published easily mastered, while his somewhat obsolete

Italian is accompanied by a French translation. The whole, indeed, is a triumph of modern printing, heliotypy, and editing—the drawings particularly being reproduced with marvellous clearness and fidelity. A brief explanatory introduction by Professor Piumati puts the reader in touch with Leonardo, after which comes a masterly dissertation by Dr. Mathias Duval, of the Académie de Médecine and of the Anthropological School of Paris. Then follow 245 drawings and 34 "fogli" (leaves) in heliotype, two of which are double. An analytical index completes the unique value of the work. Only 400 copies have been printed, the first for presentation to King Humbert, the second to Queen Victoria, to whom the work is dedicated, and a third to H.R.H. the Prince of Wales. The publication, as scientific Italy is proud to anticipate, will be "epoch-making" and must inspire yet another page to be added to the "History of Medicine," in which for the first time Leonardo da Vinci will appear as "sommo nell' anatomia descrittiva e primo cultore dell' anatomia comparata" (supreme in descriptive anatomy and first cultivator of comparative anatomy). In spite, indeed, of her able pioneers in medical history, such as Puccinotti and Cantoni, Italy has yet to do justice to many of her mediæval nature-students, notably in the domain of the healing art. Certainly this revived interest in Leonardo ought not to expend itself before a great contemporary of his is rehabilitated—a medical man far in advance of his time in operative surgery, the Florentine Antonio Benivieni, whose manuscripts and other professional documents bearing on his art ought to be given to the light in continuation of the work devoted to him but only partially carried out by the late distinguished surgeon, Professor Carlo Burci.

Jan. 1st.

BUDAPEST.

(From our own Correspondent.)

A Criticism of Serum Treatment for Diphtheria.

This was the title of a brilliant discourse delivered by Professor Purjesz at the last meeting of the Budapest Medical Society, in which he said that although he was by no means an adversary of the treatment yet he could not consider the utility of serum injections as proved. The advocates of serum treatment maintain that since its introduction the mortality from diphtheria has diminished. The Hungarian statistics show that the mortality from diphtheria had fallen in 1895 from 22,000 to 17,000, but it had also fallen from 1892 to 1894 (before the introduction of serum) from 49,000 to 22,000. The advocates of the serum treatment further state that the relative mortality from diphtheria had also greatly diminished and the figures, if not closely scrutinised, would seem to confirm this statement, for the statistics show that of 872 patients treated with serum 156 died—i.e., 17 per cent.; whereas of 2889 patients not treated with serum 1187 succumbed—i.e., 41 per cent. But these figures are misleading. It is evident that all those who received injections of serum were entered in the statistics indiscriminately whether the attack had been a mild or serious one, whilst of those who did not receive injections only the serious cases were notified which had passed through the hands of a medical man, the slight cases passing unnoticed. The omission of these mild cases will amply account for the difference of the numbers. Hospital observations are fallacious on the same grounds. In the Budapest Stephanie Hospital for Children the mortality from diphtheria had sunk from 70 per cent. to 20–22 per cent. since the introduction of serum, but that appears in an altogether different light when we learn that the morbidity of this disease had been steadily declining in Budapest since 1892, so much so that in spite of the increase of population it was reduced in 1895 to one-half of what it had been in the year 1892. Apart from the mildness of the epidemic there remains yet another factor to account for the relative decrease of mortality. In the year 1892 12 per cent. of all children suffering from diphtheria in Budapest were treated in the Hospital for Children, whereas in 1895 the hospital cases amounted to 22 per cent. of the children suffering from diphtheria, the explanation of which is not to be sought for in the epidemic—this having been milder in 1895 than in 1892—but in the fact that many milder cases had been brought to the hospital for the purpose of the administration of the serum. Professor Purjesz, in conclusion, adduced some other striking arguments and repeated his conviction that the alleged usefulness of the serum treatment still remains to be proved.

Extirpation of an Aneurysm of the Iliac Artery.

The patient, a man aged thirty-two years, noticed two years ago a pulsating swelling in the right iliac region. On examination an aneurysm was found at the junction of the iliac and the femoral arteries, its length being six centimetres (2¼ in.) and its breadth four centimetres (1½ in.). Digital compression could not be tolerated by the patient. Professor Dollinger thought that gangrene of the extremity following upon tying of the iliac artery was not to be feared in this case because one could not feel any pulsation of the femoral, popliteal, or tibial artery of the extremity affected, which nevertheless appeared to correspond in colour, strength, temperature, and circumference with the healthy one. Consequently it might be assumed that the efferent vessel of the aneurysm was blocked and that collateral circulation was fully developed. Professor Dollinger made an incision parallel to Poupart's ligament, pushed the peritoneum high up, and then tied the external iliac artery above the aneurysm. That being done he shelled out the aneurysm from its surroundings and tied the femoral artery. There were no complications following the operation and the patient was restored to health in a very short space of time.

Strangulated Hernia.

Dr. Baron, of Budapest, in a very interesting paper, read at the Congress of Hungarian Medical Men in Trencsen, narrated the histories of two cases of inguinal hernia in each of which there were two hernial sacs one underneath the other, the bowel being strangulated in the channel communicating between the two sacs. The first case was brought to him on the fourth day of strangulation. On operation the portion of bowel involved was found to be gangrenous and the patient soon died from sepsis in spite of prompt resection of the bowel. The second case, in which the operation was performed on the first day of strangulation, did perfectly well. Dr. Baron drew attention to the fact that pain at the site of strangulation is the most valuable of the diagnostic symptoms because it exists from the very beginning of strangulation and lasts till this is relieved, whereas vomiting and constipation are only later and by no means constant symptoms. He therefore considered pain to be the sole pathognomonic sign of strangulation. In ordinary cases this pain is felt at the inguinal ring, but in these two cases it was situated at a lower point where the two sacs communicated. The hernia was very tense below the constricting band and was quite soft above it, the external opening of the inguinal canal admitting the top of the finger. Dr. Baron concluded that operation should be resorted to at the onset of pain.

Dec. 23rd, 1897.

RUSSIA.

(From our own Correspondent.)

The Harvest Prospects in Russia.

The influence which a famine, or to be more exact a poor harvest, which will in some instances threaten famine, has upon the public health and its close relation to the prevalence of certain zymotic diseases are so obvious that no apology is required for quoting the following official figures relating to the prospects of the winter-crops in Russia. Taking the rural population of the sixty "governments" of European Russia it is found that the average yield of grain per head is only 9·33 *poods* (a *pood* is equivalent to thirty-six English pounds). This is very considerably less than the average yield of the last five years, which has been as follows: 1896, 12·01 poods; 1895, 12·68 poods; 1894, 14·35 poods; 1893, 12·55 poods; and 1892, 10·02 poods. The year 1892 was also a bad harvest year and immediately followed the year of the great famine, 1891, when the average yield was only 8·23 poods per head of the rural population. As in that disastrous year, the harvest in the present year has failed principally in the central and south-eastern governments—the well-known "black-earth zone." Not only is there a falling-off in the grain crops, but the yield of hay and of other crops used as food for cattle is also considerably below the average. The yield of straw from the winter crops is also much smaller than the average for the last four years, though higher than that of either 1891 or 1892. The above figures have been published by the Central Statistical Committee (a government department).

Quarantine in the Persian Gulf.

If the following picture of the quarantine station at Bassowah in the Persian Gulf be a true one Europe has reason to be grateful that she does not depend solely upon this establishment to guard her from the irruption of plague or other infectious diseases from the East. According to the Constantinople correspondent of the *Russkia Viédomosti* the quarantine building consists of a wretched little house containing five rooms, each of which could accommodate five or six persons. The rooms are quite unfurnished and open on to an inner courtyard about 100 square metres in area. There is no attempt to provide the inmates with food or attendance. The sole person in charge of the establishment is a watchman. The passengers have free communication with the neighbouring town, the inhabitants of which are also freely admitted to the islet on which the station is built. The passengers' dirty linen is sent to the town to be washed. The separate parts of a disinfecting chamber, which were sent out to be put together for use in the lazaret, are lying scattered in different places. There is but one latrine and that is at a considerable distance from the station. Such are some of the charges brought by the correspondent of a serious Russian journal, and one naturally asks, Are they true, and, if so, who is responsible? According to the writer of the article it is the International Sanitary Council in Constantinople which is responsible; and he adds that the state of affairs just described is largely due to the fact that there are too many Turkish members of the Council and that the other European powers are represented in it, not by European physicians, but by Levantines, who take a wholly oriental view of their duties and responsibilities.

The Serum Treatment of Syphilis.

Dr. Sukof has recently published in the form of a dissertation for his Doctor's degree the results of some experiments made in the treatment of syphilis by the serum of animals. Summing up the experience of former observers he finds that the results in this form of treatment have been most varied, some regarding the method as almost specific, offering the promise of cure in the large majority of cases, while other observers have failed to obtain any favourable results and consider the method useless or worse than useless. Dr. Sukof's method differed slightly from those formerly employed in that he prepared the horses from which the serum was taken by repeated doses of mercury until marked signs of mercurialism showed themselves. Twelve patients suffering from syphilis received a series of injections of blood serum taken from these mercurialised horses. The results were not favourable. The patients lost in weight with few exceptions; the disappearance of symptoms when it occurred was only temporary; the blood in every case was found to contain a diminished number of red and white corpuscles, the hæmoglobin was lessened in quantity, and the specific gravity of the blood fell below the normal. The injections were sometimes accompanied by unpleasant symptoms, such as gastric disturbance, pains of various kinds, erythematous rashes, and some rise in temperature, consequently Dr. Sukof is unable to regard the serum of mercurialised horses as a promising method of treating syphilis.

A Correction.

The statement recently published that a Pan-Russian Conference on Leprosy would be held in St. Petersburg during the year 1898 is officially declared to be without foundation.

Dec. 19th (31st), 1897.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Vaccine Virus of the Health Department of New York.

SINCE 1895 the vaccine laboratory of the New York Health Department has been experimenting with and investigating the methods employed in various parts of the world for the preservation and production of vaccine virus. The choice and care of animals, the places, methods, and virus most suitable for inoculation, the time and manner of collection, and the preparation and preservation of virus after collection, have all been subjects of study. The most noted vaccine laboratories in Europe and this country have been visited and their practice studied. In consequence of those investigations modifications in the methods here followed have been made; but the most important is the entire change in form of the vaccine virus issued and recommended for use. For instance, the virus formerly employed was the serum which issues after scraping from the base of a vaccine pock, dried on quills or ivory points. The old-fashioned points physicians could purchase in the drug-stores. But these are all done away with and we now have a liquid glycerinated pulp. The function of the glycerine is to produce a homogeneous mixture and to act as a harmless antiseptic against germs accidentally introduced. Before the virus derived from an animal is issued a regular necropsy is performed on the animal and the organs are carefully examined for any evidence of disease. Then a sample of the virus is subjected to a bacteriological examination and a second is forwarded to the clinical tester for test. No virus is allowed to go out unless the reports of the pathologist, bacteriologist, and clinical tester are all satisfactory.

The Therapeutical Value of Medicinal Tablets.

The Surgeon-General of the Army has instituted tests of the value of tablets with the following results. The tablet furnishes the most convenient mode of transporting, measuring, and storing medicines for army use. The therapeutic effects of drugs supplied in tablet form are, to say the least, as well preserved as they are by any other means. A widespread misconception of the functions and proper use of the tablets has led to an unwarranted distrust of the therapeutic efficiency of some tablets supplied by the medical department of the army to army posts. Experience has proved what previous considerations should have made clear, that to secure prompt and salutary results it is desirable that before administering medicines so prepared they should be dissolved or suspended in a suitable medium. Properly used, the question of the consistency of the tablet mass is not one of vital importance, but there can be no doubt that for convenience of manipulation tablets would be a decided improvement upon those now in use provided that it can be proved that convenience cannot be gained by a sacrifice of the integrity of the drug. There appears to be no limit to the availability of the tablet as a means of medication. The deterioration found in the tablets examined in the laboratory was not greater than would have occurred in any other form of preparation. The more frequent purchases of apomorphine, cannabis indica, Calabar bean, and cocaine hydrochlorate are desirable. It would be also an advantage to endeavour to secure tablets prepared from tinctures or extracts of definite strength, alkaloidal or other, to be determined by analysts.

Louisiana Board of Health Resigns.

The merchants of New Orleans attribute the entrance of yellow fever into the city to the negligence of the Board of Health of that State in failing to stamp it out sooner and prevent its gaining such headway in the beginning. A meeting was arranged for the purpose of making a united attack upon the Board of Health. The Governor, however, forestalled the merchants and announced through the secretary of the Cotton Exchange that the President and other members of the Board of Health had placed their resignations in his hands. Those members of the board who were appointed by the City Council will be asked by the mayor to resign and as soon as the board can close up its business the members will give way to their successors.

Health of the Army.

From the report of the Surgeon-General of the Army it appears that the death-rate from all causes constituted 5·44 per 1000 of the strength, not much higher than that of the previous year and much lower than the average annual rate (7·51) of the previous ten years. The corresponding rates from disease were 3·83, 3 55, and 5 10; from injury 1·62, 1·61, and 2 41. The absolute number of deaths was 148, of which 44 were the result of injury and 104 of disease. Typhoid fever caused 17 of these deaths, disease of the heart 13, pneumonia 9, disease of the kidney 8, alcoholism 7, tuberculosis of the lung 6, gunshot injuries 14, and fractures not gunshot 7. The largest number of deaths at any one post was 10 at Fort Sam Houston, Texas, giving a death-rate of 15·48 per 1000 of strength; but leaving arsenals and small posts out of consideration the largest death-rates were 23·81 caused by 3 deaths at Fort Ringgold, Texas, 18·47 by 7 deaths at Fort Robinson, Nebraska, and 17·39 by 6 deaths at Jefferson Barracks, Missouri. Great improvement has taken place in the past few years in the sanitary conditions of the coloured troops as manifested by their lessened rates of sickness, disability, and death. The white troops have participated in the improvement, although their rates have not fallen as rapidly as those of the coloured men. There was no doubt greater room for improvement in the sanitary status of the coloured troops and the men may have responded with more earnestness to efforts in this direction. During the past year the total admission rate for all causes among the coloured troops was 868 88 per thousand of strength, as compared with 1132·49 among the whites for the same year, and as compared with 915·88 among themselves in the previous year, and with 1368 64 their own annual average for the previous decade, the annual average of the white troops having been 1284 95. The non-efficiency from all causes among the coloured troops during the year was 25·75 per 1000 of strength, as compared with 34·72 among the white troops. The coloured soldier lost 9·42 days from disability during the year and the white soldier 12·71; and the average time of treatment of each case was among the coloured troops 10·82 days and among the whites 11·22 days. The causes of disability from which the coloured men suffered less than the white troops were malarial fevers, venereal diseases, alcoholism, diarrhœa, and injuries; those from which they suffered more were neuralgia, rheumatism and myalgia, tonsillitis, colic, constipation, conjunctivitis, and pneumonia.

Epidemic of Typhoid Fever in New Jersey.

The city of Paterson, New Jersey, is now experiencing an epidemic of typhoid fever, ninety-nine cases having been recorded in the town and numerous others reported in the surrounding country. The point from which the infection spread was a creamery located forty miles distant from the city. It was discovered that the three sons of the proprietor of the creamery either were or had been suffering from typhoid fever and that the drain from the premises occupied by those patients reached a stream the water of which was used to wash the milk-cans. With incredible carelessness the water thus used was taken from the stream at the point a few feet below the outlet of the drain-pipe referred to. More than fifty farmers brought milk to the creamery, whence it was distributed to customers. The epidemic was suppressed promptly by the State authorities forbidding the use of the water of the stream by the dairymen.

Dec. 20th, 1897.

Obituary.

REV. THOMAS EDWARD CLARK, M.D., C.M. ABERD., M.R.C.S. ENG., L.S.A.

THE death of the Rev. T. E. Clark occurred on Christmas eve at his residence, Alexandra-road, Clifton. The deceased, who was in his sixty-third year, received his medical education at the Bristol Medical School and at Aberdeen University and took the qualifications of M.R C.S. Eng. in 1856 and the L.S.A. in 1857. In 1872 he graduated as M.D. and C.M. Aberd. Dr. Clark was formerly surgeon to the Bristol Royal Infirmary and lecturer on Botany at the Bristol Medical School. He was well known and highly respected in Clifton where he practised until twelve years ago, when he gave up medical practice to take holy orders. In 1885 he was ordained by the Bishop of Soder and Man and a few years later was appointed vicar of Pott-Shrigley, near Macclesfield, remaining there till 1890, when he returned to Clifton and worked for some years in St. Peter's parish. Recently he had been appointed vicar of Staverton, but did not live to take up his duties there. The funeral took place at Arno's Vale Cemetery on Dec. 29th and was largely attended by many friends of the deceased, members of the medical profession and residents of Clifton.

HUGH CALDERWOOD, M.B., C.M., B.SC. GLASG.

THE news of the death, after a very short illness, of Dr. Hugh Calderwood, Demonstrator of Anatomy in the University of Glasgow, has caused great regret amongst his friends and colleagues on the teaching staff and will be received with sad surprise by the students who are just re-assembling after the Christmas vacation. Dr. Calderwood entered the Glasgow University in 1891, and after a very distinguished career in the Faculties of Medicine and Science attained the degrees of M.B., C.M. and of B.Sc., the latter with first-class honours. Both as a student and subsequently as a demonstrator of anatomy under Professor Cleland he speedily won the friendship and esteem of all with whom he came into contact, who realise by his untimely death, not merely a personal loss, though this is great, but that the end has arrived of a career which gave promise of usefulness and distinction.

Medical News.

SOUTH-WEST LONDON MEDICAL SOCIETY.—A meeting of this society will be held at Stanley's Restaurant, 235, Lavender-hill (close to Clapham-junction), on Wednesday, Jan. 12th, at 8 P.M. Mr. Brudenell Carter will give an address on Legislation as a Remedy for Medical Grievances. All medical men interested in the subject are cordially invited to attend and to take part in the discussion.

GLOUCESTER INFIRMARY.—At the quarterly meeting of this institution held on Dec. 30th it was announced that a legacy of £100 had been received from the late Sir Thomas Robinson and that the extension of the nursing accommodation will shortly be proceeded with. A vote of thanks was passed to Sir Squire Bancroft for his recent reading of the "Christmas Carol" in aid of the infirmary and Children's Hospital.

BEQUESTS AND DONATIONS TO HOSPITALS.—The late Mr. J. D. Birchall, of Bowden Hall, near Gloucester, has bequeathed £500 to the Gloucester General Infirmary and £100 to the Gloucester District Nursing Society.—Mr. James Colmer, late of Bath, has bequeathed £500 to the Royal United Hospital, Bath.—Lady Willox has given a donation of £2000 to the building fund of the new Liverpool Consumptive Hospital.—A donation of £500 towards the cancer fund of the Middlesex Hospital has been received from a lady who wishes to remain unknown; also from the Corporation of the City of London a grant of £105.—The Bristol Eye Infirmary has received an anonymous gift of £500.—The late Mr. W. J. Croft has bequeathed £3000 to the Grimsby and District Hospital.—The late Mrs. Martha Burrell has bequeathed £100, free of legacy duty, to the Jenny Lind Infirmary, Norwich.—The late Sir George Osberne Morgan, M.P., has bequeathed £100 to the Wrexham Infirmary.—The late Mr. Francis Berryman has bequeathed £100 to the Clevedon Cottage Hospital.—The honorary secretary of the Hospital and Home for Incurable Children, Maida-vale, London, has received from the executors of Lady V. Long Wellesley a legacy of £500 and a donation of £250 from Messrs. Barnato Brothers.—Miss Cecilia S. Robson, late of Torquay, has bequeathed £1000 to the Torbay Hospital, Torquay, and £1000 to the Royal Eye Infirmary, Plymouth.—The late Lady Woodiwiss has bequeathed £1660 to the Derbyshire Children's Hospital.—Under the will of the late Mr. Henry Hancock, of Wostenholme-road, Sheffield, a legacy of £500 has been left to the Sheffield Royal Hospital and £100 to the Sheffield Royal Infirmary.—The treasurer of Charing-cross Hospital has received a donation of £500 from the Worshipful Company of Goldsmiths; also £1000 from the executors of the late Mr. Francis Jacox for the endowment of a bed; also £250 from the Worshipful Company of Grocers; also £100 from Mr. Edward McCallan; also £1000 from Messrs. Barnato Brothers to endow a bed in memory of the late Mr. Barnato; and also £233, the proceeds of the concert given in aid of the special appeal fund by the Royal Amateur Orchestral Society in November, 1897.—The treasurer of St. George's Hospital has received £1000 from the executors of the late Mr. Barnato for the endowment of a bed.—The committee of the North London or University Hospital has received £100 from the People's Contribution Fund.—The board of management of St. Mary's Hospital, Paddington, London, has received a donation of £1000 from Mr. H. L. Raphael for the endowment of a bed in the Victoria ward in memory of his late wife; also £1000 from the executors of the late Mr. Barnato for the endowment of a bed to be called "The B. Barnato Bed"; also £200 from Mr. Frank M. Dutton; and also a donation of £105 from Mr. Benyon.—The treasurer of Guy's Hospital has received from the Worshipful Company of Merchant Taylors £262 10*s.* (the second moiety of 500 guineas); also from "In Memoriam, Nov. 3rd," £100; also £105 from Mr. Charles E. Keyser; and also £250 from the Worshipful Company of Grocers in aid of the Sustentation Fund.—The committee of the London Fever Hospital, Islington, has received £105 from the executors of the late Mr. Henry Moore, and £100 from the Worshipful Company of Goldsmiths.—The Board of Management of King's College Hospital, Lincoln's-inn, London, has received a donation of £1000 from a "Friend" for the endowment of a bed; also a contribution of £104 given anonymously; and also £100 from Mr. Charles P. Johnson.—The committee of the Dental Hospital, Leicester-square, London, has received £100 from Mr. Frank M. Dutton towards the re-building of the hospital.—The committee of the North-Eastern Hospital for Children, Hackney-road, Shoreditch, has received a contribution of £100 from the Hackney Society in Aid of the Children's Hospital.—The Worshipful Company of Grocers has made a grant of £250 towards the funds of St. Thomas's Hospital, London; and Mr. T. F. Blackwell, a governor of St. Thomas's Hospital, has contributed £1000 for the endowment of a bed in perpetuity.—The board of management of the Metropolitan Convalescent Institution, Walton-on-Thames, Broadstairs, and Bexhill-on-Sea, has received a grant of £105 from the Corporation of the City of London.—The Worshipful Company of Grocers has made a donation of £100 to the Royal Hospital for Incurables, West-hill, Putney-heath.—The committee of the North-West London Hospital, Kentish Town-road, has received a donation of £300 from "M. P." for the endowment of a cot; also £300 from the Baroness de Hirsch, in addition to previous donations.—The late Mrs. Caroline Wallis bequeathed 1000 guineas to the London Temperance Hospital.—The late Miss Furner bequeathed £100 to the Royal London Ophthalmic Hospital, Moorfields.—The Board of Management of the British Home for Incurables, Streatham-common, has received £100 from "E. M. E.," being the thirteenth donation of a similar amount.—Mr. John White, late of Bristol, has bequeathed £500 each to the Bristol Children's Hospital and the Bristol Royal Infirmary and £200 to the Bristol Eye Hospital.—The late Mr. John Snowball has bequeathed £6320 to the Durham County Hospital.—The grand variety entertainment recently held at Brighton in aid of the St. John's Convalescent Home for Children, Kemp Town, realised for the benefit of the charity the sum of £102 4*s.* 1*d.*—Mr. George Pears, a coal-owner, has contributed £100 to Lady Eden's Cottage Hospital scheme for the Auckland district.—Mr. George Denison Faber has sent a donation of £1000 as a New Year's gift to the treasurer of the Leeds Infirmary.

DIPHTHERIA IN LONDON.—In the concluding three weeks of the past year the amount of fatal diphtheria in London was almost identical in its aggregate with the total of deaths in the preceding three weeks. Thus in the week ended Dec. 18th the total of deaths registered was 63, a number the same as that of three weeks earlier, and again, whilst the corrected decennial average for the earlier week ended Nov. 27th was exceeded by 13, the average for the later week ended Dec. 18th was exceeded by 12 deaths. In the week ended Dec. 25th the registered deaths fell somewhat, as might have been expected, seeing that Christmas Day came within the week; but even so the 56 deaths registered were 12 in excess of the decennial average for the week and compare with 52 registered deaths three weeks previously. In the week ended on Jan. 1st there was a further fall to 53 registered deaths, as against 58 three weeks earlier, but Bank Holiday came during this week, and still the decennial average was exceeded, though on this occasion only by 8 deaths. There were 1086 patients suffering from diphtheria who spent Christmas Day in London hospitals, the total having fallen to 1070 on the first day of the present month. In Christmas week the sanitary districts suffering most heavily from fatal diphtheria were Poplar with 6 deaths, Islington with 5 deaths, and St. Pancras, Fulham, and Camberwell, each with 4 deaths, whilst last week Fulham, Islington, and Hackney each had 5 deaths, and Chelsea and Camberwell each had 4 deaths, these heading the list.

WATER-SUPPLY FOR PEMBROKE DOCK.—The Local Government Board have sanctioned the scheme for the supply of water for Pembroke Dock from Milton.

THE LATE DR. WADHAM.—The funeral of the late Dr. William Wadham took place at Frenchay, Gloucestershire, on Dec. 31st, 1897, the interment being in a new grave near the family vault. There were several members of the Wadham family present and also many friends of the deceased.

PRESENTATIONS TO MEDICAL MEN.—Mr. Robert Carson Nicholls, L.R.C.P. Irel., of Tilehurst, Reading, at an entertainment in the village hall on the 16th ult., was the recipient of a gold watch and chain from numerous friends as a token of their appreciation of his professional services during the twelve years he had practised in that parish.—The Ambulance Corps connected with the Glasgow and South Western and North British Railways (College Division), at their annual meeting for presentation of prizes on the 21st ult., presented the lecturers of each of the divisions, Dr. Robert Wilson and Mr. William Chalmers, L.F.P.S. Glasg., with valuable testimonials in recognition of their services during the season.—The members of the "First Aid" class of the Randwick, New South Wales, branch of the St. John Ambulance Association have presented Dr. James Adam Dick with a silver smoking set in recognition of his services as Lecturer; and the Paddington, New South Wales, branch of the St. John Ambulance Association has recognised the services rendered by the honorary medical instructor, Mr. G. H. W. Smith, L.R.C.P. Edin., L.F.P.S. Glasg., of Paddington, by presenting him with a valuable piece of plate.

THE OPERATING THEATRE AT WESTMINSTER HOSPITAL.—The old theatre has been entirely remodeled, improved, and enlarged, being 7 ft. 6 in. longer than formerly, and the floor of the theatre has been lowered 2 ft. The old wooden seating, which was in a semicircular form rising from the ground at one end of the theatre to near the ceiling, has been entirely removed and accommodation is now provided for forty-five students by a marble gallery 2 ft. 6 in. wide all round the theatre at a height of 6 ft. 6 in. from the floor; by this means, which is, we believe, unique for an operating theatre, the entire floor-space of the theatre is available as working space for the surgeons, &c., and the students will have a very much better view of the operations from the gallery than formerly. The room on the right of the theatre has been taken out square, as this room was cramped and almost useless for its purpose before. The walls and ceilings of all these rooms are entirely lined with glazed tiles, those on the ceilings being separately screwed, each tile being made with a lap-joint. There is a dado as high as the gallery of olive-green tiles round the theatre and a dado 4 ft. high round the other rooms. The remainder of the tiling of the walls is of a warm cream-colour, the ceilings being white. All corners throughout are rounded to facilitate cleaning. The floors are of white marble mosaic with a coloured border. The skylight of the theatre is double glazed with an air space of 7 in. between the glass with the object of equalising the temperature; the outer light can easily be opened and cleaned from the gutter. The hot water heating and supply is all worked from the small heating chamber near the entrance and is so arranged that the attendant has only to turn a handle and the theatre will in a few minutes be heated by hot water and by turning another handle hot water will be supplied to all the fittings; thus at any hour of the night or day these rooms can be heated and supplied with hot water independently of the rest of the hospital. The case containing the hot-water pipes in the theatre is fed with fresh air direct from outside, the inlet being glazed stoneware pipes for easy cleaning, also with a fresh-air supply radiator, which is hinged so that it can readily be cleaned; the outlets for vitiated air are next to the ceiling. The artificial lighting is entirely by electricity, a pendant in the centre and brackets on the walls, the exposed wires being covered with indiarubber so that they can be washed. A separate main is laid for electrolysis, the cautery, or a motor. Gas is laid on to the several sterillisers and a hood is placed over these with an extract flue to carry off the fumes.

Lifeboat Saturday in Bristol.—The committee's account of receipts and expenditure for the Bristol Lifeboat Saturday Fund which has just been issued shows that a sum of over £300 has been remitted to the National Lifeboat Institution as a result of their efforts.

Poisoning by Cockles.—At an inquest held at Begelly, near Tenby, on Dec. 31st, 1897, upon the body of a child the jury returned a verdict to the effect that death had resulted from ptomaine poisoning through accidentally eating decomposed cockles.

Memorial to the late Dr. R. E. England.—On Christmas-eve a set of "Stations of the Cross," which had been presented by the congregation of St. Bartholomew's, Dover, was dedicated as a memorial to the late Richard Edward England, M.D. Edin., who was a regular attendant at this church.

A Golf Tournament.—It is proposed to start a golf tournament (handicap) confined to medical men. A committee is being formed to carry out the scheme. The plan suggested is that matches shall be played where and when each pair drawn shall mutually arrange (within twenty miles of London if one competitor so desire). The entrance fee will be about *7s. 6d.*

Bristol Dispensary.—The committee in their annual statement of accounts for 1897 just issued mention that during the past year the new branch dispensary at Bedminster has been opened. The cost of the new building was £2750; the annual expense is estimated at between £300 and £400 per annum; and the report adds that the present subscriptions, supplemented by the income derived from the funded property of the institution, will be insufficient to meet the outlay. Under these circumstances the committee make an urgent appeal for funds to place the finances in a satisfactory position. The treasurer acknowledges anonymous donations of £250 and £150. The following is an analysis of the work accomplished in 1897:—Sick patients remaining at the end of 1896, 1228; admitted in 1897, 9651; total, 10,879. Midwifery patients undelivered at the end of 1896, 80; admitted in 1897, 471; total, 551. Patients cured or relieved, 9488; died, 235; remaining on admission books, 1156; total, 10,879. Women delivered, 477; remaining undelivered, 74; total, 551. Children born, 464.

British Orthopædic Society.—The third annual meeting of this society was held at the City Orthopædic Hospital on Dec. 15th, Mr. Noble Smith being in the chair. Mr. Keetley was re-elected honorary treasurer, and Mr. Tubby, Mr. Thelwall Thomas, Mr. Vincent Jackson, and Mr. D'Arcy Power were elected to fill the vacancies on the council. Mr. E. Muirhead Little was elected an honorary secretary to succeed Mr. Tubby, whose term of office had expired and who did not seek re-election. An ordinary meeting of the society followed, Mr. Noble Smith presiding. A discussion on Fibrous Ankylosis and its Treatment was opened by Mr. C. B. Keetley, who said that he believed true fibrous ankylosis of joints was very rare and that when it did exist it was only as a temporary state of a joint on its way to osseous ankylosis. Many cases regarded as of fibrous ankylosis were really examples of movement limited by some cause outside the joint—e g., mal-united fracture, inflammatory deformity, inflammatory peri-articular adhesions, &c. When joints which have been supposed to be the seats of fibrous ankylosis have been opened years afterwards they have often been found free from internal adhesions and with the cartilage intact. Bone-setters were sometimes said to have taught surgeons something of value, but Mr. Keetley believed that they had done nothing of the kind and that to forcibly move a joint of which the exact condition was unknown was like working in the dark.—Mr. Noble Smith thought that early movement was most valuable after sprains and dislocations in preventing stiffness.—Mr. Muirhead Little said that he did not agree with the opinion that fibrous ankylosis of the knee seldom occurred and described one case in which, on laying open the knee, true fibrous ankylosis was found which was of long standing.—Mr. Tubby quoted a case showing the advantage of exploration of a joint in case of injury of doubtful nature and he also described a case of true fibrous ankylosis of the knee.—Mr. Keetley, in reply, said that he did not deny the occasional occurrence of true fibrous ankylosis, for he had seen such cases. The younger the patient the greater the likelihood of fibrous ankylosis in such a joint as the knee. Mr. Little's case was doubtless one of osteomyelitis.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Alexander, J. W., M.R.C.P. Edin., L.R.C.P., L.R.C.S., L.F.P.S. Glasg., has been appointed Medical Officer for the Armley Sanitary District and the Workhouse by the Bramley Board of Guardians.

Anderson J. A., M.D. Glasg., has been appointed Medical Officer by the Wigtownshire Combination Poor-house, vice T. Easton, resigned.

Anningson, B., M D. Cantab., M.R.C. S., has been re-appointed Medical Officer of Health by the Chesterton Urban District Council.

Barker, George Henry, M.D., L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the C (Clifton) Division of the Bristol Police.

Brownridge, Robt., M.B., C.M. Glasg., has been appointed Medical Officer for the Medical District, No. 3, by the Paisley Parish Council, vice W. F. Gibb, resigned.

Brickwell, J., M.R.C.S., has been re-appointed a District Medical Officer by the Eton Board of Guardians and Rural District Council.

Carbery, E., M.B., B.Ch., B.A.O. Dubl., has been appointed House Physician to the City of London Hospital for Diseases of the Chest, Victoria-park, E.

Challinor, Cedric, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Vict., has been appointed Certifying Factory Surgeon for the Leigh, Lancs., District, vice G. H. Evans, deceased.

Clark. W. W., M.D. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Wellingborough Urban District Council.

Dibbs, Wm. Steward, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., has been appointed Medical Officer and Public Vaccinator for Hedgerley and Hedgerley Dean, Bucks, Eton Union.

Dickson, Graeme, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Rural District Councils of Hay, Breconshire; Painscastle, Radnorshire; and Brechwardine, Herefordshire.

Gravely, R., M.R.C.S., has been re-appointed Medical Officer of Health by the Chailey Rural District Council.

Gethin-Jones, Owen, M.D. Glasg., has been appointed Medical Officer of Health by the Porthcawl, Glamorganshire, District Council.

Green, T. A., M.D., C.M. Edin., has been appointed Medical Officer of Health by the Meltham Urban District Council.

Hamilton, Samuel, B.A., M.B., B.Ch., has been appointed Medical Officer and Public Vaccinator to the Saint Mellons District of the Newport, Monmouthshire, Union, vice W. H. Richards, resigned.

Herbert, William, M.R.C.S., L.R C P., has been appointed Resident Medical Officer to the Wirral Children's Hospital, Birkenhead.

Hill, Hedley, M.D. Brux., L R.C.P. Lond., M.R.C S., has been appointed Surgeon to the B (Bedminster) Division of the Bristol Police.

Homer, T., L.R.C.S., L.R.C P. Edin., has been appointed Medical Officer of Health for the Small Isles District of Inverness-shire, vice J. Dewar, resigned; and also appointed Parochial Medical Officer and Public Vaccinator for Small Isles, Inverness-shire, vice J. Maxwell, resigned.

Houfton, E H., M B. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer of Health by the Mansfield Woodhouse Urban District Council.

Kennedy, William Player, B.A., M.D., B.C.H. Trin. Coll., Dubl., has been appointed Surgeon to the Lydney and Ayeburton Cottage Hospital.

Leche, Arthur, M.R C.S., L.R.C P. Edin., has been appointed Medical Officer to the Workhouse and No. 7 District by the Axbridge Board of Guardians, vice H. S. Smith, resigned.

Lloyd, L. J., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Medical Officer for the Workhouse and Infirmary of the Parish of St. Mary Abbotts, Kensington.

McKinlay, J. R., L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Wallasey Dispensary, vice A. H. Godwin, resigned.

Moore, S., M.D., M.Ch., M.A.O., R.U.I., has been appointed to the West District of the Holbeck Union, vice J. W. H. Brown, resigned.

Ogden, O. W., M.D. Durh., M.R.C.S., L.R.C.P., has been appointed Assistant Surgeon to the Fleming Memorial Hospital for Sick Children, Newcastle-on-Tyne.

Paterson, C. E., M.D. Edin., has been re-appointed Medical Officer for the Frimley Sanitary District of the Farnham Union.

Thorman, W. H., B.A. Cantab., M.R.C.S., L.R.C.P., has been appointed Resident Medical Officer to the Royal United Hospital, Bath, vice W. H. Cooke, resigned.

Tothill, F. C., M.B., C.M. Edin., has been re-appointed a District Medical Officer by the Staines Board of Guardians and Rural District Council.

Watt, J. P., M.B., C.M. Edin., D.P.H., has been appointed Medical Officer for Rosehearty.

Young, James, M.D., C.M. Glasg., has been appointed Surgeon to the D (St. George's) Division of the Bristol Police.

Erratum.—In our last week's issue in the appointment of C. N. Thomas, instead of the "Sydney" read the *Lydney* District.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Ancoats Hospital, Manchester.—Resident Junior House Surgeon. Salary £50, with board and washing.

Deptford Medical Mission.—Medical Superintendent. Salary £150, without board or lodging. Apply to the Hon. Medical Director, 21, St. James, Hatcham, London, S.E.

Finsbury Dispensary, Brewer-street, Goswell-road, London.—Resident Medical Officer. Annual appointment. Salary £100 per annum, and a furnished residence provided in the institution, with attendance, coals, and gas.

Flintshire Dispensary.—Resident House Surgeon. Salary £120 a year, with furnished house, rent and taxes free; also coal, light, water, and cleaning, or in lieu thereof £20 per annum. Applications to the Secretary, Board-room, Bagilt-street, Holywell, North Wales.

Hull Royal Infirmary.—Assistant House Surgeon for one year. Salary £60, with board and furnished apartments.

Lincoln County Hospital, Lincoln.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

Liverpool Stanley Hospital.—Junior House Surgeon. Salary £70 per annum, with board, residence, and washing.

North Staffordshire Infirmary and Eye Hospital, Hartshill, Stoke-upon-Trent.—House Physician. Salary £100 per annum, increasing £10 per annum, conditionally, with furnished apartments, board and washing.

Office of the Crown Agents for the Colonies, Downing-street, London.—Medical Officer for service on the railway in course of construction in Lagos, West Africa; unmarried men preferred. Salary £40 per month, and arrangements for passage, &c., will be made.

Parish of St. Giles, Camberwell.—Assistant Medical Officer for the Infirmary, Havil-street, Camberwell, and the Workhouse at Gordon-road, Peckham, also for relief duty at the Constance-road Workhouse of the Parish, for one year. Salary £50, with apartments, board, and washing. Applications to the Clerk to the Guardians, 29, Peckham-road, S.E.

Royal Hospital for Children and Women, Waterloo-bridge-road, London, S.E.—Anæsthetist and Registrar.

Royal Sea Bathing Infirmary, Margate.—Resident Surgeon. Applications to the Secretary, R. S. B. Infirmary Offices, 30, Charing-cross, London.

Sunderland and North Durham Eye Infirmary, Sunderland.—House Surgeon. Salary £100 per annum, out-door.

Births, Marriages, and Deaths.

BIRTHS.

Mouat-Biggs.—On Dec. 28th, 1897, at The Lypiatts, Cheltenham (her father's home), the wife of C. E. F. Mouat-Biggs, M.R.C.S., L.R.C.P., of Fauconberg-villas, Cheltenham, of a daughter.

Ross.—On Dec 25th, 1897, at Rio Tinto, Spain, the wife of R. Russell Ross, M.B., C.M., of a daughter.

Wilcox.—On Dec. 28th, 1897, at Newlyn, Fleet, Hants, the wife of Henry Wilcox, M.B., of a daughter.

MARRIAGES.

D'Ombrain—Gibbings.—On Dec. 29th, 1897, at St. Saviour's Collegiate Church, Southwark, Ernest Arthur D'Ombrain, M.B., B.S., fifth son of Ed. D'Ombrain, Hauthorn, Victoria, Australia, to Adeline Maude, youngest daughter of H. Gibbings, of North Tawton, Devon.

Langford—Haes.—On Jan. 4th, C. Harris Langford, M.B. Lond., M.R.C.S., L.R.C.P., of Weston-park, Crouch-end, to Mabel Anne, daughter of Henry Haes, of Bryntirion, Hornsey-lane, Highgate.

Saxby—Furniss.—On Jan. 4th, at the parish church, Knockholt, Kent, Thomas Edmondston Saxby, L.R.C.S., L R.C.P.E., third son of the late Henry Linckmyer Saxby, M.D., of Baltasound, Shetland, to Julia Maude Furniss, fifth daughter of the late Frederick Furniss, Civil Engineer, of Drax, Yorkshire.

DEATHS.

Daly.—On Dec. 28th, 1897, at Hull, Owen Daly, M.D., J.P., F.R.C.P., in his 77th year.

Torney.—On Dec. 24th, 1897, suddenly, Thomas Torney, M.D. St. And., of Eblana-terrace, North Circular-road, Dublin, aged 78 years.

Wallis.—On Dec. 30th, 1897, suddenly, at Ardwick Lodge, Hull, John A. Wallis, M.D., of Harrow, aged 52 years.

Watkin-Williams.—On Dec. 31st, 1897, at The Green, Dunster, Somerset, Thornton Lanyon, the beloved child of Penrose Lanyon and Ellin Margaret Watkin-Williams, aged nearly seven months.

Watkins.—On Dec. 30th, 1897, at Warrior-square, St. Leonards-on-Sea, Charles Stuart Watkins, M R.C.S., aged 68 years.

Yate.—On Jan. 2nd, at Brighton, James Yate, M.R C.S., aged 79 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (12th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (13th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2 30 P.M.).

FRIDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (15th).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (10th).—Odontological Society of Great Britain (40, Leicester-square, W.C.).—8 P.M. Dr. J. E. Grevers (Amsterdam) will show a Series of Lantern Slides illustrating some Diseases of the Antrum and Cysts. Casual Communications: Mr. C. A. Clark: A Method of Inserting Gold into Artificial Teeth to Imitate Stopped Teeth.—Mr. H. Lloyd Williams: Excision of Necrosed Roots.

Medical Society of London.—8.30 P.M. Sir William Broadbent, Bart., will open a Discussion on Adherent Pericardium.

TUESDAY (11th).—Roentgen Society (Medical Society's Rooms, 11, Chandos-st., W.).—7.30 P.M. Council. 8 P.M. General Meeting. 8.30 P M Paper:—Mr. W. Webster: Practical Work with the Roentgen Rays.

Royal Medical and Chirurgical Society (20, Hanover-square, W.)—Adjourned Discussion on the Prevention of Enteric Fever. Dr. Corfield will open the Discussion.

WEDNESDAY (12th).—Dermatological Society of London (11, Chandos-street, Cavendish-square, W.)—Demonstration of Clinical Cases.

Laryngological Society of London (20, Hanover-square, W.).—5 P.M. Annual General Meeting. Cases and Specimens will be shown by Prof. Kanthack (for Dr. P. Bergengrün), Mr. H. T. Butlin Mr. M. C. Baber, Mr. E. Wagget, Mr. W. G. Spencer, Dr. H. L. Lack, Mr. W. Wingrave, Dr. Tilley, Dr. W. Williams, Dr. A. Bronner, Mr. C. Symonds.

Medical Society of University College (London).—8.30 P.M. Dr. G. Sims Woodhead: Recent Researches on the Action of Alcohol.

THURSDAY (13th).—Neurological Society of London (11, Chandos-street, W.).—8.30 P.M. Mr. Victor Horsley: The Degree of Discharge of Different Nerve Centres. (Presidential Address.)

British Gynæcological Society (20, Hanover-square, W.).—8.30 P.M. Mr. Mayo Robson: On Extra-Uterine Gestation. (President's Valedictory Address.) Dr. Elder (Nottingham) will show (1) Solid Ovarian Tumour; (2) Large Vesical Calculus; (3) A Six Week's Extra-Uterine Gestation.

FRIDAY (14th).—Clinical Society of London (20, Hanover-square, W.).—8.30 P M. Clinical Evening. The following cases will be shown:—Mr. W. G. Spencer: A Case of Obliterative Arteritis affecting Three Limbs.—Dr. C. W. Chapman: A Case of Bradycardia with obstruction of the Inferior Vena Cava.—Dr. C. E. Beevor: A Case of Locomotor Ataxia with almost Universal Analgesia. And other cases. Patients in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

TUESDAY (11th).—Hospital for Diseases of the Nervous System (73, Welbeck-street).—4.30 P.M. Dr. T. D. Savill: Tabes Dorsalis and other Disorders of the Gait in Diseases of the Nervous System.

National Hospital for the Paralysed and Epileptic (Bloomsbury).—3.30 P.M. Dr. Beevor: On Cerebral Localisation.

THURSDAY (13th).—Charing-cross Hospital.—4 P.M. Dr. Bruce: Cases in the Medical Wards.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

***Lectures, original articles, and reports should be written on one side of the paper only,* AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.**

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of* The Lancet *should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

The Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume, were given in The Lancet of Jan. 1st.

VOLUMES AND CASES.

Volumes for the second half of the year 1897 are now shortly. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

NEGROES AND VACCINATION.

A correspondent in the West of America writes: "In the United States, as in Great Britain, there is much dislike among the lower classes to vaccination. This is especially the case among the coloured population of America. There appears to exist in the mind of the negro a perfect dread of vaccination. The laws enforcing vaccination are much more strictly adhered to in the States than in Great Britain and if necessary the operation is performed *nolens volens*. According to a New York paper Atalanta is at the present time the theatre of an active vaccination war The large negro population is fighting vaccination and compelling physicians to take around with them armed policemen. Hearing of a stylish negro wedding a short time ago the officers crept upon the house and kept the inmates corraled within while the physicians duly vaccinated the bride and all her attendant company. A somewhat similar scene recently took place in the Atalanta city court room which is always crowded with negroes. At a signal from the judge every door and window was guarded and all present were vaccinated. The efforts on the part of the imprisoned negroes to escape were determined and ludicrous, but there was a sufficient number of policemen on hand to control the crowd. In several instances the policemen who accompany the vaccinating corps have had to resort to violence to secure the enactment of the law. The negroes seem to hate vaccination worse than small-pox and the appearance of one of the little white points is enough to scatter an assemblage of them. In the house-to-house canvass which the medical men have been pursuing every subterfuge has been tried to elude vaccination. In some cases the negroes have remained away from home for weeks simply to evade the law."

"THE GUYOSCOPE."

Everybody will regret to hear that the tenth issue of this clever little paper is to be its last. There is room for a little fun in the daily round of medical life, for a well-directed joke will often help to rectify an abuse. We do not see our way to adopt the editorial suggestion that we should devote a portion of our space frankly to joking but we reproduce one more jest from our contemporary's columns, and are sorry to think it is the last time we can thus levy contributions.

> "A medical student was recently asked to take a Sunday-school class which, after some protest, he consented to do. He got on very well over the questioning, but when it came to parting out knowledge he began to get a little rocky. He managed Abraham, Isaac, and Jacob moderately well, but when he explained to the gaping kids that Esau was a man who sold his after-birth for a bottle of potash the vicar ...... hinted to him in no measured terms that it was time he went home and had his tea."

"FALMOUTH DURING THE WINTER MONTHS."

To the Editors of The Lancet.

Sirs,—In reply to the letter of "Q." in The Lancet of Jan. 1st I beg to state that the answer to each of the questions is "Yes," but I may add that I think it might be desirable to bring saddle and bridle, though it certainly is not necessary.

I am, Sirs, yours faithfully,

Falmouth, Jan. 3rd, 1898. Albert F. Field, M.D. Aberd.

THE "USEBIUS" PINCE NEZ FRAME.

This invention seems to us to be one of practical utility. The sliding bar between the two lenses is of course not new, but in the Usebius frame the bar is fitted with a screw thread along which runs a small nut. When the lenses are pulled apart sufficiently to be comfortable the nut is screwed up so that the tension of the spring instead of exerting all its force upon the nose is partially expended on the nut. Thus the disagreeable pinching effects so often seen in the common pince nez frames are done away with. The makers are Messrs. Frederick Bateman and Co., 401, Strand, London.

THE FACILITIES OF THE DRUGGIST FOR DOING HARM.

To the Editors of The Lancet.

Sirs,—Will you or some of your readers favour me with information in regard to the law which regulates the actions of druggists? Are they allowed (1) to prescribe any remedy whatever for any kind of disease or indisposition? If not, what is the penalty and how is that enforced? (2) Are they permitted to make up for Mr. A. prescriptions originally intended for Mr. B.? Are they even allowed to make up the same prescriptions a second or third time for the person for whom it was meant if that prescription has not been re-initialled by the physician who wrote it? If not, how are they to be prevented from infringing the law?

I am, Sirs, yours faithfully,

Z.

THE CAUSES AND TREATMENT OF DEAFNESS.

To the Editors of The Lancet.

Sirs,—I should be glad if any readers of The Lancet would recommend some compact work or works on the causes and treatment of deafness.

I am, Sirs, yours faithfully,

Dec. 25th, 1897. Rustic.

QUESTIONS UNDER THE LUNACY ACT.

To the Editors of The Lancet.

Sirs,—An opportunity offers itself of my receiving a person of unsound mind into my house under my care. He is a certified lunatic. Is there any hindrance to my taking him or is there permission or licence to get or to pay for? I should be pleased if you could either give me the information I ask or refer me to where I can look into it. Also, what steps are necessary to take two or more cases? I may say I live in the country. House is semi-detached. Probably the information I ask for would be useful to many of your readers.

I am, Sirs, yours faithfully,

Dec. 13th, 1898. M.D

⁂ The following extract from "The Insane and the Law" (Churchill), by Pitt-Lewis, Smith, and Hawke, says at p. 115 that an insane person "may be placed to board in the house of some person who is willing to receive him in return for a stipulated periodical payment. It is, indeed, common for medical men and others to receive patients into their houses under some such arrangement. If the person who receives an insane person only receives one lunatic no licence is required by him (Lunacy Act, 1890, Section 315, Sub-section 2). Indeed, the Lunacy Commissioners have power (which, however, is in practice only very sparingly exercised) under 'special circumstances' to allow the same person to receive a second person without a licence (Lunacy Act, 1890, Section 46). But a single patient cannot, if he be taken for payment, be lawfully received and taken charge of without a proper reception order, statement, and medical certificates, such as are necessary for hospitals and licensed houses, being sent with him." With regard to further requirements, periodical reports, &c., we would advise our correspondent to refer either to the Lunacy Act, 1890, or to the Commissioners in Lunacy, 19, Whitehall-place, S.W.—ED. L.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—Can any of your readers tell me of any residence where a good home could be given to a young lady, aged about twenty years, an orphan? Her late father was a naval officer. She has no means, but about £40 a year could be paid by her brother who is only a bank clerk. She is by no means insane, but for four or five days every month she is subject to ungovernable fits of temper and is quite uncontrollable. The rest of the time she is a nice girl and would make herself useful. It is undoubtedly neurotic, but is a sad case. During her attacks she wants a kind, firm hand over her. An answer through THE LANCET would be a real charity. I am, Sirs, yours faithfully,

Jan. 5th, 1898. COLONIAL.

"MR. HALL HAINS'S DEFENCE FUND."

To the Editors of THE LANCET.

SIRS,—Will you kindly insert the enclosed additional list of subscriptions to the above fund?—I am, Sirs, yours faithfully,

HERBERT CARRE-SMITH,
Hon. Secretary and Treasurer to the Fund.

3, Turnham-green-terrace, Chiswick, W., Jan. 4th, 1898.

	£	s.	d.
Amount previously acknowledged	76	2	6
Mr. Charles W. Chapman, M.D. Durh., M.R.C.P. Lond.	1	1	0
Mr. John S. Spence, M.D Aberd.	1	0	0
Mr. T. Colcott Fox, M.B., F.R.C.P. Lond.	2	2	0
Mr. J. Batteson, L.R.C.P. Edin., M.R.C.S. Eng.	1	1	0
Mr. E. M. Swanwick, L.R.C.P. Lond., M.R.C.S. Eng.	1	1	0
Mr. George Brown, M.R.C.S. Eng.	1	1	0

ATAXIA, ALCOHOLIC AND OTHERWISE.

ON Jan. 3rd a cab-driver was summoned at Marlborough-street for being drunk while in charge of a cab. He was taken to Vine-street and charged there with drunkenness. In accordance with his request a medical man was sent for, who pronounced him to be not drunk but suffering from locomotor ataxy. Mr. de Rutzen of course discharged him. We cannot help thinking that anyone suffering from locomotor ataxy is quite unfit to be in charge of a cab for the visual disturbances and the muscular incoördination which accompany this disease are quite enough to render the sufferer incapable of driving properly.

"THE CHOICE OF A PIPE."

SINCE expressing our views on the choice of a pipe we have received various pipes for inspection. Messrs. William White and Son, of Gibson-street, Glasgow, send us what they call an absorbent pipe, and it is correctly so described since the bowl is constructed of special soft clay. The pipe is hook-shaped and affords cool smoking Another pipe sent us is the "Duke" pipe (briar root), the feature in its construction being a perforation at the bottom of the bowl provided with a shot valve. The effect of this contrivance is that some air is drawn through the tobacco from below and thus a more or less dry condition of the lower layer of tobacco is preserved. It certainly favourably modifies the character of the smoke and the tobacco does not get saturated with oil at the finish. The rise and fall of the shot on drawing the smoke might be a source of irritation to those for whom there is nothing like a pipe of ordinary construction.

THE LATE FATAL ACCIDENT WITH ERYTHROL TETRANITRATE.

To the Editors of THE LANCET.

SIRS,—Having received numerous inquiries in respect to the fatal explosion which occurred at our Dartford works on Wednesday, the 15th ult., and so many erroneous versions having appeared in the public press, we think it well to state the simple facts of the case. The deceased, Mr. Lewis Jones (qualified chemist), was mixing a preparation of erythrol tetranitrate, a remedy which is now somewhat extensively prescribed by the medical profession in cardiac affections. The process consisted in diluting erythrol tetranitrate with finely powdered lactose by gently stirring the substances in a mortar; no pounding or grinding was required. The quantity of erythrol in the possession of the deceased was four ounces. Our process for dealing with this substance was adopted after a series of careful experiments and it has always been performed by competent chemists who knew the dangers of such nitrous compounds. The process has been carried out by us many times during the past eighteen months without the slightest mishap. It has been the rule of the chief of the department to caution those who handled it and the deceased received such a warning. The erythrol tetranitrate was kept under lock and key in a dark closet. The cause of the explosion we can only attribute to some extraordinary accident; unfortunately there was no witness to the actual carrying out of the operation by the deceased on this occasion. The force of the explosion was violent but local. We need hardly add that we are deeply pained by this sad occurrence which has resulted in the death of an employé who had gained our high esteem. We are, Sirs, yours very respectfully,

BURROUGHS, WELLCOME, AND CO.

Snow-hill-buildings, E.C., Dec. 21st, 1897.

◆

B. C. D.—(1) At a rough estimate there is in London 1 medical man to 800 of the population; in the English counties 1 to 1500; in New Zealand 1 to 2300. (2) The knowledge necessary to obtain the Diploma of Public Health would be valuable; the possession of the degree would be of no particular service. (3) We strongly advise our correspondent to personally inspect any practice offered for sale unless the agent through whom it is purchased has power to refer him to responsible people on this side. (4) Living is cheaper because wants are fewer.

X. Z.—The wording of the agreement which our correspondent does not quote to us will almost certainly settle all three queries. If there is any doubt a solicitor should be asked to clear it up as the matter is one of legal interpretation of words, not one of medical custom.

Leno.—We do not recommend individual practitioners. The family medical man will suggest the name of the consultant, if any, whose opinion he would like to have.

Physician.—The proceeding obviously lends itself to abuse. If however it is done discreetly we do not see that any unwritten law of etiquette would be infringed.

Enquirer. — The General Medical Council's intentions cannot be exactly foretold. The notice appearing in THE LANCET should be acted upon at once.

Mr. C. A. Locke.—We do not know of the article referred to. It did not appear in THE LANCET.

M. D.'s letter raises important questions which must be considered before we print it.

Student will find a complete list in the Students' Number of THE LANCET.

S. T. is recommended to consult his solicitor.

L. S. A.—It is permitted and usual.

ERRATA.—In the Annus Medicus (THE LANCET, Dec. 25th, 1897) in the section of Dental Surgery reference was made to a paper by Mr. Allan Goadby. The name should have been Mr. Kenneth W. Goadby.—In a report of a meeting of the Midland Medical Society published on Jan. 1st, 1898, a paper is attributed to Dr. Thomas Nelson the author of which was Dr. Thomas Wilson.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 6th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
Dec. 31	29·27	S.W.	0·09	67	52	46	46	47	Cloudy
Jan. 1	29·32	S.E.	...	63	47	45	45	46	Cloudy
" 2	29·59	W.	...	61	48	43	43	44	Cloudy
" 3	30·21	S.E.	...	56	49	39	39	40	Foggy
" 4	30·22	WNW	0·07	53	51	36	38	39	Foggy
" 5	29·98	S.W.	0·36	54	54	39	49	50	Raining
" 6	29·89	W.	...	61	55	50	53	54	Overcast

During the week marked copies of the following newspapers have been received: *Walsall Advertiser, Southampton Times, Bradford Observer, South Wales Daily News, Scotsman, Times of India, Pioneer Mail, Eastern Morning News, Derbyshire Times, Glasgow Herald, Architect, Blackburn Standard, Devon Gazette, Newcastle Chronicle, Staffs Advertiser, Dartmouth Chronicle, Builder, Hereford Times, Sheffield Independent, Liverpool Daily Post, Manchester Courier, Birmingham Gazette, Sussex Daily News, Essex County Chronicle, Leicester Post, Leeds Mercury, Hampshire Telegraph, Bristol Mercury, Brighton Gazette, Le Temps, Sanitary Record, Mining Journal, City Press, Local Government Chronicle, Reading Mercury, Hertfordshire Mercury, Surrey Advertiser, Sanitary Journal, Local Government Journal, Cape Times, Electrical Review, Illustrated London News, Kilrush Health, Public Opinion, Dumfries Courier, Dorset Chronicle, Penrith Observer, Huddersfield Chronicle, Dundee Advertiser, Northern Miner, Horsham Times, Elgin Courant, Herts Reporter, University Correspondent, Yorkshire Post, Western Morning News, Liverpool Courier, Pembroke Dock Gazette, Somerset County Herald, World, Clifton Chronicle, West Middlesex Herald, Kettering Leader and Observer, Jersey Weekly Press, Greenock Herald, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Messrs. C. Ash and Sons, Lond.; Messrs. Armour and Co., Lond.; Ancoats Hospital, Manchester, Secretary of; Dr. C. Allbutt, Cambridge.

B.—Mr. R. Beauchamp, Lond.; Messrs. Burgoyne, Burbidges, and Co., Lond.; Messrs. Black and Co., Lond.; Mr. C. Birchall, Liverpool; Messrs. Bayard, Sons, and Bayard, Lond.; Messrs. W. H. Bailey and Son, Lond.; Mr. G. P. Barton, Lond.; Messrs. A. Bishop and Sons, Lond.; Dr. G. S. Buchanan, Lond.; Mr. F. Brooke, West Bridgford; Messrs. Bates, Hendy, and Co., Reading; Mons. O. Berthier, Paris; Messrs. C. Barker and Sons, Lond.; Barium, Lond.; Mr. W. Brimacombe, Bristol; Messrs. Boas and Hesse, Berlin; Mr. H. Barrett, Sheffield; Dr. Clarence, Beesley; Mr. C. S. Bowker, Newport; Mr. R. S. Bishop, Manchester; B. C. D., Barnsley.

C.—Mr. R. G. Cameron, Lond.; Messrs. J. Cowen and Co., Lond.; Messrs. T. D. Charlesworth and Co., Lond.; Mr. A. Cuffe, Sheffield; Mr. Wm. R. H. Coles, Lond.; Mr. John Carter, Lond.; Mr. P. Ray Choudhuri, Lond.; Corporate and Medical Reform Committee, Lond., Hon. Secretaries of; Mr. R. Cotterell, Lond.; Cortland Wagon Co., Lond.; Mr. F. W. Clarke, Manchester; Mr. W. W. F. Clay, Edinburgh; Mr. F. A. Cooper, Harborne.

D.—Dr. W. C. Devereux, Tewkesbury; Mr. W. G. Dickinson, Lond.; Dr. Di Giorgi, Italy; Mr. N. Daly, Kingston; *Daily Journal* Office, Newcastle-on-Tyne, Manager of; Deptford Medical Mission Convalescent Home, Bexhill-on Sea, Hon. Director of; Mr. H. E. Durham, Cambridge; Dr. H. B. Dow, Lond.

E.—Mr. E. Elliott, Christchurch; Edison Manufacturing Co., New York, U.S.A., Manager of; Eastbourne Hydropathic Establishment, Manager of; Etablissement Thermal, Uriage, France, Director of.

F.—Dr. A. Foxwell, Birmingham; Messrs. F. Festensen et Cie, Bâle; Messrs. Fenn and Stephenson, Diss; Messrs. J. F. Farwig and Co., Lond.; Messrs. A. Faber, and Co., Lond.; Messrs. Freeth and Pocock, Lond.; Dr. A. R. Ferguson, Glasgow; Messrs. J. S. Fry and Sons Bristol; Flintshire Dispensary, Holywell, Secretary of; Finsbury Dispensary, Secretary of.

G.—Dr. W. G. Galletly, Northwold; Dr. A. S. F. Grünbaum, Lond.; Mr. Kenneth W. Goadby, Lond.; Dr. H. Gibbons, jun., San Francisco; Sir George Goldie, Lond.

H.—Mr. J. Hawkings, Lond.; Mr. W. Herbert, Richmond; Messrs. P. Harris and Co., Birmingham; Messrs. Harrison and Sons, Lond.; Mr. W. J. Harris, Hastings; Mr. H. Helbing, Lond.; Mr. R. F. Hobbs, Lond.; Messrs. C. J. Hewlett and Son, Lond.; Mons. T. Heymiens, Gand; *Health*, Proprietors of; Mr. J. Heywood, Manchester.

I.—Iowa State Medical Society, Des Moines, U.S.A.; International News Co., Lond.

J.—Miss J. W. Jackson, Southwick; Dr. C. E. Jenner, Lond.; Jenner Institute for Calf Lymph, Lond., Secretary of; The Jenner Society, Gloucester, Hon. Secretary of; Dr. J. H. Jackson, Lond.; Mr. W. R. Jenkins, New York, U.S.A.; Messrs. W. and A. K. Johnston, Edinburgh.

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ABSTRACT OF THE

Morison Lectures

ON THE

RELATION OF THE NERVOUS SYSTEM TO DISEASE AND DISORDER IN THE VISCERA.

Delivered before the Royal College of Physicians of Edinburgh on Nov. 1st, 3rd, and 5th, 1897,

BY ALEXANDER MORISON, M.D., F.R.C.P. EDIN.,
PHYSICIAN TO OUT-PATIENTS, GREAT NORTHERN CENTRAL HOSPITAL AND THE CHILDREN'S HOSPITAL, PADDINGTON-GREEN.

LECTURE III.[1]

Delivered on Nov. 5th, 1897.

THE PHYSIOLOGY OF VISCERAL CONTROL.

MR. PRESIDENT AND GENTLEMEN.—In considering the relation of the nervous system to secretion, visceral motion, and excretion I desire to touch upon some points in the more recent conceptions of physiologists which are at variance with the views of many of their predecessors and which are still open to discussion. As regards secretion, for example, it may be permitted to inquire what a nerve of secretion is? Secretion like every other form of distal motion being a peripheral, outgoing, or efferent event in its active phase, its immediately regulative nerves belong necessarily to the outgoing or executive series. They are motor nerves. Secretion, however, like every other peripheral activity, is not solely caused by influences entering or leaving a gland and its associated territory. The secreting cell, like the muscle cell, comes into being before, so far as we know at present, it is in touch with nerve elements. There is doubtless, therefore, an essential secretory irritability as there is an essential motor irritability. But the length of time for which either secretion or motion could continue in an independent organism when a given organ is severed from its nerve supply is admittedly a limited period, and the actual length of this appears to be shorter in an inverse ratio to the complexity of the organism as a whole. Thus the reptile survives longer than the mammal when the main innervation of viscera essential to life is divided.

Without aspiring to be defined, as a learned judge is said to have defined the metaphysician—namely, as a blind man looking for a black hat in a dark room, the hat in question not being there—it is permissible to consider with caution and with a just sense of our limitations the centre or centres of energy in the animal economy without reference to the manner in which force is produced or reproduced. As sensation in one phase or another precedes motion in one form or another in more complex and fully developed animals, it may be assumed that the initiating centres of energy are in the sensory portion of the nervous system and that it flows thence down the efferent streams of innervation.

We have seen in the anatomical section that the afferent nerves pass, so far as can be ascertained, through the ganglia which intervene between the periphery and the centre without the interruption of arborisation on intervening cells. The exploded energy on the other hand, travelling down the efferent nerves, encounters innumerable arborisations on intercepting ganglion cells and, like the current of a stream flowing towards its outlet into the ocean, splits or may split into as many fresh channels as arise between the centre and periphery. These fresh channels arise, we have seen, from the innumerable ganglion cells which are formed on the trunk and branches of the efferent system of nerves, cells which transmit and are permeated by the outflowing energy. The question then is, What is the relation of these cells to this energy?

When Langley by the general and local use of nicotine[2] showed that after paralysis of ganglionic cells stimulation of post-cellular fibres could still induce peripheral results he in no way indicated all the functions of the paralysed cell. The question of a peripheral reflex from these cells may, it is true, be regarded as answered in the meantime in a negative sense by physiologists; but the question of a possible storage of peripheral energy in efferent ganglia is not settled by the disproval of a true nerve reflex at the periphery. These cells we have seen are acknowledged to have the power of producing axis cylinders, that is nerve fibres, but are denied other properties than a vague nutritive quality, and the function of distributing a nerve-supply over a wider area than would be possible to the cerebro-spinal fibres alone which enter the ganglion.

The eviscerated heart which when pricked contracts does so, in the light of the fully resuscitated Hallerian theory of nerveless rythmicality, by the explosion of non-neural energy in the muscle fibre. But this is surely an absolute assumption? The assertion, moreover, that this phenomenon can be induced in muscle, assumed likewise to be devoid of nerve supply, must also, we have seen, be regarded with more than scepticism because such nerveless territories have in more than one instance been shown by improved methods of staining to be well supplied with nerves.

The conclusion therefore seems warrantable, until indubitable proof to the contrary has been adduced, that, at least in the fully developed organs of more complex animals, persistent rhythmicality has its proximate and always subordinate centres in the efferent stream of innervation. No one, it appears to me, who has seen the perfect consecutive contraction of the auricles and ventricles in a recently killed animal can avoid the belief that no theory of mere inherent rhythmicality can fully account for this phenomenon. The same lesson appears to be taught by the disorders of rhythmical action observed by the clinician and with which we shall be concerned in a subsequent lecture.

What I have said with regard to cardiac rhythmical action seems to me to apply equally to viscero-motor and vaso-motor action elsewhere. Among rhythmically contracting organs we must also include the arteries and some veins, and the extra-neural situation of ganglia on nerve trunks regulating the vascular supply of such an excretory organ as the kidney seems likewise to suggest that a subsidiary storage of energy in these nerve producing cells is not incompatible with the trophic power more generally conceded to them.

To return to the analogy between secretory and viscero motor innervation, it will be remembered that I described two kinds of ganglia in connexion with the heart—namely, those on the trunks of efferent nerves and those which lie in the intervascular fat at the base of the heart and under the epicardium, it may be close to such efferent trunks but apparently unconnected with them. They also occasionally lie, as has been stated, in close relation to bloodvessels. The latter kind appear to be the distal ganglia of the sympathetic system and probably differ in function as they do in anatomical character from the ganglia of the vagal stream. The deeper relations of these varieties of ganglia to one another are not easy to determine but it is as improbable that they should lose their individuality as it is unlikely that the fibres of their respective nerves should anastomose at the periphery. They doubtless each supply nerves which have a common destination—namely, the muscle cells of the heart and of the vascular system pervading it.

I consider it probable that the term common to the two streams of innervation, which both contain sensory and motor elements, is the muscle cell itself and that the stimulus which calls the one or the other system into predominant activity is physico-chemical in nature and due to cross stimulation of the two sets of nerves. By cross stimulation I mean the stimulation of one set of nerves by the products of the activity of the other. The chemical stimuli, if chemical they be, would I presume be termed by Gaskell anabolic or catabolic according as they were the result of retardation or of acceleration of muscular action. The cross action is probably reflex in character, the anabolic products of retardation stimulating the accelerant sensory nerves while the catabolic products of acceleration excite the afferent sensory fibres of the vagus.

Yielding all over the body to the perpetual encroachments of its predominant partner, the cerebro-spinal nervous system, the last refuge of the sympathetic vainly struggling to be free, was what has come to be known as the hypogastric reflex. This may be observed when the inferior mesenteric ganglion is separated from all its connexions with the spinal cord and when in addition one of the hypogastric nerves issuing from it to supply the bladder is divided. Stimulation of the central end of the latter by electricity is observed in some cases to be followed by muscular contraction of the bladder. To account for such a phenomenon on the assumed residual integrity of some portion of the connexions of the ganglion with the cord does not appear to be quite necessary. Electricity will be conducted by a continuity of conductive material in various directions and the simplest explanation seems to me to be the mechanical stimulation of structures storing and conveying efferent energy—that is, of the ganglionic cells and their centrifugal fibres—in the ganglion in question.

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[1] Lectures I. and II. appeared in THE LANCET of Jan. 1st and 8th, 1898, respectively.

[2] Journal of Physiology, vol. xv., 1893, p. 181.

Before leaving the subject of the efferent passage of energy into the viscera I desire to make a few remarks upon the question as to whether there is any reason to suppose that the progress of the efferent current is influenced by the anatomical character of the chain it traverses. If Kölliker be correct in his belief that visceral afferent fibres reach the centre without arborising on intervening ganglion cells, except in so far as they arise from the ganglia on the posterior roots, while it is admitted that the whole efferent stream of visceral innervation undergoes the interruption or complication of cellular arborisation before ultimate distribution, it might *a priori*, be supposed that such an anatomical difference implied some distinction other than the broad one known to exist between these currents—namely, the sensory nature of the one and the motor nature of the other.

As regards the sensibility of the viscera, the experience of the physiologist, of the surgeon, and of the physician alike, serves to show that its conditions are peculiar. As Professor Foster[3] states, "in respect to all structures other than the skin and nerves, to such structures—namely, as muscles, tendons, ligaments, bones and viscera generally, there is a large amount of experimental and clinical evidence showing that so long as these are in a normal condition experimental stimulation does not give rise to any distinct change of consciousness; a muscle or tendon, the intestine, the liver, or the heart may be handled, pinched, cut or cauterised without any pain or indeed any sensation at all being felt or any sign of consciousness given. Nevertheless when the parts are in an abnormal condition even slight stimulation may produce a very marked effect in consciousness." When we arrive at the clinical portion of these lectures this question will meet us again. My object in referring to these points at present is to emphasise the fact that our perception of pain arising from visceral causes may be as acute as any capable of being generated elsewhere, and that the nature of sensibility except in the skin does not differ appreciably in the somatic and splanchnic divisions of the nervous system.

On the other hand, be the condition of the viscera what it may our voluntary control over the efferent stream of innervation flowing towards them is equally small. The channel to our perceptions, in other words, from the viscera to the brain is potentially quite open; the channel for our will is, somehow, blocked between the brain and the viscera. The emotions, however, affect the viscera as easily as they do the parts supplied by the somatic nerves. The difference, one is tempted to say, between the emotions or feelings and the will is the difference between the afferent and efferent sections of the nervous system, the emotions being sensory and the volitions sensori-motor.

The emotion which arrests the heart's action and checks digestion appears to be a descending inhibition liberating, on the theory advanced, products which under normal conditions of the muscle and secretory cell provide sooner or later a cross stimulation of the complementary sympathetic visceral nerves and hurry the heart into catabolic activity. Whether this holds good also in the case of the gastric and other secretions and a complementary sympathetic juice comes to the aid of the inhibited vagal secretions we cannot so far as I known, positively assert at present. But such experimental evidence as we possess does not appear to contradict such a notion.

The re-habilitation of the scientific reputation of ancient worthies in the sphere of splanchnic physiology is a noteworthy phenomenon. Haller has many supporters of his theory of nerveless rhythmicality in the present day. Remak's accuracy has been vindicated by Paterson in his embryological study of the sympathetic system. I also venture to recall the name of an almost forgotten physician whose views appear to me to contain an element of truth which has not been altogether discredited by subsequent research. Dr. James Johnstone, an Edinburgh graduate, in his "Essay on the Ganglions of Nerves," published at Shrewsbury in 1771, maintained some theses which cannot be supported with our present knowledge of the subject. But in so far as he regarded ganglia as "checks to the process of volition" (p. 22), and if we restrict our meaning to garglia of the efferent stream it appears to me that these structures in their histological condition and physiological behaviour support Dr. Johnstone's opinion. Did the efferent stream pass through the peripheral ganglia without arborising on nerve producing cells, as Kölliker considers the afferent stream does, it is highly probable that our voluntary control of the viscera, if spasmodic, would in any case be as decided as is our perception of pain under certain circumstances when the afferent stimulus is originated in the vegetative organs of the body.

In a discussion preliminary to the consideration of the relation of the nervous system to visceral disease and disorder it is necessary to refer to the connexion between the manifested force which we call "mind" and the non-cogitative functions which we term "body." It will be remembered that in examining the sources of the vago-glosso-pharyngeal nerve in the medulla that view was adopted of the nature of the nucleus, usually regarded as the sensory root of this important nerve stream, which considers it to be a gathering point for afferent fibres of the vagal system whence they are connected with other nerves and with more remote portions of the encephalon. The very general terms I employ in making this statement are a measure of our present ignorance as to particular knowledge on this point. We appear, however, to be justified in regarding the opinion expressed as correct. Ramon y Cajal has described and figured a direct connexion between fibres of the vagus and the ascending root of the fifth nerve and it is very reasonable to expect that continued investigation of this region and of the paths whereby sensory impulses pass from the cord to the cortex cerebri, by staining methods and induced degeneration will prove, still more certainly, that intimate connexion between visceral innervation and the higher nerve centres, which we know on physiological grounds to be quite unquestionable.

It is necessary, therefore, in connexion with our present theme, to inquire shortly into the nature of those encephalic influences and stimuli which such lines of neural conductivity bring to bear upon the viscera and by which the viscera also influence the activity of the higher centres. Were we to be guided by Professor Bain's definition of a definition—namely, that "a definition should itself be intelligible and composed of terms not standing in need of further definition,"[4] it would be hazardous to proffer any definition of mind. Inasmuch, however, as we as physicians must have some more or less definite conception of the forces with which we have to deal, we may be pardoned if we attempt to formulate to ourselves in the generation in which we live, some proximately adequate verbal equivalent for so wide and mysterious a force, even though our mental grasp should embrace but a very small portion of it. With this apology our present knowledge appears to warrant our regarding mind as a mode of vital motion manifested by some cells of the cerebral cortex and as the more or less permanent product or effect of such motion, which we call memory.

Every form of functional activity alters the conditions of the structure manifesting it. This is true of the secreting cell throughout the body. It is no less true of the cells, whose activity results in the manifestation of mind. On a former occasion Dr. Batty Tuke interestingly described the changes which have been observed to result from the normal and artificial stimulation of nerve cells, their obscuration and irregularity induced by wakefulness and work, and their restoration of contour and original character by sleep and rest. Brain cells and the cells of the spinal centres thus, like digestive or salivary cells, manifest changes indicative of work and non-work. When, however, we come to the question of the registration of impressions without apparent anatomical change of parts we arrive at a theme which must still be treated entirely hypothetically, but changes associated with which must, nevertheless, be regarded as existent. Our inability to explain memory and many other elements of mind does not shake our conviction that all these are the results of cellular activity.

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[3] Text-book of Physiology, p. 1420.

[4] The Senses and Intellect, p. 2.

For us as physicians and in connexion with our present theme it is enough that no manifestation of mind can occur without cellular excitation and that such cells are portions of an organism which is one and indivisible however various the functions of its several organs. These cellular activities and persistent impressions are proper to all animal life and are capable of influencing the organism manifesting them for good or for evil. In the microcosm of man, however, we have to deal with a development of ideation as peculiar to him as the maintenance of the erect position. When Mephistopheles wrote in the album of the young student, "Eritis sicut Deus, scientes bonum et malum," that profound judge of human nature added as the awestruck boy withdrew, and with something as nearly approaching a sigh as his highness was capable of, "A weary man thy likeness to the gods will make of thee." This likeness to the gods, however indistinct at times that image may become, the physician has to bear in mind in every department of the healing art outside the sphere of veterinary medicine. Such stimuli by efferent channels act in promoting the health and life or disease and death of the viscera and of the body of which they are a part. Physical disorders, on the other hand, which impair the nutrition of the centres of vital force directly or indirectly produce similar results in various ways with varying rapidity and in varying measure.

How often, for example, do we encounter cases in practice in which the weariness of life causes the patient to desire death when the actual causes of disturbed health or happiness appear to us quite inadequate to account for so much distress. And, again, how frequently do we observe the desire to live to be strong in those the cessation of whose discomfort can only coincide with the termination of life. This despondency in some cases, this unquenchable hope of recovery on the brink of dissolution in others, as also the anxious or calm and heroic struggle for life in yet others, are noteworthy phenomena and reveal to us how complex a creature we have to deal with in man. Could we explain more fully the organic relations of the *tædium vitæ*, of the *spes vivere*, and of that *magna quies*—that grand repose manifested in face of the still greater quietude of death—we should have made a considerable advance in our knowledge of the relation of the nervous system to visceral disease and disorder. To a humble study of some such points in the pathology of visceral control and the clinical phenomena observed when such control is impaired I purpose devoting the remainder of this course of lectures appreciating full well the difficulty of the subject and also my own inability to do it justice.

ŒSOPHAGO-ENTEROSTOMY AFTER TOTAL EXTIRPATION OF THE STOMACH.

BY DR. CARL SCHLATTER,
ASSISTANT SURGEON IN THE SURGICAL CLINIC OF ZÜRICH.

Specially Translated for THE LANCET.

FOR the title of the present paper I have selected the newly-coined expression "Œsophago-enterostomy," my reason being that the phrase "total extirpation of the stomach" as used in the most recent literature is not understood in the strict sense of the word and there is a danger that in the present case a part may be taken for the whole. The few cases which have hitherto been recorded in literature as instances of total resection of the stomach prove on closer examination not to be exactly as described, for without exception a small portion of the stomach, chiefly of the cardiac end, was left behind. Even in the case of the celebrated dog on which gastrectomy was performed by Czerny and Kaiser in 1876, and which so to say lived without a stomach for five years, it was found on post-mortem examination that a small portion of the cardiac end of the stomach wall still remained. I am in the happy position of being able to-day to refer to a patient on whom I have successfully performed an absolutely complete removal of the stomach and have restored the interrupted continuity of the digestive tract by uniting a loop of the small intestine to the end of the œsophagus.

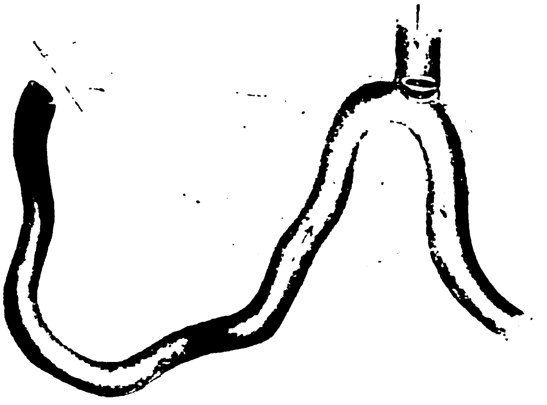
The patient is a woman, fifty-six years of age; she is a silk-winder and has no family history of carcinoma. Even as a child she always suffered from pains in the stomach, since the food in the orphanage where she was brought up was very bad. In later years she frequently suffered from pain in the stomach and vomiting. She has vomited every day since Whitsuntide, 1897. There was bile in the vomit, but blood was never found. The drugs prescribed by a medical man had no effect. Some weeks before she entered the hospital a second medical man was consulted, who recognised a tumour in the left side of the abdomen and recommended hospital treatment. I saw the patient for the first time on Aug. 26th, 1897, in the Surgical Poliklinik. When the abdomen was uncovered a prominence between the left margin of the thorax and the umbilicus immediately came into view. On palpation through the extremely relaxed abdominal walls there could be felt in the gastric region a hard tumour of an elongated oval form of about the size of two fists and remarkably moveable. The patient, who was emaciated to the utmost, complained that she vomited every kind of food alike, even milk, and wished to have an operation performed under any circumstances. I feared that with a tumour of this size resection of the stomach could not be accomplished and that it would be found that the condition of the walls of the stomach would not admit of gastro-enterostomy, but I admitted the patient into the surgical department for the sake of observation and inquiry. She vomited almost all liquid nourishment a short time after it was taken. (The iodide of potassium reaction in the saliva did not appear in less than forty-seven minutes.) Examination of the gastric juice yielded no trace of free hydrochloric acid.

On Sept. 6th, acting as locum tenens for Professor Krönlein, I undertook an exploratory laparotomy in order to gain a more precise knowledge of the tumour and if possible also to decide the question of excision or gastro-enterostomy. Anæsthesia having been induced by morphia and ether I opened the peritoneal cavity with the most careful aseptic precautions by an incision in the linea alba extending from the ensiform process to the umbilicus. As I had feared from the results of the external examination the whole stomach, from the pylorus up to and including the cardiac portion, was converted into a singularly hard but quite moveable tumour which could be easily withdrawn from the peritoneal cavity. On the great curvature towards the pylorus there were three small lymph glands which were soft to the touch. I could not perform gastro-enterostomy because the entire stomach presented no healthy portion and nothing remained for me but either to attempt total resection or else to have recourse to jejunostomy. For obvious reasons I preferred the former alternative.

After shutting off the peritoneal cavity with sterilised compresses I isolated the stomach on its great and small curvatures, separating the great and the small omentum with the aid of Péan's clamps and ligaturing the clamped portions with silk. I then pulled it firmly downwards in order to obtain access to the œsophagus. The left lobe of the liver which covered the field of operation was held up constantly by the hand of an assistant, in which way we succeeded in applying a Wölfler's compressorium to the œsophagus tolerably high up. I applied a Stille's clamp quite close to the cardiac border of the tumour and separated the stomach from the œsophagus just at their point of junction. The direction of the incision happened to be somewhat oblique, so that I found it to be advantageous to reduce the aperture of the œsophagus by means of a small suture. The pylorus was treated in exactly the same way. The duodenum was freed as far as possible towards the head of the pancreas and the stomach together with the pylorus was separated between a "duodenum compressorium" applied as far away as possible and a "tumour compressorium" applied to the duodenal region. The aperture of the portion of the duodenum which remained *in situ* was cleansed with pads of iodoform gauze just as had been already done in the case of the aperture of the œsophagus. An extensive portion in the continuity of the digestive tract was now cut away. I endeavoured to draw up the end of the duodenum to the end of the œsophagus, but it was only with the greatest difficulty that I could bring them into contact, so that the union of the two orifices was not to be expected. I turned in the border of the duodenum and closed the aperture with a double suture.

Starting from the duodeno-jejunal fold I followed the small intestine downwards for about thirty centimetres (12 in.), drew it out at that point, brought it across the transverse colon, and applied it to the end of the œsophagus (see Fig. 1).

FIG. 1.



Lateral anastomosis of the œsophagus and small intestine.

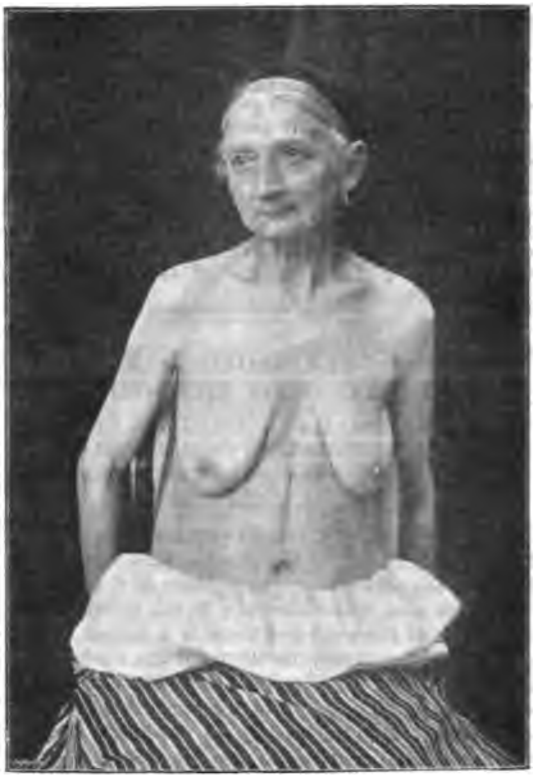
A piece of the small intestine about ten centimetres (4 in.) long being held in Wölfler's compressors the intestine was fixed to the œsophagus by suturing the serous membrane, after which it was incised for about one and a half centimetres (0·6 in.) in the direction of its length and the mucous membrane of the œsophageal part was united in its whole circumference with the mucous membrane of the intestine by means of a continuous circular silk suture. A suture of continuous muscular and serous tissue and a Lembert's interrupted silk suture were applied over the suture of the mucous tissue. The compressors on the small intestine as well as the one on the extremity of the œsophagus, which latter had been in position for more than two hours, were removed. When returned to the peritoneal cavity the sutured parts retracted themselves upwards with some force to the place where the œsophagus traverses the diaphragm. The abdominal walls were closed with continuous silk suturing of the peritoneum and interrupted silk suturing of the fascia and skin. The anæsthesia (230 c.c.—i.e., 8 fluid ounces—of ether) progressed quietly. The pulse after the operation was regular, tolerably full, and 96 per minute.

The excised stomach had on its great curvature a length of twenty-eight centimetres (11 in.) and on its small curvature a length of twenty centimetres (8 in.); the greatest distance between the two curvatures amounted to ten centimetres (4 in.). Its internal diameter was so extremely reduced that at either end a forefinger could only be inserted with difficulty. In order to obtain a decisive opinion as to the extent of the resection I cut off small portions from each end of the excised stomach, sent them to the Pathological Institute for examination, and received a report from Professor Ribbert as follows: "Of the specimens inquired about the one from the cardiac extremity is œsophagus and the other is duodenum." The anatomical description of a portion taken from the tumour of the stomach was "small-celled alveolar glandular carcinoma" ("klein alveoläres Drüsenzellencarcinoma"). The attached lymph glands were not carcinomatous.

Soon after the operation the patient was given an enema containing brandy and two eggs. Her evening temperature was 36·4° C. (97 6° F.). On Sept. 7th she had two nutritive enemata of milk, eggs, and brandy. The pulse was very rapid, being 142 per minute, but it was tolerably firm. The evening temperature was 37·3° C. (99 0° F.). Even as early as the afternoon of this day she had some tea and milk by the mouth and they were taken quite well. There were no symptoms of peritonitis. On Sept. 8th a half glass of Bordeaux was taken at mid-day by teaspoonfuls. The nutrient enemata were discontinued. In the evening the temperature rose to 38·1° C. (100·6° F.), the pulse also rose to 160, remaining however tolerably firm. The patient complained of pains in the region of the stomach coming on suddenly and soon disappearing. On Sept. 9th the subjective conditions were much better. Pepsin and hydrochloric acid were added experimentally to the diet, which consisted of milk, eggs, soup, wine, &c., taken in small quantities at intervals of two hours. The pulse was 146 and satisfactory. The highest temperature for the day was 38·1° C. (100·6° F.). On Sept. 13th the dressings were changed for the first time. The wound was completely healed by primary union without reaction. The stitches were removed. The patient took some scraped meat to-day. The first action of the bowels after the operation took place on Sept. 10th, since which date the patient has had from two to three liquid evacuations daily. Now and then the milk which had been taken was brought up, but without actual vomiting. On Sept. 16th the patient felt herself very well in all respects. The temperature had returned to the normal point; the pulse had fallen to about 100; there was slight diarrhœa. Her dietary was tolerably ample in amount, being as follows: Two decilitres (7 fluid ounces) of milk and an egg at 7 A.M. and again at 9 30 A.M.; at mid-day some tender meat, scraped or minced, or a cup of gruel; at 4 P.M. a cup of gruel with an egg, or two decilitres of milk with an egg; at 7.30 P.M. a cup of milk or gruel. In the intervals she drank from 150 to 200 grammes (from 6 to 8 fluid ounces) of tea or Malaga in the course of the day. She vomited to-day for the first time as the result of a feeling of nausea occasioned by another patient in the ward having her dressings changed. She went through the forcible movements of vomiting and brought up about 100 c.c. (3½ fluid ounces) of a bile-stained, faintly sour-smelling liquid.

On Sept. 26th she had half of a fowl at mid-day and ate all the remainder of it at 4.30 P.M. At 6.30. P.M. she took the usual allowance of milk with egg. At 7.30 P.M. she was sick, the abdominal muscles contracting powerfully and the act of vomiting being energetic. She brought up about 300 c.c. (10½ fluid ounces) of liquid, the greater part of which evidently was the milk that had been taken an hour before, together with fibres of meat from the repast at 4.30 P.M. Shortly before vomiting she complained of bitterness and a taste of bile in her mouth. On Oct. 2nd and Oct. 4th she vomited again about 200 c.c. (7 fluid ounces) of yellowish masses, free from fæcal odour, about an hour after taking food; some portions of egg were floating unchanged in the vomited matter. On Oct. 8th about 150 c.c. (5¼ fluid ounces) of mucous fluid, yellowish but not flocculent, which had been vomited three-quarters of an hour

FIG. 2.



Photograph of patient taken on Nov. 22nd, 1897, eleven weeks after the removal of her stomach.

after taking milk and egg, were sent to the chemical laboratory of the Medical Klinik. According to the chemical report annexed to the history of the case, the vomited matter had an acid reaction, contained lactic acid, but no free hydrochloric acid, and evidently possessed the qualities of the ferment trypsin. Biliary acids and bile colouring matter were also present. (The prescription of pepsin and hydrochloric acid had been discontinued for some time.) The patient (see Fig. 2) left her bed for the first time on Oct. 11th. On Oct. 25th she felt herself extremely well in all respects; she had by this time been taking short walks in the garden for some days. Her weight increased continually in a gratifying manner. Unfortunately the precise recording of the weight was discontinued as the patient improved, but she must have gained at least 2 kilos. (4½ lb.) up to Oct. 5th, on which day she was first weighed after the operation, the length of time for this increase being therefore about a month. In the ensuing week her weight rose from 33·6 kilos. to 33·75 kilos. (from 74 lb. to 74¼ lb.). A week later it reached 35·26 kilos. (77½ lb.), and to-day (Oct. 30th) it has risen to exactly 36 kilos. (79 lb.). On the whole she has therefore gained in weight about 4 4 kilos. (9½ lb.) since the operation, that is in about two months.[2]

I have now to enter into details on a technical point. Langenbuch remarks[3] with reference to his cases of gastrectomy: "Neither of our two resections of the stomach were absolutely complete. Such an operation would be hardly practicable on account of the relations of the cardiac portion which, moreover, like the head of the humerus, has its anatomical and its surgical neck. But having regard to these considerations our two operations may be correctly described as total resections of the stomach, for in both of them as much was taken away as appeared at all possible from a practical point of view." The demarcation between the œsophagus and the cardia is so sharply defined by the transition from squamous to cylinder epithelium that there cannot be two opinions about it. The microscopical examination of the cardiac margin of the excised stomach, conducted by Professor Ribbert, showed incontrovertibly that in the present case the resection involved the œsophagus. And yet I must admit that after the operation was completed it was not quite intelligible to me on anatomical grounds how it was that I obtained comparatively easy access for suturing the œsophagus; in fact, I pulled it downwards with considerable force towards the stomach whereby the portion of it below the diaphragm was made materially longer. I discussed this subject with anatomists who explained that it was a well-known circumstance that the portion of the œsophagus below the diaphragm, which is normally about 3 centimetres (1¼ in.) in length, can be considerably increased by traction, and by some experiments on the dead body I was able to satisfy myself that the œsophagus is capable of being moved lengthwise in the foramen by which it traverses the diaphragm. After the removal of the Wölfler's clamps the œsophagus in our case was strongly retracted upwards. Perhaps also the weight of the gastric tumour had by its long-continued traction contributed to the lengthening of the sub-diaphragmatic portion of the œsophagus.

In selecting the patient's dietary I had principally to keep in mind the functions of which she had been deprived by the complete removal of her stomach. Of course it was some encouragement to me to feel that in the present case the extension of the cancer had already reduced the functions of the stomach to a minimum, if it had not in fact destroyed them altogether, and the patient's recovery provided an instance of an excellent compensation for the loss. But even though the stomach has henceforth and for ever lost the time-honoured halo of glory by which it was distinguished as being the chief organ of digestion according to modern physiology, its functions will always be of the utmost importance from a physical and chemical point of view, neither is there any prospect of its owner being quite able to do without it. To begin with, the stomach is of great importance as a reservoir for receiving the food. In the next place its mechanical action has the effect of thoroughly mixing its contents with the gastric juice, a secretion containing free hydrochloric acid and pepsin, the latter of which has the power of breaking up and dissolving a portion of the solid albumin of the food and of converting it into the so-called albumoses and peptones. The hydrochloric acid of the stomach is supposed to protect the intestine from bacterial infection and to exert a restraining action upon fermentation and putrefaction in the intestine. A certain amount of absorptive power is also attributed to the stomach.

I will now proceed to consider the conditions which resulted in consequence of each and all of these functions of the stomach being no longer in operation during and since the recovery of our patient. I naturally endeavoured to make up for the absence of the reservoir accommodation of the stomach by giving reduced quantities of food at shorter intervals than usual, so that as long as the patient took proper care she did not suffer from troubles due to this cause. Some few times it seemed to me that vomiting was caused by greatly overloading the digestive tract with a quantity of food amounting to or exceeding 300 c.c. (10½ fluid ounces) all at once. There was, however, another matter of more consequence — namely, that I did not at first sufficiently take account of the fact that the stomach, in addition to being a reservoir, adjusts the temperature of the food. As in the after-treatment of other laparotomies I allowed cold tea and milk to be given during the days immediately following the operation. The attacks of diarrhœa and the slight increases of temperature in the course of these days may with the greatest probability be ascribed to enteritis caused in that way. Bearing in mind the absence of the mechanical action of the stomach, dietary articles were selected which pass out of the stomach as easily and quickly as possible, irrespective of its state of functional activity. From this point of view fluid foods are obviously the best. In the first week we confined ourselves strictly to those in the form of milk, milk with brandy, soup (bouillon), soup with egg, and such like. In the second week the patient took without inconvenience minced meat, thick gruel ("breiige Mehlspeisen"), and 100 grammes (3½ fluid ounces) of Malaga in the course of the day. In the third week she was able to take sausage and fowl and at a later period even chops, roast veal, and baker's rolls quite well. If her powers of mastication had been better I would at the last have permitted her to have the full allowance for a patient, but unfortunately she possessed only one tooth and that was a decayed stump. She usually took her food at intervals of from two to three hours. The daily quantity consumed consisted on an average of about a litre (35 fluid ounces) of milk, two eggs, from 100 to 150 grammes (from 4 oz. to 6 oz.) of groats, 200 grammes (7 oz.) of meat, 200 grammes of gruel made with oatmeal or barley, one glass (? cup) of tea, and generally two rolls with 15 grammes (½ oz.) of butter.

I was especially apprehensive of the effect which the absence of the chemical functions of the stomach would produce on the patient's system. Fats and carbohydrates are but little affected by the gastric juice itself; they are dealt with almost exclusively by the intestinal digestion, but the case is the very reverse with the albumin and the albuminous bodies contained in the food, for it is the stomach that acts on them. At the outset I naturally hoped to make up in some degree for the absence of the gastric ferment by the administration of hydrochloric acid and pepsin as ordinarily prepared, not reflecting that in the intestine the hydrochloric acid would be immediately neutralised by the alkaline ferment of the pancreas and that pepsin in an alkaline solution is inert. I however discontinued this treatment very soon. In the course of the patient's recovery I was able to make the very gratifying observation that she obtained all the benefit of the albuminous constituents of her food, notwithstanding the absence of hydrochloric acid and pepsin. The analyses of the fæces and urine, which were made every day in the chemical laboratory of the Medical Klinik in Zürich by Dr. Wroblewski, showed a remarkably small quantity of nitrogen, thereby indicating a very abundant absorption of albumin; moreover, the assimilation of carbo-hydrates proved to be normal, as was to be expected. During the last few weeks the fat in the fæces was somewhat increased in amount, which could be easily accounted for by the richness of the patient's diet. Biliary acids were also recognised in the fæces. De Filippi in his investigations on metabolism in the dog after extirpation of the stomach refers[4] to a deficiency of biliary acids as the only abnormality in the fæces. This fact had been already mentioned by Ogata, who ascribed the deficiency of biliary acids to the absence of hydrochloric acid, the consequence being that the taurocholic acid was not set free. In addition to these chemical analyses I have had the fæces examined microscopically, the troublesome task having been most kindly undertaken by Dr. Habel. His report, which was based on a series of continuous observations, was as follows: The fæces were always of a firm consistence and well moulded, pale yellow in colour, and homogeneous in texture. On microscopical examination there were found tolerably numerous fat globules, numerous acicular fatty crystals (a normal condition with a milk diet), and occasional undigested portions of vegetables, but no undigested muscle fibres or connective tissue fibres; there were also numerous crystals of triple phosphate. Bacteria were not abnormally numerous. Muscle fibres or connective tissue fibres were not found even when an experiment was made by giving the patient stringy boiled meat. The general result is that not the slightest deviation from the normal condition was revealed by the microscopical examination of the fæces. When I further recall to mind the fact in the patient's history that she has increased in weight by close on 5 kilos. (11 lb.) since the operation everyone will be convinced that there may be normal assimilation of the albuminous principles of the food notwithstanding the absence of the stomach without my presenting a full and precise table of the analytical determinations of the metabolic process.

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[2] On Nov. 20th the patient was still in the Surgical Klinik for the purpose of further chemical and physiological investigations. She then felt quite well, was out of bed and at work all day long, took with few exceptions the ordinary diet of the patients, and has gained 500 grammes (about 18 oz.) in weight since she was shown at Olten, the total increase since the operation being therefore close on 5 kilos. (11 lb.).

[3] Deutsche Medicinische Wochenschrift, 1894, p. 969.

[4] Deutsche Medicinische Wochenschrift, 1894, p. 780.

It is the trypsin of the pancreatic ferment which possesses such a power of dissolving proteids as to render pepsin digestion entirely superfluous. This observation is quite in accordance with the results of the above-mentioned experiments on animals made by Kaiser, Pachon, Carvallo, and de Filippi, whose dogs showed no changes in their metabolism notwithstanding the absence of their stomachs. The experiment of Czerny and Kaiser, whose dog however retained the cardiac portion of its stomach, is quite conclusive, as are also the experiments of Ludwig and Ogata who were able to nourish dogs sufficiently well on fowl's eggs beaten up and minced meat, which were injected into a duodenal fistula without passing through the stomach. Ogata's explanation which his observations bear out is shortly this, that albuminous bodies, articles of food, and boiled connective tissue can be changed and prepared for absorption by the small intestine alone just in the same manner as by the combined operation of the stomach and the small intestine. If, however, the connective tissue introduced into the pylorus was not boiled but raw it was voided by the rectum in from six to eight hours after ingestion; the gelatin-producing fibres retained their shape perfectly and could be dissolved to a jelly by boiling.[5] The result was always the same whether the connective tissue was administered alone or mixed with eggs and muscle fibres. Accordingly in fæces derived from meat there was always found an abundant confused mass of fine fibres such as ordinarily occur among the muscular bundles.

In recent literature there are also recorded a few cases of jejunostomy in the human subject in which uniformity in the assimilation and excretion of nitrogen could be maintained for a considerable time. Friedländer[6] injected both soluble and insoluble forms of albumen directly into a loop of the small intestine of dogs, killed the animals after four hours, and examined the contents of the loop of intestine. The greater part of the egg albumen and the serum albumin was already absorbed as well as that of the alkali-albuminate and the albumoses.

The possibility of doing without the function of digestion as it is conducted in the stomach is also evident from many clinical observations. For instance, Ewald and Einhorn showed before the Hufeland Society cases in which complete and long-continued non-secretion of gastric juice was demonstrated. Von Noorden[7] has shown by investigations of the phenomena of nutrition that patients in whom the power of secreting hydrochloric acid in the stomach was completely in abeyance and in whom there was consequently no pepsin digestion were nevertheless enabled to derive full benefit from their food just as if their stomachs had been in the ordinary condition. No more than a normal proportion of the considerable quantities of albumin and fat which they took was lost in the fæces.

Moritz[8] has made an extremely instructive investigation of the phenomena of nutrition in the case of a patient who in addition to loss of the faculty of gastric digestion, due to absolute non-secretion of hydrochloric acid and pepsin, suffered from the embarrassing complication of chronic intestinal catarrh, the result being that the food which was taken was hurried through the entire digestive tract in an average period of five hours. The patient, however, was well sustained by the fat and carbohydrates of his food and there was also a considerable amount of albumin absorbed, although some of it was lost.

Moritz endeavoured to elucidate the conditions of normal gastric digestion in the dog by means of a duodenal fistula which was situated close to the stomach and through which the contents of the stomach as they escaped from the pylorus were intercepted and further examined. By these investigations it was found that with a great proportion of the food the only effect of the chemical action of the stomach was to convert it into a slippery pultaceous mass which was then sent through the pylorus. When the dog was fed on minced raw meat 58 per cent. of the quantity was discharged into the intestine in an undissolved condition. The pylorus even allowed small pieces of sausage to pass through, although they were retained for a considerable time. Moreover, the absence of the milk-curdling ferment does not create any notable derangements. It is not necessary to suppose that it is replaced by an acid fermentation for the intestinal canal possesses a milk-curdling ferment of its own. Roberts, Harris, and Gow have drawn attention to the fact that all the pancreatic extracts coagulate milk and the mucous membrane of the small intestine seems to secrete a ferment of this kind throughout its whole extent.[9]

Our patient supplies a valuable contribution to the solution of the question whether the hydrochloric acid of the stomach has or has not an influence on the process of putrefaction in the intestine. Her urine and fæces were examined for putrefaction products regularly every day and I always received from the chemical laboratory the report that skatoxyl and indoxyl were either altogether absent from the urine or were present only in traces. It was only on three consecutive days that the analyses showed the proportion of indoxyl and skatoxyl to be increased. The proportion of indol and skatol in the fæces was not abnormal. This result agrees perfectly with that obtained by von Noorden in his researches. He made forty-six separate determinations in the case of eleven patients who had almost completely lost the faculty of secreting hydrochloric acid and he was so far from confirming the researches of Kast and Wasbutzki that he met with only five instances in which the products of decomposition of albumin derived from the intestine and appearing in the urine as ethereal sulphates were greater in amount than might have been expected with patients whose stomachs were healthy. Our patient, as the outcome of numerous experiments prolonged for many weeks, supports the conclusion of von Noorden (in opposition to recent researches in Baumann's laboratory), that deficiency of hydrochloric acid in the stomach exercises no influence on the progress of the natural putrefactive processes in the intestine.

The antiseptic action of the gastric juice upon various pathogenic organisms, although proved by a series of beautiful researches, must not be over-estimated. Falk and Frank found that the gastric juice destroyed anthrax bacilli but not the spores which the bacilli contain. The tubercle bacillus, however, was not destroyed by the gastric juice. Like Falk, Frank also comes to the conclusion that the digestive juices do not oppose any general or active resistance to the attacks of pathogenic organisms. Quite recent inquiries also lead us to suppose that the absorptive activity of the stomach is much less than we have hitherto been accustomed to believe. In experiments made on dogs in which duodenal fistulæ were established von Mering[10] and Moritz[11] were able to prove that the whole of the water which was given to the animals to drink left the stomach again by way of the pylorus in a relatively short time—generally within from twenty to thirty minutes—without its amount being reduced by absorption into the stomach; on the contrary, in many experiments a few extra cubic centimetres were collected if the stomach happened to be secreting fluid. In one of Moritz's experiments of feeding with meat only 5 per cent. of what was taken was absorbed by the stomach during the period of seven hours for which the experiment was continued. In an experiment with milk 11 6 grammes of mixed casein and albumin were swallowed and as much as 13·5 grammes were discharged from the pylorus, the surplus being accounted for by the fact that the secretion of the mucous membrane contained mucin and was mixed with the contents of the stomach. A high rate of absorption was found for only one substance—viz , for alcohol. Von Mering's[12] experiments prove that an abundant flow of water into the stomach takes place simultaneously with the absorption of alcohol. The more concentrated the ingested alcohol is the more of it is absorbed in the stomach, and the larger the quantity of water which exudes into the stomach. Sappeiner, Legall, and Brandl[13] observed that the absorption of other substances was promoted by the addition of alcohol. Sugar[14] was also absorbed in moderate quantity, peptone and dextrin to a small extent. It is therefore proved that the absorption of the principal articles of food in the stomach, alcohol excepted, is quite insignificant.

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[5] Archiv für Anatomie und Physiologie (Physiologische Abtheilung), 1883, pp. 98–104.

[6] Zeitschrift für Biologie, Bd. xxxiii., N.F., Bd. xv.

[7] Von Noorden: Lehrbuch der Pathologie des Stoffwechsels, 1893, and Zeitschrift für Klinische Medicin, vol. xvii.

[8] Münchener Medicinische Wochenschrift, 1895, No. 49.

[9] Gamgee, p. 483.

[10] Verhandlungen des Congresses für innere Medicin, Twelfth Congress, 1893, p. 473.

[11] Loc. cit., p. 1144.

In addition to these points of a specific functional nature the case is of interest in a good many other respects. For one thing the question presents itself—Is there after removal of the stomach a change in the rate at which food passes through the intestine? Richet observed in a case of gastric fistula that in the human subject the quantity of food in the stomach did not change materially during the first three hours but that after that almost everything was expelled in the course of a quarter of an hour. Kühne has made similar observations both on patients and on dogs. According to other investigators the emptying of the stomach in the human subject takes place only by degrees. Beaumont, in his numerous observations upon St. Martin, the Canadian hunter, found that in general the stomach was empty in from one and a half to five and a half hours after meal times according to the varying nature of the food. Obviously the time of passage through the entire digestive tract ought to be proportionately shortened in a person whose stomach has been removed. The residual fragments of the food which our patient had eaten were so very scanty that I could draw no conclusions from her defæcations, which took place at the most once a day and often only every second day. As she was unwilling to take wood charcoal I had recourse provisionally to an experiment with whortleberries. Boiled whortleberries passed in the fæces three times twenty-four hours after they were eaten. The daily analyses of the urine did not show any mentionable deviations from the healthy condition; the only striking feature was a persistent diminution in the amount of chlorine excreted, recurring in every daily chart. The proportion of chlorine, or rather of sodium chloride, fluctuated for the most part between 0·6 and 0·8 per cent., the smallest amount being 0·53 per cent., and the greatest 0·95 per cent. As however the quantity of salt contained in the food has a preponderating influence on the proportion of sodium chloride in the urine, and as our patient's diet was remarkably poor in salt as compared with ordinary fare, I do not venture to draw further conclusions from these observations.

The patient's clinical history makes mention of four attacks of vomiting, an exceedingly peculiar symptom in one who did not possess a stomach, and very disconcerting to those who are inclined to ascribe to the anti-peristaltic movements of the stomach wall an essential part in the act of vomiting. For some time after the operation the patient had only regurgitation of food now and then; the first typical attack of vomiting occurred in the third week, when nearly 300 c.c. (10½ fluid ounces) of food in a pulpy condition were vomited by mouthfuls about an hour after a somewhat hearty meal. On another occasion the vomiting was attributable to a feeling of revulsion which she experienced in consequence of the dressings of the patient in an adjoining bed being changed. On chemical examination 100 c.c. of the filtered vomit, which was acid, were neutralised by 3·4 c.c. of decinormal caustic soda solution. It contained lactic acid, bile acids, and bile pigment, but no free hydrochloric acid. The vomit showed evidence of the action of the ferment trypsin. The conducting tube of the small intestine, which was perhaps by this time somewhat dilated, must be considered as the main reservoir containing the quantity of about 300 c.c. (10½ fluid ounces) which was vomited.

How was the act of vomiting accomplished in this patient? Magendie[15] energetically upheld the opinion that the stomach plays an entirely passive part in the act of vomiting, and that its contents are expelled by the combined action of the contractions of the diaphragm and the abdominal muscles. He believed that he had proved this by the well-known experiment in which he excised the stomach and replaced it by a pig's bladder filled with water and united to the lower part of the œsophagus by a flexible coupling. When an emetic was introduced by a vein into the circulation of an animal prepared in this way the contents of the bladder were transferred to the creature's mouth by a normal act of vomiting. Santini made the important discovery that the experiment just described succeeds only when the stomach is removed *together with the cardia*, and he subsequently devised an arrangement for preventing the food coming up. There is no difficulty in explaining the starting-point of vomiting even in a person who has no stomach. Vomiting is a complicated operation associated with quite a number of phenomena of movement in the stomach, the œsophagus, the pharynx, the diaphragm, and the abdominal muscles. Such complicated movements can only be set a-going by the nervous centres. The centre for vomiting is acted upon reflexly not only by the stomach but by various other organs especially by those of digestion and by the pharynx, the œsophagus, and the intestine. In one of the attacks of vomiting already mentioned the reflex influence was purely mental, the exciting cause being an accidental feeling of revulsion; in the other cases it originated from the lower part of the œsophagus or from the small intestine and was perhaps due to the mechanical irritation of these parts by too liberal a supply of food.

The etiology of gastric tetanus is a subject of great interest both physiologically and clinically and may obviously be discussed in connexion with this patient's case. This condition was first described by Kussmaul, and subsequently by Gerhardt, Müller, and others; von Mering[16] also observed the same combination of symptoms in dogs in which duodenal fistulæ were established. Milk was liberally supplied to the small intestine and was well absorbed by it, but in from three to eight days after the operation convulsive movements of the limbs and the facial muscles supervened, the animals' limbs became stiff so that they did not walk freely, they groaned, ground their teeth, showed sometimes palsy of a limb and as a regular thing a greatly increased reflex irritability; drowsiness with sighing respiration succeeded and they soon died. The cause of this gastric tetanus was supposed by von Mering to be the absence of the secretion of the mouth or the absence of a substance secreted by the stomach (hydrochloric acid, mucin, &c.). In our case the absence of the entire gastric secretion has not up to the present time produced even one of these symptoms in the faintest degree. It must be admitted, however, that this is not an absolute disproof of the gastric origin of the disease, for as was remarked by von Mering, it is conceivable that the formation of the substance in question is of no consequence for the maintenance of life but that, on the other hand, life is endangered when the substance which would be formed under normal conditions is no longer returned to the circulation.

There still remain a number of interesting questions, principally of a chemico-physiological nature, some elucidation of which we hope to obtain through the medium of our patient; the time of observation has, however, been too short to justify me in entering on them at present. In fact, what precedes is to be accepted as a provisional communication, further observation and research being necessary before definite opinions can be arrived at.

The scientifically and practically important question whether the total removal of the stomach in the human subject is compatible with a continuance of life has with great probability been answered in the affirmative by the case which has now been briefly narrated. The stomach is essentially an organ for the protection of the intestine, mitigating or removing such properties of the food as might have an injurious influence on the intestine. Provided that the food is of suitable quality the intestine is quite competent to perform the chemical work of the stomach.

Postscript by Dr. Schlatter of date Jan. 10th, 1898.—The patient still remains in the Zürich Surgical Clinic for the purpose of further chemical and physiological investigations.

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[12] Loc. cit., p. 477.

[13] Moritz: loc. cit., p. 1144.

[14] Hammarsten: Lehrbuch der Physiologischen Chemie, 1891, p. 158.

[15] Hermann: Handbuch der Physiologie, 1883, vol. v., part 2, p. 435.

[16] Loc. cit., p. 474.

She feels perfectly well and is out of bed all day long, busily engaged in various employments. She takes with few exceptions the ordinary patients' dietary, consisting of farinaceous food (Mehlspeisen), meat, fruit, and vegetables such as beans, peas, &c.; milk diet. however, is considered to be the most wholesome for her. Her weight was found on Dec. 3rd and Dec. 17th, 1897, to be 37·5 kilos. (82½ lb.), so that she has gained in weight about 6 kilos. (13¼ lb.) since the operation. On Dec. 23rd she was seized with severe angina (i.e., tonsillitis or sore-throat) and had an evening temperature of 39·8° C. (103·6° F.). This illness had the effect of bringing down her weight to 37 kilos. (81½ lb.) on Dec. 31st, 1897.

Zürich.

THE ACTION OF VERATRUM VIRIDE IN A CASE OF PUERPERAL ECLAMPSIA.[1]

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THE patient was a married woman, aged forty years, a multipara, whose previous confinements had been attended with no difficulty. The patient was seen on July 5th, being then in the ninth month of pregnancy. The first indication of anything abnormal in her labour took place on the evening preceding the day on which the child was born. She had suffered for years from what she defined as bilious headaches attended with severe sickness and occasionally fainting. What seemed to be one of her ordinary headaches was being undergone when about 6 P.M. her mother thought the patient had something like a fit. It lasted, however, only a few minutes. I was sent for at nine o'clock the same evening and found her complaining of severe headache which she alleged to be of her usual type. Her pulse was 120 and hard, the respirations were 22 per minute, the pupils were contracted, the tongue was furred, there was an offensive odour with the breath, and the legs and feet were swollen. I waited for one and a half hours because, in spite of her own idea that she had had no fit although she might have fainted, I suspected the possibility of puerperal eclampsia.

I was not sent for again till 5.30 next morning and was then told that she had had several attacks—at 1.30 A.M., at 4 A.M., and again at 5.30 A.M., after which she had lost consciousness. Only then the friends sent for me. When I arrived she was just passing into another fit which was severe, lasting for about five minutes. After the fit she was quite unconscious; there was a firm, strong pulse of 100, the respirations were 28, the pupils were contracted, the corneal reflex and other evidence of sensation being abolished, and the face was livid and puffy. I resolved at once to try veratrum viride, which had yielded such good results in the hands of Professor Stephenson some time previously. My efforts to obtain it from the druggists were, however, fruitless. I then took the liberty of asking Professor Stephenson for a supply, which he kindly consented to give and at the same time volunteered to come and see the case. From the time of my arrival till the coming of Professor Stephenson four other convulsive seizures took place, increasing in violence. Meantime vaginal examination revealed a rigid os of about the size of a shilling. Uterine contractions took place at irregular intervals between the fits. Immediately on the arrival of Professor Stephenson, at 8.15 A.M., a 5 minim hypodermic injection of the fluid extract of veratrum viride was given in the forearm. At this time the pulse varied in rate from 92 to 100 per minute and was hard, firm, and bounding. The temperature taken immediately after a fit was 100° F. The skin was moist and sensation was still absent. At 8.30 A.M. the pulse was 84, softer in character, with less of the firm, bounding nature and slightly unequal in the value of its beats. The skin was more moist. The patient moaned a good deal; stimulation of the reflexes gave no result. At 8.35 A.M. the pulse was 72, and at 8.40 A.M. it had slowed to 54. The reflex of the cornea was now apparent and the patient raised her hand to ward off my finger from the eye. At this time she made efforts at vomiting and the skin became covered with moisture. At 8.50 A.M. the pulse was still 54, soft and compressible and vomiting took place, which was bilious in appearance. At 9.5 A.M. the pulse was 52 and very soft in character. A considerable quantity of bile-stained mucus was coughed up and there were frequent attempts at vomiting. Uterine pains proceeded; the external os had dilated to 1½ inches; the internal os had the head engaged; and the external parts were moist and natural. At 9.10 A.M. the right eyeball was rolled downwards and inwards, the left also, but not so much as the right. The pulse now varied from 58 to 60, and more evidence of consciousness was given in response to the touch. A large quantity of bilious-looking material was vomited and the skin was very moist. At 9.15 A.M. the pulse was 52 and the temperature was 99·5°. At this time Professor Stephenson began to deliver the child. At 9.43 A.M. the pulse was 60 while the foot was being brought down. At 9.55 A.M. the child was born; at 10.5 A.M. the placenta came away; there was no hæmorrhage and the uterus contracted well. At 10.15 A.M. the pulse was from 54 to 60, the temperature was 100·4°, and the respirations were 28. At 11.10 A.M. the plantar reflex was present, the pulse was 60 per minute and soft, the temperature was 99·8°, and the respirations were 24; there was less moaning with the breathing and an appearance of downward pressure with respiration; strabismus of the right eye and the corneal reflex were present, the colour of the face and lips becoming more natural. At 4.15 P.M. in the afternoon Professor Stephenson called and made the following note. "The patient had rested quietly since one o'clock; the breathing and colour were good; she resented the opening of the eyelids; took four teaspoonfuls of brandy-and-water, responded to spoon, and swallowed naturally; resisted abdominal examination; there was slight moaning as if half conscious; the pulse was 56." I called at 9.15 and found the patient sleeping, breathing deeply and quietly; she resented any attempt to open the eyelids and said, peevishly, "Be quiet." The pulse was 60 and fuller and firmer than in the morning, the respirations were 16, the temperature was normal, and the lochia were about normal in quantity. The patient's colour was good. No vomiting or coughing of froth had taken place since 1 P.M. She became conscious about 10 P.M., asked a few questions, and then got mixed in her ideas. She soon fell asleep, however, and slept nearly all night. I found her awake at 10.30 next morning and able to do what she was asked. The tongue was dirty and swollen and the breath had an offensive odour. The pulse was 80, firm, strong, and steady; the respirations were 20; the temperature in the mouth was 99·2°; the right eyeball rotated inwards and downwards; and she complained of headache and pain all over the body. The quantity of urine passed during the night was 20 oz. At 5.50 P.M. the pulse was 80 and the patient was sleeping. On the 8th—that is, the second day after the birth—the pulse was 80 and the respirations were 20; the temperature was normal; the eyes were strabismic and she complained of headache; the strabismus disappeared on the succeeding day. From this time onward the patient progressed steadily towards complete recovery. I may state that after the disappearance of the lochia examination of the urine showed a considerable quantity of albumin to be present. The patient has still traces of albumin in the urine as a recent examination shows.

It may be useful to give a short description of veratrum viride as the drug is not specially well known. The dry rhizome and rootlets are the parts used. It is an American plant and inhabits swamps, moist meadows, and the banks of mountain streams. It is most abundant northward but reaches as far south as the Carolinas. It flowers from May to July and it is a moot point whether the rhizome should be collected in autumn or just before flowering time. It ought not to be used if it has been kept longer than a year as it deteriorates. The rhizome is from an inch to two inches in length by three-quarters of an inch in breadth, of a chocolate-brown colour externally, and is closely invested with numerous yellow, wrinkled rootlets an inch or two inches long. The rhizome has a bitter, acrid taste, is inodorous, but produces sneezing when snuffed in powder form. The United States officinal preparations made from it are the liquid extract and the tincture. The dose of the liquid extract is from one to three minims and of the tincture from three to six minims. Its chemical composition, given by Bullock, who first discovered the alkaloids, was veratrine and veratroidine, both of them alkaloids, and a resin. It is somewhat more complex, however, as may be seen from the result of the researches of Wright and Luff. In veratrum viride they found jervine, pseudo-jervine, cevadine, a little rubi-jervine which is the same as Bullock's veratroidine, and traces of veratrine and veratralbine.

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[1] A paper read at a meeting of the Aberdeen Medico-Chirurgical Society on Dec. 2nd, 1897.

I may summarise the medical uses and properties of the drug. It reduces the force without at first lessening the frequency of the pulse, but after a time the pulse-rate falls very much. If exertion be made during this stage of depression the slow pulse will be suddenly converted into an exceedingly rapid one. The slow pulse is sometimes moderately full, but is always soft and compressible. The rapid pulse is exceedingly feeble and small and may become imperceptible. Severe nausea and vomiting accompany or follow the reduction of the pulse-rate. During the stage of depression there are always decided muscular weakness and relaxation. Veratrum viride is looked upon as a powerful spinal and arterial depressant exerting little or no direct influence upon the cerebral centres. Its alkaloid jervine lowers the pulse rate by its direct action on muscle and its alkaloid rubi-jervine or veratroidine lowers it by stimulating the inhibitory nerves. Its jervine diminishes the force of the heart beat by a direct influence upon the cardiac muscle, and by producing a general vaso-motor paralysis more or less complete according to the size of the dose. By the action especially of the jervine the spinal motor nerves are directly depressed. Neither the sensory centres nor the motor and sensory nerves are distinctly affected. Veratrum viride is used in practical medicine, therefore, to reduce arterial excitement and to quiet spinal spasms.

Remarks.—The case is interesting as one of puerperal eclampsia treated solely by the action of veratrum viride, and therefore one is presumably free to deduce that the improvement which followed was due to the action of the drug. The outstanding features in the action are the lowering of arterial tension, the slowing of the pulse-rate, and the absence of convulsive seizures after the dose of the drug was given. Within fifteen minutes of administering the dose there was a perceptible change in the character of the pulse. It had been firm, hard, and bounding, but now became softer, was full and easily compressible. The number of the beats was also reduced from 92 or 100 to 84 and there was slight inequality in the value of the beats. Five minutes later the pulse-rate was reduced to 72; in another five minutes the pulse had become 54 and fifteen minutes later still it had reached its minimum of 52. Afterwards for two hours the pulse-rate was taken at intervals of fifteen minutes and kept varying from 54 to 60 per minute. When taken five hours later it was still 56 and five hours later again it was 60.

Although the reduction in the rate of the pulse is a striking feature it must be remembered that in this case the pulse-rate was never very high, 120 being the maximum—at any rate, after the case was seen by me. The most significant feature, however, was the action of the drug on the arterial tension evinced by changing the firm, bounding, resisting character of the pulse to one of a soft, full, and compressible nature. And this condition of pulse continued fairly well marked for ten hours after the injection of the drug. The influence of the drug in relaxing muscular tissue was shown by the speedy dilatation of the rigid external os. The most objectionable feature in the exhibition of the drug was the retching and vomiting. There was also a considerable amount of salivation which gave trouble by producing cough. The skin of the patient kept moist.

So far the etiology of puerperal convulsions is obscure. The frequent albuminuria with which it occurs gave rise to the opinion that it was the result of uræmia, and although cases occur where there is no albumin present, and other patients with an abundance of albumin escape, it is thought that renal insufficiency is the most frequent if not invariable cause. Traube and Rosenstein refer its causation to acute cerebral anæmia resulting from changes in the blood incidental to pregnancy, the watery condition of the blood being associated with increased arterial tension. Dr. Angus Macdonald, of Edinburgh, found from post-mortem examinations extensive anæmia of the cerebro-spinal centres with congestion of the meninges without œdema. He attributed the convulsive attacks to irritation of the vaso-motor centres from an anæmic condition of the blood produced by the retention in it of excrementitious matters that ought to have been thrown out by the kidneys.

Applying now the recognised physiological actions of veratrum viride we know that one of its alkaloids, jervine, is able to reduce the force of the heart-beat by its direct influence on the cardiac muscle and that it is capable also of producing a general vaso-motor paralysis; that it likewise reduces the pulse-rate by a direct action on muscle, while the other alkaloid veratroidine by stimulating the inhibitory nerves also reduces the pulse-rate; and both alkaloids—namely, the jervine and the veratroidine—are, in addition, depressants to the motor centres in the spinal cord. We have therefore in veratrum viride an agent the physiological properties of which meet the supposed pathological conditions in puerperal eclampsia—namely, increased arterial tension and cerebro-spinal excitement.

Bibliography.—Quain's Dictionary of Medicine, 1894, vol. ii., p. 571. Wood's Therapeutics, its Principles and Practice, ninth edition, 1894. Dispensatory, seventeenth edition, pp. 1442–1444.

Aberdeen.

THE PATHOLOGY AND TREATMENT OF GOUT.[1]

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SINCE the discovery of a compound of uric acid in gouty concretions by Wollaston in 1787 and the subsequent discovery fifty years ago by Sir A. Garrod of uric acid in the blood of gouty patients the relationship of uric acid to gout, either as a cause or a result, has been universally conceded. Observers and writers on gout have, however, been divided into three schools, accordingly as they held the view—(*a*) that the uric acid compound only exerted a baneful effect after it had crystallised from the blood and had become deposited in the affected tissues, or (*b*) that while dissolved in the blood it exerted a true toxic influence, or (*c*) that the uric acid was merely a by-product in the gouty process—that is, a result of certain changes in the system which by themselves constituted the disease of gout.

The view which regards gout as a disease which is the result of a true toxic action exerted by the uric acid compound dissolved in the blood is untenable for these reasons: (1) there is no experimental proof that uric acid is a poison; (2) a gouty subject just prior to the advent of an attack of acute gout shows no signs of poisoning although the fluids of his body are saturated with a compound of uric acid; and (3) in cases of leucocythæmia and severe anæmia the blood is frequently highly charged with uric acid without the production of any toxic symptoms that could be referred to that body. Again, the various views as to the uric acid being merely a by-product in the gouty process fail to explain many of the phenomena of gout, a subject which I fully discussed last year in the Goulstonian Lectures on the Chemistry and Pathology of Gout.[2] The remaining view, then, that the compound of uric acid only exerts a baneful effect after precipitation from the blood and deposition in the tissues is, in my opinion, the most tenable one and is the view held by such eminent authorities as Sir A. Garrod and Sir W. Roberts. This view regards the soluble uric acid compound as being destitute of poisonous qualities and as producing no harmful results so long as it remains dissolved in the fluids of the body. When, however, the fluids become over-saturated with this compound a crystalline deposition of sodium biurate occurs which then acts as a mechanical irritant to the tissues and structures in which the deposition takes place.

As all observers are agreed that an abnormal quantity of uric acid is present in the blood in gout, such overcharging of the blood with uric acid must be due to one or more of the following causes: (1) production of the uric acid in the normal manner but insufficient excretion of it; (2) over-production of uric acid while the excretion remains about normal; and (3) diminished destruction of uric acid by imperfect oxidation or by some other means. This last theory may be dismissed at once. There is no proof that the process of oxidation or any other process going on within the organism destroys uric acid; on the contrary, there is proof that uric acid is produced by a process of oxidation. The second theory that there is an over-production of uric acid in the system while its excretion remains normal is untenable, since it is based on the assumption that the kidneys can only eliminate a certain amount of uric acid, whereas there is abundant experimental proof that an increased production of uric acid such as occurs throughout the system in cases of leucocythæmia and severe anæmia does not lead to gout so long as the kidneys remain in a normal condition. In these diseases the blood may be laden with uric acid and the daily excretion of that body may rise to six times the usual amount, yet such a quantity is readily excreted by the kidneys and no development of gout occurs. We are therefore restricted to the first-mentioned views as to the cause of the presence of the uric acid in the blood in gout—viz., that it is due to its being produced at the normal seat or seats of its manufacture, but that it is deficiently excreted. That there is a deficient excretion of uric acid in gout is, I think, proved by the recent accurate estimations of the elimination of uric acid in gouty subjects made by Pfeiffer[3] and more recently by myself.[4]

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[1] A paper read before the Harveian Society of London on Jan. 6th, 1898.

[2] THE LANCET, March 27th and April 3rd and 17th, 1897.

The question next arises whether the uric acid, which in gout is imperfectly excreted, is manufactured in the organs and tissues of the body generally and thence passed into the general circulation, or whether it is produced only in the kidneys, and then, in consequence of imperfect excretion by these organs, the residual quantity of uric acid is absorbed from them into the general circulation. Now if uric acid be produced in the liver or spleen or tissues generally then it follows that it must be conveyed in the blood to the kidneys in order to be excreted, and if such be the case its detection in the blood, if careful search for it be instituted, should be an easy matter. The blood of several healthy individuals has comparatively recently been carefully examined for uric acid by von Jaksch,[5] by Klemperer,[6] and by myself,[7] with negative results in all cases. Sir A. Garrod examined the blood of the ox, sheep, pig, and various birds by the uric acid thread test, but never found a trace of uric acid present, although in all these varieties of blood he always found urea. I have myself examined large quantities of the blood of mammals and birds for uric acid by a new process,[8] but always with a negative result. On the other hand I always found urea present in all the varieties of blood. This mass of evidence shows that uric acid is never present in the healthy blood of mammals and birds, although the urinary excretion of the latter is almost entirely composed of a compound of uric acid. Such facts inevitably force us to the conclusion that uric acid is normally produced in the kidneys only.

I therefore consider that the first step in the pathogenesis of gout is a failure on the part of the kidneys—from functional or organic mischief—to perfectly excrete the uric acid formed in them and that consequently absorption of the non-excreted portion takes place from them into the general circulation, where it circulates throughout the system at first in the form of sodium quadriurate, and so forms the source from which the gouty deposit is derived. This view is supported by the following facts: (1) in all cases of kidney disease (not associated with gout) in which the blood has been examined for uric acid that body has been found present, showing that when the excretory function of the kidneys is interfered with absorption of uric acid into the general circulation occurs; (2) uratic deposits in the joints are frequently found at the post-mortem examinations of subjects of kidney disease who have never been known to suffer from ostensible gout during life; and (3) kidney mischief is frequently met with at the post-mortem examinations of gouty subjects.

As to the actual formation of uric acid in the kidneys I believe that it is formed in those organs by the combination of urea with glycocine or with one of the derivatives of the latter body. This explains why disorders of the liver constitute so important a factor in the gouty process, since in that organ the antecedents of uric acid are either manufactured or elaborated. The uric acid which is formed in the kidneys is at once converted into the quadriurates of ammonium, sodium, and potassium, which, if excreted, constitute the amorphous urates of the urine. If, however, any absorption of them takes place into the blood they are entirely converted into the sodium quadriurate, which at first constitutes the sole uric acid compound circulating in the blood. This compound is, however, unstable and after a variable period of time it unites with some of the sodium carbonate of the blood to form sodium biurate. This sodium biurate is much less soluble in the blood than the quadriurate and it therefore, when the blood becomes oversaturated with it, deposits in these tissues which, either on account of having received previous slight injuries or because of their poor vascular supply, specially favour its deposition. Such tissues are structures belonging to the connective-tissue class—cartilages, ligaments, tendons, and the cutaneous and subcutaneous connective-tissues. Although the view has been held for some time past by various writers on gout that uratic deposition is dependent upon a diminution of the alkalinity of the blood, yet I hold the very strong opinion that such deposition is not in any way affected by variations in the alkalinity of that medium. The view that uratic deposition is caused by diminished alkalinity of the blood while increased alkalinity of the blood causes a re-solution of the deposit is, in my opinion, absolutely erroneous and untenable. My reasons for holding this opinion are, briefly stated, as follows: (1) recent researches show that the alkalinity of the blood of gout is very little if at all diminished and that corresponding variations in the alkalinity are frequently met with in healthy individuals; (2) both these views are based on the erroneous supposition that the deposit is uric acid, whereas it is sodium biurate, the solubility of which is not increased by increased alkalinity of the blood; and (3) by a series of experiments described in the Goulstonian Lectures[9] for 1897 I showed that a diminution in the alkalinity of blood-serum does not hasten or facilitate the deposition of sodium biurate from that medium and does not affect the solvent power of the medium for the biurate. I also consider that the assumption that the gouty properties of certain wines and beers are due to the acid contained in them is erroneous. The acidity of such beverages is mainly due to organic acids, which I have shown to be incapable of facilitating the deposition of sodium biurate. I think it is probable that the gout-inducing properties of such wines and beers are due to the effect they exercise on the metabolism of the liver by increasing the amount of glycocine passed to the kidneys and so causing an increased production of uric acid in those organs. From the results of a series of experiments, which are not yet completed, I incline to the view that the ethereal compounds contained in wines and beers are mainly responsible for the altered metabolism produced in the liver by these beverages. Certainly the effect is not due either to the alcohol or to the sugar contained in them.

THE TREATMENT OF GOUT.

In the first place it should be borne in mind that no routine treatment can be adopted which is suitable to all cases. The nutritional condition of the patient, his habits, surroundings, and mode of life constitute factors that must necessarily modify the treatment of individual cases. The treatment of gout should have for its aims the following objects: (1) the treatment of the gouty paroxysm in cases of acute gout and the relief of the pain as speedily as possible; (2) the treatment of the subacute or chronic condition and the prevention of the recurrence of an attack, which may be effected by the promotion of the elimination of uric acid, by checking any excessive formation of uric acid that occurs in some subjects, and by careful attention to diet and general hygiene; and (3) treatment of the affected joint or joints, with the object of removing the uratic deposit and of preventing permanent deformity. It is useful before commencing treatment, and from time to time during treatment, to know the amount of uric acid that is being daily eliminated in proportion to the body-weight of the patient. This determination of the amount of uric acid eliminated must be made on a sample of the mixed urines of twenty-four hours. The process that I always employ for such determinations is the Gowland-Hopkins process which is a very accurate method for the estimation of uric acid in urine.

TREATMENT OF THE GOUTY PAROXYSM.

The limb should be placed in the horizontal position, or slightly elevated above the level of the body and a cradle arranged to take the weight of the bedclothes off the affected part. To alleviate the severe pain felt in the affected joint warm packs should be arranged round it consisting of cotton-wool saturated with a soothing lotion and then lightly covered with oil-silk. I have found the following lotion most useful in relieving the local pain: three drachms of carbonate of sodium, two ounces of liniment of belladonna, one ounce of tincture of opium, with water to eight ounces. A small portion of the lotion should be mixed with an equal quantity of hot water and poured on cotton-wool previously arranged round the joint. For the internal treatment of acute gout colchicum is one of the most valuable drugs that we possess. It should be especially used for acute gout and for subacute attacks supervening on chronic gout. If used continuously tolerance is apt to be acquired and then the drug ceases to act. At the commencement a large dose of from thirty to forty minims of colchicum wine should be given, followed by a mixture containing from ten to twenty minims of the wine with from forty to sixty grains of citrate of potassium, which should be administered three times a day. Colchicum reduces the gouty inflammation, relieves the pain, and shortens the attack. From four to five grains of blue pill should be given the first night, followed by a dose of Epsom salts in the morning. In my opinion it is advisable in the treatment of gouty patients to avoid the use of saline purgatives owing their efficacy to salts of sodium on account of the undoubted power possessed by all sodium salts of diminishing the solubility of sodium biurate. For the first day or two of an attack of acute gout the patient should be restricted to a milk diet.

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[3] Berliner Klinische Wochenschrift, 1892, p. 418.

[4] THE LANCET, March 27th, 1897, p. 860.

[5] Deutsche Medicinische Wochenschrift, 1890, Band xxxiii., p. 741.

[6] Ibid., 1895, Band xxi., p. 655.

[7] THE LANCET, March 27th, 1897, p. 863.

[8] THE LANCET, March 27th, 1897, p. 861.

[9] THE LANCET, April 17th, 1897, pp. 1071, 1072.

TREATMENT OF SUB ACUTE OR CHRONIC GOUT.

Promotion of the elimination of uric acid.—This may be effected by medicinal treatment, and by diet and regimen. Citrate of potassium is employed as a diuretic which increases the volume of the urine and at the same time diminishes its acidity. The use of the citrate of potassium may with advantage be pushed until moderate alkalinity of the urine is produced, as by such means the quadriurates are rendered more soluble and more stable than they are in an acid urine and so the tendency to the deposition of uric acid or sodium biurate in the kidney tissues is removed. Free diuresis should also be encouraged by the drinking of sufficient quantities of water. A patient suffering from gout should avoid the use of common salt at table owing to the power it possesses of diminishing the solubility of sodium biurate and thereby both augmenting the precipitation of that body and also interfering with its removal from the system. On account of the results that I have obtained with the mineral constituents of vegetables, to which I shall briefly refer later, I am inclined to suggest that a table salt composed of the ashes of certain of the vegetables should be freely used by gouty subjects in place of common salt.

Means of checking the excessive formation of uric acid—These consist in careful attention to diet and regimen, in the promotion of the metabolism of the liver, so as to check the excessive production of the antecedents of uric acid, and in the relief of congestion of the portal system, which can be effected by keeping the bowels open at least once a day. In addition to colchicum, which acts as a stimulant of hepatic metabolism, guaiacum may very usefully be administered as an alterative which stimulates the metabolism of the liver and also affords relief to the portal system. From five to ten grains of guaiacum resin should be given in cachets two or three times a day, according to the effect on the bowels, since guaiacum generally acts as a laxative. If constipation occurs a sulphur and guaiacum tablet or a dose of compound liquorice powder should be taken at night. An occasional dose of blue pill followed by a purge of Epsom salts will be found useful.

Diet and general hygiene.—A rational mixed diet is the one best suited for gouty patients, care being taken to avoid excess. The assumption that a purely vegetable diet is best for the gouty is erroneous, since the production of uric acid depends on the ingestion of proteid matter, and it makes no difference whether the proteid matter be of animal or vegetable origin. At the same time it must be borne in mind that since animal food is so much richer in proteids than a vegetable diet the amount of the former taken by the gouty should be strictly limited. Moreover, I find as the result of a lengthened series of investigations that whereas the mineral constituents of meat exercise a marked effect in diminishing the solvency of a gouty deposit the mineral constituents of most vegetables exercise a marked power in increasing its solvency. The vegetables whose mineral constituents I find are most efficacious in this respect are spinach, Brussels-sprouts, potatoes, cabbage, and French-beans. At the same time it must be borne in mind that with certain patients some of these vegetables may tend to produce some form of dyspepsia and I cannot too strongly urge that in the dieting of the gouty no hard and fast rules can be laid down, but the idiosyncrasy of each patient to various articles of diet must be made the subject of careful observation and study. The following plan gives an indication of the diet to be recommended:—

Morning.—A pint of hot water flavoured with a slice of lemon peel should be slowly sipped immediately on rising.

Breakfast.—A selection may be made from the following articles of diet according to the taste of the patient: porridge and milk, fresh fish, fat bacon, eggs cooked in various ways, dry toast, tea infused for three minutes and then strained from the leaves.

Lunch and dinner.—No soup should be taken at either meal. The varieties of fish most suitable to the gouty are whiting, sole, turbot, and plaice. Meat should be taken at only one meal and then in moderate quantity. Two vegetables should be taken and in abundant quantities. The vegetables that, in my opinion, should be avoided by the gouty are asparagus, tomatoes, and green peas. Stewed fruits or baked apples or pears may with advantage be taken every day at one meal and a milk pudding made with rice, sago, or tapioca at the other meal.

Night.—A pint of hot water flavoured with a slice of lemon peel should be slowly sipped before retiring to bed.

Alcohol.—As regards the employment of alcohol each case must be individually and carefully dealt with. If the gouty person be of robust habit of body then total abstinence is undoubtedly the best for such a patient. If, however, the cardiac action be weak and failing then moderate quantities of alcohol should certainly be given. In cases of chronic gout a moderate amount of alcohol may be necessary for the promotion of digestion. The best form of alcohol for the gouty is a tablespoonful of matured whisky freely diluted with salutaris or with plain water and taken towards the end of lunch or dinner. If any wine is taken by the gouty the one which is least open to objection is a good claret. Ale and stout should be avoided.

Mineral springs.—The use of a mineral water, so far as its employment with the object of removing the gouty deposit is concerned, lies solely in its watery constitutent, and does not in any way depend on the mineral salts dissolved in it. As a matter of fact the salts dissolved in a great many of the natural mineral waters are directly harmful in gout both by encouraging deposition of the sodium biurate and by checking solution of the gouty deposits. The flushing of the system of a gouty patient with abundant quantities of water is undoubtedly beneficial, since it dilutes the blood for the time and so tends to prevent uratic precipitation and at the same time promotes diuresis and encourages the elimination of urates. The question, however, naturally arises whether if the water of a mineral water be its only beneficial constituent for effecting removal of the gouty deposit the sending of gouty patients to spas presents any advantages over their drinking ordinary water at home. If the conditions of the life of the patient at home and at a spa were the same there would be no such advantages, but among the special benefits to be derived from residence at a spa must be reckoned the almost undistracted attention that is given by the patient to treatment, the careful dieting that is frequently observed, the change of surroundings, the absence of business or home worries and the opportunities for the use of thermal baths for the external treatment of articular gout. It should, however, be carefully borne in mind that owing to the undoubted fact that sodium salts are directly detrimental to the removal of the gouty deposit those springs should be avoided which owe their activity to those salts where the removal of the deposit is the main object sought for. The springs which contain no sodium salts or traces only are the ones suitable for such cases—such as the waters of Buxton, Bath, and Strathpeffer in this country; in France the waters of Aix-les-Bains, Contrexéville, and Vittel; in Switzerland the Pfaeffers water; in Austria the Gastein water and the Sauerling spring at Carlsbad; in Germany the Wildbad water. I wish it to be clearly understood that I am by no means condemning the very proper use that mineral waters containing sodium salts can be put to in the treatment of many gouty affections of the viscera and other structures, but I wish to emphasise the point that when the system is flushed with a mineral water with the object of dissolving and removing gouty deposits then it is undoubtedly advisable to select a water as free as possible from sodium salts.

TREATMENT OF THE AFFECTED JOINTS.

Careful massage and gentle exercise of the stiffened joints should be resorted to, but only when convalescence is fairly established. The thermal baths of Bath, Buxton, and Aix-les-Bains are useful in the treatment of cases of chronic articular gout and successful results have been obtained by the localised application of very hot dry air which appears not only to relieve the pain and congestion of the joints but also to disperse the gouty deposit. In cases of chronic gout with painful affections of the joints or subcutaneous tissues a mixture containing ten grains of iodide of potassium with from five to ten minims of tincture of iodine is frequently beneficial, but such a mixture is contra-indicated if advanced kidney disease be present. After convalescence as much exercise as possible short of fatigue and discomfort should be taken in the open air. Cycling is an excellent form of exercise for the gouty, as the body-weight is borne by the machine, and good muscular movement in the open air is obtained without the gouty joints having to bear the weight of the body.

Weymouth-street, W.

IMPRISONED TOOTH: AN OBSCURE CAUSE OF CERVICAL ABSCESS.

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ALVEOLAR abscess, whether in the acute stage or at a later period when a discharging sinus in greater or less proximity to the offending tooth is the source of complaint, although apt to be overlooked by a casual observer rarely gives rise to any real difficulty in diagnosis. The situation of the abscess, the position and the direction of the sinus, the presence of a carious tooth which is more or less painful or tender to pressure, will generally sufficiently indicate the nature of the case. I have met with two examples in which the diagnosis was rendered difficult by the presence of unusual conditions, and although they belong to a class with which dentists and surgeons are by no means unfamiliar they are sufficiently uncommon to be worthy of record.

CASE 1.—A woman, aged twenty-five years, had for several years before she consulted me suffered much from pains in her left lower jaw. In 1891 she had one of the molar teeth extracted and shortly afterwards an abscess formed which discharged itself through the cheek at a point midway between the symphysis and angle. This abscess had been in the habit of closing, refilling, and bursting at varying short intervals ever since. Some months after the extraction of the first tooth all the remaining teeth on that side, including two which were quite sound, were removed, but still no improvement in the recurring abscess was effected. On the occasion of my first seeing the patient—viz., on March 14th, 1893—the sinus was discharging and by means of a probe bare bone was discovered at its distal end. Within the mouth the edentulous gum looked and felt firm and sound, affording no indication of disease within. The patient having been placed under ether I cut down upon the face of the jaw making the sinus the centre of the incision. On exposing the jaw a minute hole was discovered in it which, enlarged by means of a gouge, was found to communicate with a cavity of considerable size and in the cavity, completely surrounded by bone, lay a bicuspid tooth whose crown was partly destroyed by caries and one of the roots of which was thickened and rough. This was removed, the cavity was drained and the wound was sutured. In the course of a few weeks all was soundly healed.

CASE 2.—A man, aged forty-five years, was brought to me on Oct. 9th, 1897, by Dr. Foster, of Shipley, from whom I obtained the following history. Early in July the patient was attacked with pain all over the left side of his face and in the ear; the pain was so severe as to put a stop to work and to destroy sleep and appetite. Towards the end of the month a swelling formed extending from the ear to the chin on the outside and inside obscuring the angle of the jaw, the pillars of the fauces, and the tonsil. An incision into the internal swelling directed towards the lower jaw evacuated a small quantity of pus and gave a degree of relief. For a week or two pus continued to ooze from the incised wound and then it ceased. Subsequently a swelling formed in the neck and well below the angle of the jaw, and here on Sept. 2nd an abscess burst. This was followed by other points of suppuration, two of which were incised. At the time of my examination a cluster of sinuses disfigured the patient's neck all leading outside the ascending ramus of the jaw in the direction of, but not quite reaching as far as, the upper alveolus. By outward inspection and examination with a probe I was unable to determine the origin of the suppuration. There was no stiffness of the jaw, the mouth could be well opened, and an internal examination afforded no further clue. All the molars of that side, both upper and lower, had been extracted or had otherwise disappeared some six years before. There was no appearance of any of the wisdom teeth and he was unable to tell me whether or not there ever had been any. Suspecting a concealed tooth I examined both alveolar ridges very closely. That of the upper jaw struck me as being wider, thicker, and more substantial than natural, whilst the lower was sharp, firm, and compact. This observation led me at the operation, which was performed a day or two later under ether, to attack the upper jaw first, which I did somewhat extensively by means of a geuge with the result, however, of extracting only healthy bone. Upon this I was on the point of giving up the search after obtaining Mr. Moynihan's and Dr. Foster's assent to the improbability from its appearance of there being any fault in the lower jaw and trusting solely to the laying open and clearing out of the sinuses; but unwilling to leave any possible source of mischief unexplored and calling to mind the comparative frequency with which difficulty and pain and inflammation attend upon the eruption of the lower wisdom teeth I plunged a gouge into the site of the lower dens sapientiæ—viz., the point of junction between the horizontal and ascending rami—and at once I became conscious of having struck the marble-like surface which the crown of a tooth presents as contrasted with the dead, dull, wooden sensation conveyed by impinging upon ordinary bone. By a little manipulation I soon disentombed a full-sized wisdom tooth with just enough caries on its enamel and corrosion of its roots to satisfy me of its having been the originator of all the mischief of the preceding months. After the removal of this tooth the discharge from the sinuses at once ceased and in a few days they had entirely closed.

Difficulties, irregularities, and complications attendant upon teeth eruption are of common occurrence and are usually brought under the observation of the dentist. In both the instances I have related the opinion of the dentist had been sought and in the latter a throat specialist also had been consulted. Both, however, I think, may be claimed as belonging to the realm of surgery rather than to that of dentistry or any other specialty, and both, I venture to think, present points of sufficient interest to make it unnecessary for me to apologise for bringing them before the notice of the readers of THE LANCET.

Leeds.

VITALITY.[1]

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X.—THE INTERSTITIAL CIRCULATION IN ALL LIVING THINGS AND ITS CAUSES (*continued*).

IT is desirable to consider whether the results of observation and experiment justify us in proceeding yet further in our endeavour to discover some reasonable explanation of the continual flow of fluid holding nutrient and other substances in solution towards and into the very substance of every particle of living matter in nature. This movement of interstitial fluid, as I have already suggested, is intimately connected with vital action and vitality.

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[1] Nos. I., II., III., IV., V., VI., VII., VIII., and IX. were published in THE LANCET of Feb. 22nd, April 11th, June 13th, Aug. 29th, Oct. 17th, 1896, Jan. 23rd, July 31st, Sept. 4th, and Nov. 13th, 1897, respectively.

The centripetal movement of the interstitial fluid towards living matter is, I think, determined by the inherent tendency on the part of the constituent portions of every particle of bioplasm or living matter to move outwards—centrifugally. As far as I am able to ascertain this centrifugal movement of living particles is universal throughout living nature—unknown, nay impossible, in matter in any other state. This movement of portions of the living matter away *from centres* must occasion a movement of the surrounding fluid in the opposite direction—*towards centres*. The force and rate of the centripetal current will vary according to the activity of the outward vital movement of the living matter which occasions it and which varies in intensity in the same mass of living matter at different times and under different circumstances. From time to time the centrifugal vital movement is feeble and the movement of fluid towards centres will be correspondingly slow and perhaps almost quiescent.

Not only do vital movements occur in the constituent particles of living matter, but each bioplast as a whole possesses inherent power of movement. It may move round and round the space in the formed material in which it lies and which it has produced, or, as in fibrous tissue formed in straight or in curved lines, may move along leaving, as it were, behind it a thread or a thin layer of formed material to be applied and added to that which already exists. These and other movements of living matter in all living things are *vital* and cannot be imitated or caused to take place in any form of matter that is not living.

All bioplasts having reached a certain size—very different in different organisms—tend to divide, the resulting portions *moving away from one another in opposite directions;* or a mass of bioplasm may give off diverticula which, or portions of which, may be detached and may divide and sub-divide into many portions, each one inheriting the powers of the original mass and, taking up nutrient matter, will grow into the likeness of the parental bioplast.

Seeing that the interstitial circulation ceases at the death of the living matter or bioplasm in all parts and in all orders of life the consideration of its nature and object, its causes and importance in living organisms, involves an inquiry into the living state of matter, the conditions under which life is carried on, the nature of vital phenomena as far as can be ascertained, and the difference between matter in the living state and the same matter when it has ceased to live. But unfortunately the investigation of the actual vital changes is at present beyond the range of demonstration, though we can distinguish living matter from matter in other states or conditions and say *precisely which particles of matter in an organism are the seat of the wonderful vital phenomena—vital actions—by which living matter is absolutely marked off from matter of every other kind and in every other state—life of every kind from every kind of non-life.*

Although as yet unable actually to see the atomic movements which occur when the *non-living* becomes *living* we can prove that vital phenomena are not mere physical and chemical action or due to any known form or mode of ordinary energy. Life has been attributed to the conditions favourable to living, and some have argued as if they believed that *external* conditions could be the true cause of *internal life.* The external may destroy the internal, but under no circumstances can it give rise to life or be connected with it.

Associated with all vital power is directive agency determining special definite and prearranged changes—the *power* of conferring these and other remarkable powers in direct descent to non-living matter. It need scarcely be said that nothing like this has yet been discovered in connexion with any form of non-living matter. Broadly contrast the eternal passivity or never-ceasing repetition of infinite immensity with the constant activity and never-ceasing change of the comparatively infinitesimal life world. In every living particle, however minute, there is constant change in position and in the physical and chemical condition of the constituent molecules. There is *matter actually living, matter that has lived, and matter that is about to live. Living* necessitates these three states and, however minute may be the particle that lives, *living* as it occurs in our world is not conceivable in the absence of matter in these three states; but the actual isolation of the matter that lives, that is about to live, and that has lived is not possible at any given moment even in thought—so intimate is the association of the matter in these three states.

As the interstitial circulation seems to entirely depend upon vital phenomena I hope I may be permitted again to beg the reader's attention to the purely vital changes in the living matter. Careful observations upon structures and organisms in every class of living things—at an early period of development, in youth, in the period of maturity, and in old age, in states of activity and in repose, in health and in departures from the healthy state, in all normal tissues and in various morbid growths, have compelled me to conclude that *vitality is absolutely different from every other power, force, energy or property in nature.* It is, indeed, the power to which the direction, arrangement, movement of material particles in matter that lives is alone due. The structure, properties, composition, and action of all tissues is determined by the direct or indirect action of the vital power of living matter. In the absence of vital power the striking physical and chemical properties, the peculiar structural and other characters of the different forms of life, could not have been manifested. My general conclusions upon this most important question have been confirmed and extended by more recent investigations and will be found to be in accord with some of the facts and observations of other inquirers. They are, however, quite incompatible with the physical doctrines of life which for a considerable period of time have been forced upon the public and continue to be authoritatively taught though not supported by fact and reason.

Although there is nothing in any living organism that performs work like a machine made by us—movement, heat, light, electricity, and possibly other modes of energy are evolved by the transparent structureless living matter or bioplasm of different kinds, all of which consist principally of water, the evolution being associated with, and, in fact, dependent upon, the activity of the interstitial circulation.

The movements characteristic of bioplasm or living matter have long been called *spontaneous* and do not belong to the physical category.[2] Although frequent attempts have been made to account for them by physics or chemistry, these have entirely failed, and the advocates of physical doctrines have been compelled to resort to dogmas in order to support the views which they are determined shall be accepted. In vital movements there is no propelling, pushing or pulling. They may occur in any direction and are as freely performed in an upward as in a downward direction. They are not assisted or retarded by gravitation. In fact, in vital processes particles are raised and placed above one another—superposed—so that walls and tubes may be constructed and channels formed for the conveyance of fluid. The movements of living matter referred to are universally present in all living things but, as I have already remarked, are limited to these. Nothing has yet been discovered in any form of bioplasm that in the slightest degree justifies the application of such terms as mechanical—machinery—or apparatus, as suggested in many of the mechanical hypotheses advanced as explanations of vital phenomena. The so-called "molecular machinery" exists not, nor has anyone who has made use of this phrase attempted to explain what he means by it. Nothing that works like any known machine or apparatus for the conversion of energy can be pointed out in any known form of living matter. Again, we have been repeatedly assured that all the phenomena which distinguish living nature are due to the primary properties conferred upon matter at its creation, and which have lain dormant for many millions of years, until the accumulating influence of external circumstances or some undiscovered action of environment determined the evolution of the first living modicum. Such strange conjectures are still presented to the people, and by some accepted as if they had been proved to be true. In point of fact they rest upon mere authoritative assertion. They are not in accordance with the broad teachings of living nature or the constantly increasing facts discovered by careful microscopical observations by the aid of the highest powers now placed at our disposal.

What a particular living particle or a collection of living particles is about to form, chemistry cannot as yet decide, nor can the skilled microscopical observer ascertain in any given case whether the same evolutionary phenomena will be repeated time after time during ages, or whether by a new evolution a series of altered vital powers is about to be inaugurated. Similar structures may be formed generation after generation, or new structures and new actions may become manifest for the first time. Divergent forms may soon cease to live or may be repeated again and again without change during ages, or the divergence may increase until forms very different in character may be evolved. Prophetic power still hesitates to define with confidence the probable characters which divergent forms to be produced in future years or centuries may assume. The form-evolving power of bioplasm depends upon its vitality rather than upon the substances it takes up as pabulum or the conditions under which it lives, though no doubt in some degree these influence the result.

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[2] The movements of formed muscular tissue are in their very nature quite distinct from the vital movements of every form of bioplasm, the latter being in every direction—portions moving into and through one another. Muscular tissue and living matter are called protoplasm but muscular tissue will not produce new muscular tissue while the living matter of muscular tissue will do so.

It is not possible to ascertain the dimensions of the most minute living particle which is capable of manifesting all the phenomena which establish its living property or power, but certainly it is considerably less than the one hundred thousandth of an inch in diameter. It is to the central part of such minute living particle that the streams of fluid holding certain substances in solution tend. It is in the central part that certain constituents or elements of the substances newly introduced pass from the non-living to the living state. This is where those mysterious changes occur which result in the communication of vital power from matters already living,—changes which have been attributed to the agency of "cell wall," "cell contents," "nucleus," "nucleolus." Some thought the mystery was solved when the word "Protoplasm" was coined; Protoplasm which by some authorities was affirmed to be structureless, by others to exhibit structure; Protoplasm which might be dry or moist, hard or soft, cold or hot, roasted or boiled, dead or living—and yet retain its protoplasmic properties, assimilating, converting, constructing, forming, building, designing—receiving its properties from solar energy or from the material elements of which it was composed, and possessing molecular machinery which under the influence of its environment performs vital acts and exhibits vital irritability!

The *unseen centres* of minute particles of bioplasm are the seat of those wonderful vital phenomena which consist of the re-arrangement of the atoms of matter, one result of which is preparation for future chemical and other changes. In the absence of vital action the subsequent formation of structure and the production and arrangement of matters having those definite and peculiar characters and properties by which the various living forms are known to us would have been impossible. It is not probable that if our means of amplification could be increased very many times we should be enabled to see the actual changes which take place in the invisible centres of living particles under the influence of vitality. The matter which is the seat of atomic movements is perfectly structureless and its elements must undergo extensive re-arrangement, portions moving in all directions and mixing with and passing through other portions—all which phenomena in all cases cease at death. In these structureless centres which no eye has yet seen the living matter imparts to new material particles, but without loss, the marvellous vital powers which it received from pre-existing living matter. It is here, too, that changes in vital powers resulting eventually in the development of characters diverging from those manifested by the immediate predecessors, occur. Here, then, is a true evolution—evolution from centres too central to be visible, where structureless, perfectly transparent particles move amongst one another in all directions, their state being diffluent, from the large proportion of water invariably associated with all matter that lives, and in the absence of which vitality is unknown. To these centres by inherent movements of the living particles streams of fluid, holding in solution certain substances, flow, to some of which vital power is imparted, and which then pass from the non-living to the temporary living state.

But well within the range of actual observation with the aid of magnifying powers of 500 diameters are the actual anatomical elementary units, hundreds and thousands of which are arranged together to constitute but a small part of, for example, an organ of sense.[3] So delicate and minute are these anatomical units and so closely are they packed that it is not possible to clearly see a single individual anatomical element with its connexions, or to make out with accuracy its several component structural parts. Nor is it possible to separate one from its neighbours and isolate it for accurate examination under high magnifying powers. We do not yet perfectly understand the exact structure or the arrangement of the several parts concerned in feeling, tasting, hearing, seeing or smelling or those taking part in evolving heat, light or electricity. It is certain, however, that in intimate connexion with each anatomical elementary unit are numerous bioplasts which are intimately concerned with the action of the sense organ, and which are an indispensable and indeed a necessary part of the arrangement. These bioplasts are present in great number in all living beings and take part in all vital actions of every organ in ourselves.

Think for a moment of the light-producing elementary parts of the illuminating organ of the glow-worm or the firefly as contrasted with any light-giving apparatus constructed by man—or of the anatomical elements taking part in the wonderful movements of the wings or legs of the smallest insects contrasted with any of our motor machines for moving things on earth or water or through air. Can any analogy whatever be pointed out between the structure that has *grown* and any of the mechanisms made by us—as regards origin, construction, composition or action?

(To be continued.)

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[3] By the anatomical elementary part or unit is meant the complete arrangement necessary for seeing, hearing, &c., the actual organ being composed of a multitude of similar elementary parts.

THE

ELIMINATION OF BACTERIAL TOXINS BY MEANS OF THE SKIN, WITH ESPECIAL REFERENCE TO THE PRESENCE OF TUBERCULIN IN THE SWEAT OF PHTHISICAL PATIENTS.

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THE body, in the words of Bouchard, in its normal as well as its pathological state is both a receptacle and a laboratory of poisons. These are disposed of by the economy in a variety of ways and by a variety of channels. Amongst the functions performed by the skin that of the elimination of poisonous substances has long been surmised, and in the following paper I hope to demonstrate that the general integument is an important emunctory for many of the toxins manufactured in the human laboratory by pathogenic organisms. Given appropriate means, it is in the sweat, the main vehicle of skin excretion, that we should expect to be able to find these poisons if they exist. Hitherto, however, the obtaining of this excretion under ordinary conditions in quantity sufficient for experimental purposes has placed almost insuperable difficulties in the way of its examination.

Methods of collecting sweat.—Arloing,[1] one of the first to investigate by the experimental method the physiological properties of sweat, obtained it by clothing a man in an absorbent woollen garment and setting him to hard and prolonged physical exertion in a hot atmosphere. He then steeped and wrung the vestment in a determined quantity of distilled water and concentrated on a water bath or *in vacuo* the diluted liquid so obtained. It is obvious that there are endless fallacies involved in such a procedure, and it is only necessary to mention the fact that Arloing himself points out that the sweat of individuals under such circumstances is much richer in toxic principles than that collected under normal conditions. Capitan and Gley's method[2] consists in enclosing the individual in a hot air chamber and removing the secretion with a sponge. Mavrojannis[3] envelops his subject in an air-tight indiarubber jacket next the skin, furnished with a small outlet tube and stopcock at its lower part. The sweat is then obtained as in Arloing's method by subjecting the individual to hard manual labour and drawing off through the exit tube from time to time the fluid which has gravitated to the lower part of the apparatus.

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[1] Comptes Rendus de la Société de Biologie, tome iii., No. 35, Dec. 26th, 1896, p. 1107; and ibid., tome iv., No. 19, June 4th, 1897, p. 533.

[2] Ibid., tome iii., No. 35, 1896, p. 1110.

[3] Ibid, tome iv., No. 34, Nov. 12th, 1897, p. 943.

It is equally obvious that this method is not applicable to a patient in bed who is sweating moderately or even freely.

For the purpose of collecting sweat under these latter conditions I have had made a double-bulbed tube drawn out at one end to a very fine long capillary point, each bulb having a capacity of about 3 c.c., and a circular tin lid about four inches in diameter fitted around its edges with a small indiarubber air cushion. For a person sweating to the extent of having visible beads of perspiration on his skin or even mere visible moisture it is sufficient to streak the fine capillary point of the glass tube over the sweating surface, applying suction with the mouth from time to time to the expanded end in order to draw up the fluid into the first bulb. The interposition of the second bulb prevents any of the liquid ascending the straight part of the tube. It is surprising what an extremely minute quantity of moisture can be made to enter the capillary limb in this way and frequently in half an hour the bulb can be completely filled. With a patient sweating freely I have several times removed as much as half an ounce of sweat in this time. The tin cap can be placed on the front of the chest where the indiarubber air-cushion will fill up inequalities between the ribs, and two crossed pieces of strapping will keep the whole in position. No evaporation from the skin surface beneath then takes place, and the sweat often rapidly collects in beads sufficient to fill several bulbs within a short space of time. There is a further advantage in the apparatus in that the sweat is prevented from being absorbed by contact with the clothes or rubbed off by the movements of the patient. Several of these protecting caps can be placed on the skin at different parts of the abdomen, &c. They should be warmed to blood-heat before being fixed in position as this will prevent aqueous vapour volatilised from the skin from becoming condensed on their interior.

The night sweats of phthisis.—With this apparatus I have examined experimentally the qualities of the sweat from a number of phthisical patients. The *modus operandi* consisted in injecting a variable quantity of the sweat into guinea-pigs artificially rendered tuberculous by the prior inoculation of a living virulent culture of the tubercle bacillus. The animals' weights were taken daily and their temperatures thrice daily from the date of inoculation. In order to register the maximum effect of the sweat toxicity intravenous injection of the liquid into tuberculous rabbits was also practised. I have proceeded in this way with fourteen phthisical patients. All had advanced lung trouble with numerous tubercle bacilli in the sputum. No less than twelve specimens of sweat obtained by the above method from as many different cases gave a typical tuberculin reaction after inoculation into the diseased animals. A temperature chart which I have before me shows the characteristic rise following the introduction of 5 c.c. of sweat. The temperature of the animal, a guinea-pig, was taken every four hours for five days and was always about normal—i.e., about 102° F. At 10 A.M. on the sixth day 5 c.c. of sweat were injected. By noon the temperature had begun to rise; by 2 P.M. it was over 104° and by 3 P.M. it had reached its maximum—105·5°. By 4 P.M. it had fallen one degree; by 5 P.M. it was 103°; by 6 P.M. it was under 102°; and by 7 P.M. it had reached its lowest point—100·5°. On the morning of the following day the temperature was normal. Quantities necessary to produce the effect have varied from 3 c.c. to 7 c.c. With two of the patients, although undoubtedly tuberculous, I failed to obtain positive results. As control experiments I injected normal sweat into tuberculous animals and phthisical sweat into non-tuberculous. If the quantity of sweat did not exceed 10 c.c. no detectable effect on the temperature resulted except the initial fall which invariably occurs in small rodents as the result of the shock of the injection. With 5 c.c. or 6 c.c. the temperature was always sub-normal for several hours. There seems to be no reason for doubt, therefore, that the night sweat of phthisical patients contains tuberculin in notable quantity. To my mind this proves that these sweats are eliminative efforts on the part of the tissues, and that therefore the very worst treatment which we can adopt for our patients is that of attempting to arrest the sweating by atropine, picrotoxin, zinc oxide, or other antisudorific. The rational line of treatment seems rather to be the encouragement of the sweating by warm blankets, hot bottles, &c., and the enveloping of the patient in some garment of highly absorbent material, such as a nightshirt of Jaeger's texture or other woollen vestment of like nature.

Effects of normal sweat upon animals.—Before proceeding to detail the results of the injection of sweat containing other bacterial toxins it may be asked what are the physiological effects of normal sweat? Subcutaneously enormous quantities from a healthy man (from 60 c.c. to 100 c.c. or more) may be injected without producing any obvious effect upon rodents. Queirolo, for instance, in fourteen experiments was unable to excite any symptoms whatever, however great the doses employed. As a rule not even local irritation or subsequent suppuration is observed, though the liquid is very far from being aseptic. With very large but submortal doses (from 40 c.c. to 50 c.c.) given intravenously the animals may sometimes present mild rise of temperature, prostration, or slight paresis of the hind legs. Arterial pressure may be markedly lowered and loss of weight follows in the next three or four days. It may be noted, however, that no pathological effects of any sort are elicited by the introduction of such small quantities as those mentioned above as used in the examination of phthisical sweat. With regard to the intravenous injection of large quantities my results agree entirely with those of Mavrojanni, Capitan and Gley, Queirolo and Cabitto, and are in opposition to Arloing's. I have found that at least from 60 c.c. to 100 c.c. per kilogramme of animal are necessary to produce death in rabbits. This occurs at the end of from thirty-six to seventy-two hours, but such an event is distinctly rare. Subcutaneously it is impossible to kill animals with normal sweat, however enormous the dose. No rise of temperature with subcutaneous injection of normal sweat occurs unless quantities of at least from 30 c.c. to 40 c.c. are introduced. Capitan and Gley[4] in one experiment they quote noticed no pyrexia even after 45 c.c. intravenously followed by 50 c.c. subcutaneously in the same animal. Dogs are more sensitive to the toxic action of sweat than any other laboratory animal.

Pneumonic sweat.—The results are quite otherwise with pathological sweats. I have employed the sweat from four patients with acute lobar pneumonia collected from the beginning of the crisis onwards during the next few hours. The rabbit and the mouse, the animals most susceptible to infection with the pneumococcus, seemed to be the most suitable subjects for testing this variety of sweat upon. From ½ c.c. to 1 c.c. of pneumonic sweat injected into mice made the animals very ill. Their respiration became accelerated. They sat "bunched up" in a corner of their cage looking precisely like creatures which have been inoculated with living cultures of the pneumococcus itself. The sweat of one patient, a man in Stephen Ward, Guy's Hospital, killed two mice with the above symptoms in doses of ½ c.c. and 1 c.c. respectively. The critical sweats of pneumonia have, in fact, yielded positive results in every case I have examined and the animals inoculated therewith recall the exact clinical picture of pneumococcus septicæmia. Normal sweat in the same doses has no effect upon mice. Six c.c. of pneumonic sweat also profoundly affected a rabbit and sent up its temperature from 102·8° to 104·6°, this rise being associated with marked acceleration of respiration.

Diphtheria.—I have only twice been fortunate enough to obtain sweat from patients suffering from diphtheria. One of these was a child with laryngeal obstruction and urgent dyspnœa. Sweat was standing in beads upon her forehead and I obtained a large quantity in a few minutes. 4 c.c. and 6 c.c. respectively of this were injected into two small guinea-pigs of 220 and 260 grammes weight. In twelve hours each had a marked local swelling at the site of inoculation and they had lost 12 and 15 grammes respectively in weight. One was killed at the end of forty-eight hours and showed on section a large infiltration of a gelatino-serous character identical with that observed in experimental diphtheritic intoxication. The suprarenals also seemed somewhat redder than normal, though I cannot speak positively upon this point. The other guinea-pig continued losing weight for ten days and then recovered with necrosis of skin over its abdomen, exactly as occurs after introduction of the pure toxin. Skin necrosis never follows injection of healthy sweat. This observation as to the elimination of diphtheritic toxin through the skin I have confirmed by an experiment in another direction. A horse which was undergoing immunisation at the British Institute of Preventive Medicine with the object of obtaining an antitoxic serum exhibited at first a very unusual result of the treatment. On its arrival it was subjected to a preliminary testing with mallein and in an hour's time became covered with a profuse urticarial eruption. The same thing happened within half an hour of its first inoculation with pure diphtheria toxin. After its second dose of toxin in addition to the urticaria it was thrown into a profuse perspiration. I thereupon shaved an area of skin upon its flanks of about eight inches in diameter and collected some of the moisture in one of the bulbed tubes before described. This was injected into a guinea-pig and gave rise to a marked and typical local reaction.

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[4] Loc. cit.

Tetanus.—I have obtained sweat from one patient with acute traumatic tetanus, but though a considerable quantity was injected I obtained no positive effects.

Conclusions.—The above experimental evidence seems to me to have a practical bearing upon therapeutics inasmuch as it furnishes a rational basis for the old empirical method of treatment—viz., that of "sweating a fever." The artificial encouragement of the sweating no doubt assists in the elimination of the toxin by way of the skin leaving less behind to poison the tissues. I hope in a further communication to detail the results of the experimental examination of the sweat of patients with acute rheumatism, which I hope will assist in throwing some light upon the nature of the rheumatic toxin.

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ON THE SERUM DIAGNOSIS OF TYPHOID FEVER, WITH ESPECIAL REFERENCE TO THE BACILLUS OF GÄRTNER AND ITS ALLIES

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ELSEWHERE I have called attention to the possible importance in the serum diagnosis of typhoid fever of Landsteiner's observation made in Professor Gruber's Institute that Gärtner's bacillus reacts positively with typhoid serum. That the same occurred in the case of the serum of typhoid fever patients I demonstrated at Liverpool in February, 1897.[1] It seemed that further investigation should be made upon this point, and the recent epidemics at Maidstone, Clifton, and King's Lynn have afforded an opportunity for inquiry. I must here express my sincere thanks to Mr. P. Adams and Dr. Poole, of Maidstone, Dr. Lansdown, of Clifton, and Dr. Plowright and Dr. Sumpter, of Lynn, for most kindly giving me facilities for obtaining serum and also for sending me many samples at their own personal inconvenience.

Before entering into the question of the serum reactions it will be well to make a few preliminary remarks upon the bacillus enteritidis (Gärtner), an organism which has hardly received the attention that it deserves in this country and which must not be confounded with the unhappily named bacillus enteritidis sporogenes of Dr. Klein. Authors have been in the habit of grouping the typhoid and colon bacilli in rather a promiscuous way—the "typhoid-like" of one observer being a "colon-like" to another.

The whole class may be divided into three groups:—(1) the Eberth group includes the typhoid bacillus and its near allies (these are almost unknown); (2) the Gärtner group includes bacillus enteritidis and its near allies (these have not yet been sufficiently worked out); and (3) the Escherich group includes the true bacillus coli and its near allies (these also have not yet been sufficiently worked out). I do not propose to enter here into the discussion of further groups of bacilli which in some respects resemble those of Group 3, though widely differing from those of Groups 1 and 2.

In the literature of the subject it appears probable that members of the Gärtner group have been confounded with those of Groups 1 and 2. However, they are not very difficult to distinguish in practice. In Germany, Holland, and Belgium, a number of outbreaks of "meat poisoning" have been carefully investigated; in many of these the causation of illness has been ascribed to certain bacilli or their toxic products, which bears a striking family resemblance to the original account of Gärtner; the individual differences which have been noticed are apparently comparatively of little importance. These bacilli have been isolated from the infected meat (often in the form of "German sausage"), vomit, and fæces, as also from the organs in fatal cases. A perusal of Dr. Günther's paper will show what care and patience may be required in working out a case of "meat poisoning" with success.

In the accompanying table in which the three groups are contrasted the description refers to characters which are presented by the actual bacillus of Gärtner at my disposal; so far as Gärtner's description goes, it is at variance only in the number of flagella (from four to eight) and the production of gas bubbles in lactose media. At the time when he wrote the technique of cilia staining was not so perfect as at present.[2] Other writers as well as Gärtner have given their bacilli credit of producing gas, though small in amount, in lactose media. As they did not use media free of muscle sugar ("bouillon") their statements are without value. The terms "paratyphoid" and "paracoli," about the relative merits of which there has been some discussion between Widal and Achard, do not appear to me to be at all appropriate; the group is evidently quite distinct from both typhoid and coli. Moreover, there are "Escherich-like" bacilli which are also unable to "ferment" lactose.

It will be observed that the bacillus Gärtner only differs from the bacillus Eberth in being able to produce gas bubbles in the presence of glucose (and muscle sugar), in possessing a greater power of overcoming the preliminary acid formed in the presence of glucose or lactose, and in reducing power. The expression "producing gas bubbles" is used here advisedly, since Hesse (vide Lösener) has shown that the typhoid bacillus can produce much gas (CO_2) though not as visible bubbles. (H_2S is also evolved.) The eventual alkali formation is dependent upon the amount and kind of sugar, the presence of oxygen, and the initial alkalinity of the medium. If twenty-four hours old cultures of neutral litmus-whey are exactly neutralised it will be found that the typhoid and Gärtner bacilli never become acid again, whilst the bacillus coli will form as much acid as it had already done before; although there is still plenty of sugar the two former do not decompose it into acid. Exactly the reverse is the case when cultures in 2·0 per cent. peptone, 0·1 per cent. glucose are neutralised. The great power of alkali production possessed by the bacillus Gärtner is no doubt causally related to the fact that it has a tendency to surface growth. Cobbett has shown that surface growth is necessary for alkali production by the diphtheria bacillus. To the Gärtner group belong the bacilli described by van Ermenghem, Fischer, Gaffky and Paak, Basenau, Cotta, Kaensche, Karlinsky, Günther, &c. Lubarsch has described a bacillus from a newly born child (without data concerning *flagella*, *gas*, or *indol*) which Gärtner reported on as being identical with his bacillus; however, it differs in that it clots milk (vide Gärtner's original description). Petruschky's bacillus fæcalis alkaligenes possibly belongs here also, so far I have been unable to obtain a culture to examine, the original description not being sufficiently detailed. The "typhoid" bacilli of certain authors "which have the power of gas production" almost certainly belong here too; also not improbably the cases of "septicæmic typhoid fever" described in France, in which "death occurred before typical typhoid lesions had been developed" were in reality due to a bacillus of this group and not to what we recognise as Eberth's bacillus. The different results given in the matter of reducing power are also cleared up to some extent by non-appreciation of this group by the several writers. My observations are quite in harmony with those of Germano and Maurea, in that I have yet to see a true typhoid bacillus which reduces sulphindigotate of soda as rapidly as the bacillus coli does. Another source of difference in the results lies in the constitution of the media, more especially in the presence of sugars, and naturally, also, the contact with oxygen. This I hope to deal with more thoroughly elsewhere.

There is yet one more question which is cleared up on the

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[1] THE LANCET, Feb. 13th, 1897, p. 451.

[2] I am now quite convinced that this discrepancy is due to faulty staining method, since the culture just received from Dr. Günther, which is described to possess from two to five flagella when stained by Löffler's method, shows from ten to fourteen or more in specimens prepared by that of van Ermenghem. (Specimens were made from fresh four-hour and twenty-hour cultures directly after the receipt of the culture.)

TABLE CONTRASTING THE TYPES OF THE EBERTH, GÄRTNER, AND ESCHERICH GROUPS.

—	1. EBERTH GROUP.	2. GÄRTNER GROUP.	3. ESCHERICH GROUP.
Superficial colonies on gelatin plates*	When typical thin spreading, sulcate; atypical colonies however occur.*	Granular, not sulcate.	May be sulcate or granular; usually rapid spreading.
Rate of growth on gelatin*	Slow.*	Medium.*	Fast.*
Motility	Very active.	Very active.	In general less active.
Flagella...	10 or more.	10 or more.	8 or less.
Acid produced in *neutral* litmus whey after twenty-four hours at 37° C.	2·5 to 3·5 per cent.†	2 to 3 per cent.	6 to 8 or more per cent.
Ditto, after from four to five days at 37° C.	Acid (less than 6 per cent.).	Alkaline (1·5 per cent.).	Acid (more than 10 per cent.).
Nutrient agar or broth with grape or muscle sugar at 37° C.	No gas bubbles.	Gas bubbles.	Abundant gas bubbles.
Nutrient gelatin at 18° to 20° C. with grape sugar	No gas.	No gas.	Abundant gas.
Media with lactose free from other sugars ...	No gas.	No gas.	Gas.
Litmus neutral solution of 2 per cent. Witte's peptone and 0·1 per cent. glucose (Capaldi, Proskauer) after twenty-four hours at 37° C.	Acid (4·5 per cent.).†	Acid (3 per cent.).	More acid (5 per cent.).
Ditto after several days	Acid (6 per cent.).	Alkaline (3·5 per cent.).	Alkaline (e.g., 2 per cent.) or neutral.
Ditto eventually	Generally becomes alkaline.	Alkaline.	Alkaline.
Milk at 37° C.	Never clotted.	Never clotted.	Clotted in from twenty-four to thirty-six hours.
Reducing power (0·2 c.c. of ½ per cent. indigo-carmine per 10 c.c. of nutrient agar or gelatin)	Slow.	Very rapid.	Moderately rapid.
Potato juice agar ‡ at 37° C.	Scanty translucent.	Rather scanty translucent.	Abundant opaque.
Potato (parallel streak with typhoid bacillus) twenty-four hours at 37° C.	Invisible or hardly visible.	Generally just visible.	Abundant yellowish.
Indol formation	Absent.	Absent.	Present.
Serum reaction with:—potent typhoid serum	Always positive; extent variable.	Generally positive; but not in high dilution as 1 : 50,000 or more.	Never positive even in low dilution as 2 : 100.
" " potent Gärtner serum	Rather variable.	Positive, but not universally in the group.	Negative.
" " potent "coli" serum	Negative.	Negative.	Variable.

* Much depends upon the exact constitution of the gelatin, especially the length of time it has been heated (during filtration &c.).

† These figures represent the percentage of $\frac{1}{10}$ normal NaOH requisite to neutralise the acidity or of $\frac{1}{10}$ normal H_2SO_4 in the cases where alkalinity is present.

‡ This is prepared by extracting starch-free potato juice (as described by Holtz in the Zeitschrift für Hygiene, Band viii., p. 143) and adding from 1½ to 2 per cent. agar: a clear brown medium results. I find this shows differences better than the clumsy method of "parallel culture." For purposes of comparison cultures are made upon the same batch of medium.

supposition that Gärtner-like bacilli have been mistaken for those of the other two groups. Demel and Orlandi, amongst others, have stated that animals immunised against the typhoid bacillus are also immune against the bacillus coli. Now according to my experiments, it is clear that the complete sedimentation effect *in vitro* by a given highly diluted active serum is always associated with protective properties when the experiment is made with an animal. Many of those who have ventured to criticise my statements have apparently considered that I hold "agglutinins" and "protective substances" to be identical. That which I have indeed laid stress upon is the fact that sera which have high clumping power also have considerable protective power,[3] *but it does not follow from this that sera which have little or no clumping power have also no protective power*. Again others have gone further astray and argued that since certain normal, and other non-specific, sera have agglutinating power when in a concentrated condition these sera ought also to possess protective qualities. I must reserve further remarks upon this topic to a paper in which I intend to deal especially with the serum reactions of the bacilli included between typhoid on the one hand and coli on the other; it would be quite useless to draw any inferences on the topic until all the obtainable new races of this class of bacilli react with one or other of the sera in my possession. Although many different kinds of serum are at my disposal (my collection was commenced in 1895) and others will shortly be so, there are still many sera to be prepared. From present experience it is clear that the inquiry on this point must be complete if it is to be of any real value. It will be readily understood that this is no light undertaking. The observation that there are differences between various races of typhoid bacilli[4] observed *in vitro* has been confirmed by Pfeiffer and Koll *in vivo*. There are also differences in the action of different kinds of typhoid races upon those of the Gärtner group not only in the sedimenting but also in protective effect; in fact these bacilli afford confirmation of the correlation of protecting and agglutinating substances. Those typhoid sera which are efficient *in vitro* have considerable protective power against the two members of Gärtner group which I have tried.

In the accompanying tables of the reactions of sera obtained from typhoid fever patients in different localities three Eberth and two Gärtner group cultures have been used. Typhoid fever ("THS") has only a very slight *mutual* serum reaction with Gärtner ("Gärt"), practically none with the Gärtner-like "ös"; typhoid fever "W" gives (mutually) complete reaction with "Gärt" and distinct with "ös"; typhoid fever "BW" is intermediate in its action. "Gärt" and "ös" react *mutually* in low dilution such as 1:200. The method employed has been practically that of Professor Wright, of Netley, specimens of different dilutions being made in capillary tubes. Having controlled the results given in many parallel observations made by this method with those given by the microscope alone, I venture to assert that his method is by far the most valuable that we are in possession of and on the whole leads to less equivocal results—that is to say, when the criterion of measurement of potency is the ultimate dilution in which reaction can be detected—and for the purposes of testing human sera this is the best criterion. The method I have advocated (finding the least percentage of serum which will completely precipitate a given amount of bacilli at a given temperature in a given time), is of less value in the case of man, because it is not common to find samples which will give "complete"

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[3] In fact a reaction of the reaction to infection; but by no means a "reaction of infection" as any xperimentalist can demonstrate.

[4] Journal of Pathology, 1896, p. 35.

Tables showing the Reactions of the Sera of Patients suffering from Typhoid Fever.

In these tables a well marked positive reaction is indicated by +; a slight positive reaction by *; a trace of reaction by "tr"; doubtful, if any, reaction by ?; negative reaction by 0; and no observation by —.

—	King's Lynn.—No. 1.			King's Lynn.—No. 2.			King's Lynn.—No. 3.		
—	THS.	Gärt.	Ös.	THS.	Gärt.	Ös.	THS.	Gärt.	Ös.
1:20	+	+	*	+	+	+	+	+	—
1:100	+	+	0	+	+	0	+	*	—
1:200	+	?	0	+	tr	0	+	tr	—
1:500	+	0	0	tr	0	0	+	0	—
1:1000	tr	0	0	0	0	0	+	0	—
	42nd day: severe attack with relapse.			38th day: severe attack.			End of third week.		

—	Maidstone.—No. 1.				Maidstone.—No. 2.				Maidstone.—No. 3.			
—	TBW.	TW.	Gärt.	Ös.	TBW.	W.	Gärt.	Ös.	TBW.	TW.	Gärt.	Ös.
1:20	+	+	+	0	+	+	+	0	—	—	+	—
1:100	+	+	+	0	+	+	+	0	—	+	+	—
1:200	+	+	*	0	+	+	+	0	—	+	0	—
1:500	+	+	0	0	+	+	+	0	—	+	0	—
1:1000	+	+	0	0	+	+	0	0	+	+	0	—
	Six weeks' irregular fever with rigors; clinically doubtful typhoid fever.				45th day: sharp attack; relapse.				Age two years and three months. 34th day: severe attack; relapse.			

—	Maidstone.—No. 6.				Maidstone.—No. 10.				Maidstone.—No. 11.		
—	TBW.	TW.	Gärt.	Ös.	THS.	TW.	Gärt.	Ös.	THS.	Gärt.	Ös.
1:20	+	—	+	—	—	—	—	—	+	+	
1:100	+	+	+	—	+	+	+	*	+	+	0
1:200	+	+	?	0	+	+	+	?	+	?	0
1:500	+	+	0	0	*	+	*	0	+	0	0
1:1000	—	—	—	—	0	+	0	0	+	0	0
	43rd day: relapse.				Typical typhoid fever, 60th day.				30th day: relapse.		

—	Maidstone.—No. 8 (Serum from Pus.			Maidstone.—No. 16.			Maidstone.—No. 13.		
—	THS.	Gärt.	Ös.	HS.	Gärt.	Ös.	THS.	Gärt.	Ös.
1:20	—	—	—	—	—	—	—	—	—
1:100	+	tr	0	+	0	0	+	+	0
1:200	+	0	0	*	0	0	+	*	0
1:500	*	0	0	0	0	0	*	0	0
1:1000	?	0	0	0	0	0	tr	0	0
	Pus from glandular abscess undoubted typhoid.			Severe relapse.			26th day.		

—	Clifton.—No. 1.				Clifton.—No. 2.				Clifton.—No. 3.				Clifton.—No. 4.			
—	THS.	TW.	Gärt.	Ös.	THS.	TW.	Gärt.	Ös.	THS.	TW.	Gärt.	Ös.	THS.	TW.	Gärt.	Ös.
1:20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1:100	+	+	+	*	+	+	+	0	tr	*	*	tr	+	+	+	—
1:200	+	+	+	0	+	+	*	0	?	tr	?	tr	+	+	+	tr
1:500	+	+	+	0	*	+	tr	0	0	?	0	0	*	tr	*	0
1:1000	+	+	*	0	tr	+	0	0	0	0	0	0	tr	tr	? tr	0
	Sent as typical typhoid fever.				Sent as typical typhoid fever.				Sent as typical typhoid fever.				Sent as typical typhoid fever.			

reaction when sufficiently diluted (e.g., 1 per cent.), and observed in columns not less than 1 cm. in diameter; in the diagnosis of bacilli, however, I believe this method to be indispensable. Broth cultures twenty hours old have been used in each case; since "Gärt" and "Ös" both grow more abundantly than the typhoid cultures and also tend to the formation of a pellicle; these were filtered through filter paper and diluted with broth so as to be equally turbid with the typhoid cultures. Extra controls were afforded by specimens (not tabulated) from typical or doubtful cases of typhoid fever which failed to give any reaction with any of the bacilli tried.

In some instances the quantity of serum was not sufficient to give many trials; in others I have reserved some for further testing with other races of bacilli (Dr. Günther, of Berlin, has already most kindly replied to my request for a specimen of the bacillus he isolated). The differences between the samples are of sufficient interest in themselves without waiting for the delay that must ensue before other races of bacilli are to hand.

In these tables, showing the reactions of the sera of patients suffering from typhoid fever, it will be noticed at once that in dilutions lower than and including 1:100 it is immaterial whether true typhoid or Gärtner's bacillus is used to obtain a *typhoid reaction*. In the following cases the Gärtner reaction is stronger relatively, the typhoid reaction being weak or absent.

Cases with Predominant Gärtner Reaction.

	W. AUSTRALIA (Dr. B.). Typhoid fever, December, 1896.				KING'S LYNN, No. 4.			KING'S LYNN, No. 5.		
	THS.	TW.	Gärt.	Ös.	THS.	Gärt.	Ös.	THS.	Gärt.	Ös.
1: 20 ...	0	0	+	+	-	-	-	+	+	+
1: 100 ...	0	0	+	*	0	+	0	+	+	tr
1: 200 ...	0	0	+	tr	0	*	0	*	+	0
1: 500 ...	0	0	0	0	0	0	0	tr	+	0
1:1000 ...	0	0	0	0	0	0	0	0	?	0

Two cases of undoubted typhoid fever (34th and 27th days) and six doubtful cases reacted negatively to all the bacilli.

Whilst the cases and the races of bacilli are too few to draw any final conclusions it is rather striking that these Lynn and Australian sera exhibit more marked action upon Gärtner's bacillus. I myself had an attack of ill-defined nature (which I thought was typhoid fever at the time) in April, 1896 (immediately after the Wiesbaden Congress) during which I travelled about (in a decrepit condition); about a year ago my serum reacted well on typhoid bacilli in 1:200, six months ago in not more than 1:100 (unfortunately it was not then tested with Gärtner), it then fell to 1:20; a few weeks ago it had no effect upon typhoid but still reacts slightly with Gärtner (1:200). The question naturally arises whether my attack and the W. Australia and Lynn, Nos. 4 and 5 were in reality due to a bacillus of the Gärtner group. To answer this question it is necessary to consider how far the serum reaction is "specific"; already in our earlier observations Professor Gruber and I came to the conclusion that these reactions, as observed with cholera and allied vibrios as well as with the typhoid, Gärtner's and colon bacilli, could not be regarded as truly *specific*; indeed, I suggested that the word *specific* should give place to the word *special*. Since commencing to work at the subject in November, 1894, I have not seen reason to alter my views, for experiments both in vitro and in vivo tend towards the same conclusion. In the diagnosis of bacilli by means of serum reactions it is necessary to have extremely potent samples of serum and to use minute quantities of them. This was laid down originally by Pfeiffer as the result of his animal method, and it is still more true, when the recognition is made by means of clumping and sedimenting effects, as Professor Gruber insisted when he first called the attention of the world to the visible reactions given by typhoid patients' sera. As instances of the marvellous degrees of potency which can be acquired by prolonged (and fortunate) treatment I may state that I have succeeded in getting a sample of "coli serum" which still gave a definite reaction in a dilution of 1 in 2,000,000 on two separate occasions with its own race of coli (the higher dilutions yet tried were 1 in 20,000,000 and 1 in 200,000,000, at which points there was no effect); sera which manifest their presence in 1 in 50,000 to 500,000 are not so difficult to obtain. Now the sera obtained from typhoid fever patients are not potent enough to give absolute indications (in the large majority of the samples I have examined as well as in the above questionable cases) either for diagnosis of bacilli or of the nature of the serum. The results in the tables given above are also evidence in the same direction. So far as I have seen, serum diagnosis in man merely gives an indication of a probability; unless (judging by the effects of extremely potent sera from artificially immunised animals) the reaction is strong in greater dilution than 1 in 1000 (using Wright's method, or 1 in 100 in my own method, macro- and microscopical); microscopical observation alone is not quite so easy, the appearances being often difficult to interpret.

Persistence of the reaction against a given bacillus after it has been lost against allied bacilli is in favour of the original infection having been due to that bacillus.

Since there has been some discussion concerning the length of time that a serum reaction may persist, I would call attention to the fact that several cases are on record in which abscesses due to the typhoid bacillus have occurred five, six, and seven years after the typhoid fever attack. This seems to be more to the point than any discussion on a time limit. Widal has recently published some account of a "para-coli" bacillus from an abscess; his description of the cultural relations and serum reactions are too wanting in precision for discussion here.

Should these lines meet the eye of anyone who has to deal with an outbreak of "meat-poisoning," the clinical course of which may be somewhat typhoid-like according to description, I may say that I shall be more than willing to examine samples of the serum taken from the sufferers; by such means there is a chance of approaching the truth of the matter. Unfortunately all meat-poisonings are not due to Gärtner's bacillus or its congeners.

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Cambridge.

CASE OF RHEUMATISM WITH FREQUENT COMPLICATIONS.

BY W. G. DICKINSON, M.R.C.S. ENG., L.R.C.P. LOND., D.P.H.

A MAN, aged twenty-two years, sent for me on the night of Dec. 31st, 1896. He stated that he had not been feeling well for some time, that he had had an attack of influenza about a fortnight previously, and that he now felt much the same as he did then, only worse. He had the usual febrile symptoms, considerable muscular aching, and much prostration. These continued and increased during the next four or five days, the temperature rising to 103 6° F. and the prostration becoming more marked. He was treated at first with twenty grains of salicylate of soda every four hours, but he soon showed great intolerance of this, nausea and severe pain in the back being produced, which ceased when the drug was withheld and returned when it was again tried. On Jan. 5th, 1897, Dr. Hector Mackenzie kindly came to see him. He thought that although there had hitherto been no abdominal symptoms the case would probably turn out to be typhoid fever. No local complication could be found to account for the persistence of the fever. In the course of another day or two, however, definite rheumatic indications occurred in the ankles, knees, and shoulders and profuse acid perspirations broke out. Salol was then given and well tolerated, the general symptoms improved, and the case followed the ordinary course of subacute rheumatism until the 17th. On this day the temperature rose to 102° and pleurisy on the right side occurred. This shortly subsided and the patient made a steady though tedious recovery. Up to the present the heart had not been involved.

The patient's bedroom was situated on the top floor and during his illness other members of the family complained of an unpleasant smell in the breakfast room in the basement. In consequence of this the landlord's agent had the boards taken up and disinfecting powder was applied. This apparently abated the nuisance. In the second week of February the patient was able to leave his room, but he was not allowed to enter the basement or to use the water-closet. I was then seeing him occasionally, but on Feb. 13th I was again sent for in the evening. I found that the temperature had run up to 103·4° and that severe sore-throat was complained of. There was a light whitish film over the left tonsil which was swollen and inflamed. I gave an opinion that the attack was probably diphtheritic and ordered an iron and chlorate of potassium mixture every two hours and the throat to be frequently swabbed out with carbolic glycerine. This being late on a Saturday evening it was impossible to get any antitoxin, but some was obtained in the course of the following day and 10 c.c. were injected at 8.30 P.M. By this time all the symptoms were much intensified, the temperature was 104 4°, the membrane had become well marked, and had spread to the other side of the throat. The result of the injection was all that could be desired; the temperature began to fall at once, the throat became easier, and the patient had some sleep. During the following day (Monday) the improvement continued, but the temperature rose in the evening to 103°. After this the membrane began to loosen and was expectorated in flakes. By Tuesday morning the temperature had fallen to 100 8° and the throat was practically well. On that evening, however, the remarkable feature in the case occurred. The patient complained of difficulty in breathing and fulness in the chest. On examination I found a loud pericardial friction sound and a mitral murmur; the temperature again rose and the sour perspirations recommenced. The attack of diphtheria (or the antitoxin?) had evidently induced a relapse of the rheumatism in its most serious form. This continued in the acute stage for several days and the patient appeared in considerable danger of collapse; brandy was given freely and strychnine was injected hypodermically. Severe reflex pains in the neck and shoulders set in, for which morphia had to be given. Dr. Hector Mackenzie again saw the patient on the 19th. Salol was recommenced and in the course of the next few days the temperature fell to a little above normal and the pericardial effusion somewhat diminished. During the whole of this relapse the perspirations were unusually profuse. On the 27th the temperature again rose suspiciously about 6 P.M. and this became more marked on the 28th and on March 1st. On the 2nd Dr. Sharkey saw the patient and by this time there were some physical signs of commencing right pneumonia. The temperature again ran up to 104° and the patient once more became very ill. The pneumonia spread over the greater part of the right lung and the pleura became affected causing great pain. Four leeches were applied and morphia had again to be injected. Dr. Sharkey advised quinine and digitalis which were given in place of salol. The pneumonia followed a very painful but adynamic course, the temperature seldom rising above 101° and there being no cough or sputa. Great discomfort was caused at this time and subsequently by flatulent distension of the stomach and colon. In the early morning of the 7th the temperature suddenly went up from 99° to 102·6° and severe pain set in below the *left* nipple. Pleuritic friction was found and this was rapidly followed by considerable effusion. The patient had now at the same time endocarditis, pericarditis, right pleuro-pneumonia, and left pleurisy with effusion; he had also recently gone through two exhausting attacks of rheumatism and one of diphtheria. His condition was necessarily very grave and symptoms of collapse again set in. Brandy and strychnine were freely resorted to; hot-water bottles and friction were applied to the extremities. He very gradually began to rally and from this time made a slow but steady recovery. The heart gradually improved, the murmur ultimately disappeared, and the patient has been able to cycle moderately during the summer. He went in October last on a visit to India.

It should be added that the diagnosis of diphtheria was verified bacteriologically and that the sanitary authority discovered a defective soil-pipe communicating with the basement. I need hardly say that the patient was most excellently and intelligently nursed and that to this his recovery is largely due.

West-hill, Putney, S.W.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LEWISHAM INFIRMARY.

A CASE OF PERFORATING GASTRIC ULCER; LAPAROTOMY; RECOVERY.

(Under the care of Dr. F. S. TOOGOOD.)

IT is probable that the most important factor influencing the result of a laparotomy for a perforated gastric ulcer is the length of time which has elapsed since the perforation. In no recorded case has recovery ensued if the operation has been postponed for more than twenty-four hours[1] unless extensive peritoneal adhesions existed prior to the perforation. In the following case the operation took place about fourteen hours after the rupture. The sooner the operation is performed the better, though it has been considered advisable by some to wait until the reaction has replaced the first shock of the perforation.[2]

A domestic servant, aged twenty-one years, was admitted into the Lewisham Infirmary, about 1.30 A.M., on Sept. 17th, 1897, with the history that she had been suffering from gastric ulcer for some months past and had been attended by Mr. Lennard Stokes. On the 16th, soon after noon, she was seized with sudden acute pain in the region of the stomach and she fainted. Mr. Stokes promptly diagnosed the rupture of the ulcer, and as soon as the necessary arrangements were completed she was conveyed to the infirmary. On admission she was suffering severely from collapse; her pulse was 130 and very feeble and the respirations were 34, almost entirely thoracic and shallow. She complained of intense pain over the whole abdomen the wall of which was rather distended and was kept very rigid. Percussion revealed that the liver dulness had disappeared in front. Mr. E. R. Badcock, the assistant medical officer, administered chloroform, and Dr. Toogood opened the abdominal cavity by an incision three inches long between the xiphoid cartilage and the umbilicus; there was a considerable amount of free gas in the cavity. The stomach was seen lying quite collapsed and was found attached by a ring of adhesions to the anterior abdominal wall; a portion of these adhesions had broken down and the forefinger could easily be passed into the stomach. This attachment necessitated the original incision being continued for about three inches along the left costal margin, when the site of the ulcer was thoroughly exposed. The adhesions were divided with care, but no vessels required ligature. The ulcer appeared as a punched-out hole of the size of a sixpence. The condition of the patient was so alarming that it was decided not to pare away the thickened edges of the ulcer; accordingly the gap was drawn together by twelve Lembert sutures, using 00 Chinese twist silk and a very fine milliner's needle. Nearly a pint of dark fluid mingled with débris of food was sponged out of the abdomen and several gallons of sterilised water at a temperature of 110° F. were used in washing out the peritoneum.

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[1] A. V. Atherton: New York Medical Record, Jan. 5th, 1896.

[2] Brit. Med. Jour., Oct. 20th, 1894.

Special attention was paid to the liver and the interstices between it and the diaphragm, which as well as Douglas's pouch were well sponged out, and a thick strand of cyanide gauze was passed on each side well down to the posterior edge of the liver. The incision was now closed by silkworm gut sutures except at the upper angle where the gauze drains were protruding. The wound was dressed on the same day at 6 P.M., when the gauze drains were removed; that from the right side being almost dry was not reinserted, but that on the left was replaced by a Keith's glass tube, having a cyanide gauze wick in its centre. During the next forty-eight hours the wound was dressed four times, a good deal of cloudy serum collecting in the tube; but this having ceased the tube was removed sixty hours after the operation. Immediately after the operation the temperature sank to 99·4°, but eighteen hours afterwards it had risen to 103·6°. However, it again sank, and after a few unimportant fluctuations it gradually became normal and remained so after the fifth day. The pulse improved with the temperature. Three minims of morphia injected hypodermically with one-fiftieth of a grain of strychnine were given every twelve hours for three days. A teaspoonful of hot water was allowed by the mouth every two hours. Dr. Toogood has found that with a long tube and with great care and slowness a nutrient enema measuring a full pint may be successfully given and this amount of peptonised milk with Liebig's peptone of beef was administered every six hours, while the bowel was thoroughly washed out once in the twenty-four hours with a simple enema. Seven days after the operation fluid food was commenced by the mouth one ounce of peptonised milk flavoured with Benger's or Mellin's food being given every four hours. After a lapse of two days this amount was given every two hours and this was gradually increased until in three weeks' time five ounces every two hours were being taken. Twenty-five days after admission the nutrient enemata were discontinued and arrowroot was given by the mouth, and after the thirty-first day three ounces of pounded chicken were taken daily and after the lapse of another week the patient was able to take an ordinary light diet. The wound healed by first intention with the exception of the track caused by the tube, which granulated slowly but it was soundly closed in three weeks. About the tenth day a good deal of abdominal pain was complained of which caused much perplexity until a too sympathetic fellow patient was detected administering bread and butter. The pain ceased with the sympathiser's removal. The patient was discharged plump, ruddy, and well on Nov. 20th.

Remarks by Dr. TOOGOOD.—I have entered closely into all the details of this interesting case in the hope that the information may be useful to those who might otherwise, like myself, have had to grope with anxious and fearful steps along the slippery, dark, and rock-bestrewn path of "after-treatment."

ROYAL INFIRMARY, SHEFFIELD.

A CASE OF SELF-INFLICTED WOUND OF THE ABDOMEN; OPERATION; DEATH.

(Under the care of Mr. ARCHIBALD CUFF.)

THE treatment of penetrating wounds of the abdomen has undergone a great change during recent years. Formerly—if after a penetrating wound there was no evidence of injury of any viscus—it was considered advisable not to explore but to close the wound. It was, however, gradually recognised that under this treatment serious injury of the intestine or other abdominal organ not infrequently occurred, and yet should it have given rise to no symptoms it passed unnoticed until the time had gone by when operative interference might have saved the patient's life. It is therefore becoming more and more the custom to explore by laparotomy all cases of wounds of the abdomen which have penetrated the peritoneum even when no evidence of deeper injury is present. The results justify this method of treatment—for instance, Gulotta[1] performed laparotomy in thirteen cases of penetrating wounds of the abdomen, and six of these, in which no lesion of the viscera was found, all recovered, showing that the operation does not add materially to the danger. In five of the thirteen cases the bowel was wounded in one or more places, and of these only one died. In the two other cases the liver was wounded and one of these also succumbed. The fatal result in the very interesting case reported below was probably due to the profuse hæmorrhage which had occurred before the operation. The case also demonstrates the value of saline infusions, but the failure of the axillary injection does not necessarily invalidate its claim to be of service in some instances, for obviously there must be cases in which no injections can succeed in saving life. For cases in which rapidity of action is of importance the intravenous injection of saline solution is probably the most satisfactory.

The patient, a man aged thirty-one years, was admitted into the Royal Infirmary, Sheffield, on Dec. 29th, 1897, about 10 15 P.M., having nearly two hours previously stabbed himself in the abdomen with (presumably) his pocket-knife. The stab had been made after baring the abdomen and not through the clothes. The lower part of the body and his trousers were soaked in blood. The patient was in a condition of collapse. On examining the abdomen there was seen to be an incision about one and a half inches in length in the middle line and commencing above at the umbilicus. A coil of unwounded small intestine was protruding but no blood was escaping from the wound. He was immediately taken to the operating theatre and ether was administered, as owing to his restlessness the attempt to do without an anæsthetic was not persevered in and the skin of the abdomen was rapidly cleansed and shaved. The wound was prolonged upwards, when it was seen that the peritoneal cavity was full of extravasated blood, a quantity having gravitated into the pelvis. An artery in the transverse meso-colon was found to be bleeding freely although the pulse at the wrist was at the time imperceptible. This was clamped and further interference suspended as the patient appeared to be moribund. Infusion of normal saline solution at a temperature of 107° F. was resorted to and he revived and his condition remained fair during the rest of the operation. A further search in the abdomen revealed the transverse colon cut sharply across, its ends being widely separated and pointing towards the anterior abdominal wall. The bowel appeared to be empty and not a trace of fæces was to be seen in the peritoneal cavity. No other lesion was apparent. The patient's condition seemed to warrant the attempt to suture the bowel ends and not to be content with bringing them up into the wound as was Mr. Cuff's first impulse, and they were brought together over a Robson's bobbin. Unfortunately this was a difficult and tedious operation owing to the layers of omentum and tags of fat present at the injured spot, and it would have been preferable to have sutured the bowel without any bobbin at all, or possibly even better to have used a Murphy's button. The bleeding points having been ligatured, the peritoneal cavity flushed out with warm sterile water, a tampon of gauze placed about the sutured intestine, and a drainage tube pushed into the pelvis, the abdominal walls were sutured. In spite of every method of stimulation used the patient sank and died six hours after admission. The hypodermic injection by a large syringe of saline solution at a temperature of 110° into the axillæ did not yield the stimulatory effects which Mr. Cuff had anticipated after reading the descriptions by other surgeons. A similar result occurred in a case of severe shock after removal of a large renal sarcoma in which this method of infusion was resorted to.

Remarks by Mr. CUFF.—Instances of suicidal wounds of the abdomen are not common in this country and it does not often fall to the lot of one individual to have to treat two such cases within two years. About eighteen months ago I published[2] the notes of a case of extensive wound of the abdominal wall, opening the peritoneal cavity and accompanied by considerable hæmorrhage, the patient making a good recovery. In the case recorded above the wound was of small extent but the damage done was greater, as a piece of intestine was cut across, the hæmorrhage was most severe, and the result unfortunately was fatal. The case teaches the necessity for carefully exploring the abdomen after a penetrating wound however small. Here the hæmorrhage from the wound appeared to have ceased and the bowel at the site of the wound was undamaged. The section of the empty large bowel by a stab wound and the separation of its two ends were also interesting. Curiously my first patient came to see me to-day (Jan. 3rd, 1898) with a sprained foot incurred while taking part in a paper-chase across country. It is interesting to find that the scar is firm and unyielding, no trace of hernia being apparent. I am indebted to Mr. G. H. Shaw, senior surgeon of this institution, for permission to treat the case and now to publish these notes.

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[1] Riforma Medica, Naples, 1895, p. 184.

[2] THE LANCET, May 30th, 1896.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Adjourned Discussion on the Prevention of Enteric Fever.

A meeting of this society was held on Jan. 11th, the President, Dr. **Howship Dickinson**, being in the chair.

The **President** announced that Dr. Robert Barnes had returned his debentures to the value of £200 as a donation to the society, and a cordial vote of thanks was passed to him.

The adjourned discussion on the Prevention of Enteric Fever was continued by Dr. **Corfield**, who controverted Dr. Poore's contention that the prevalence of typhoid fever was the direct result of the adoption of the water-closet and water-conveyance of sewage. As a matter of fact the mortality from typhoid fever had been enormously reduced throughout the country since the passing of the Public Health Act of 1875, which led to the wide adoption of water methods including the water-closet. London was probably the city in which water-closets and water-carriage of sewage were most universal and the death-rate from enteric fever was less for London than that for the whole of England and Wales. On the other hand the mortality was highest in the counties of Nottingham, Lancashire, Durham, Northumberland, and part of Yorkshire—industrial centres where the water system least prevailed; and in industrial South Wales, where similar methods to those in Durham, &c., were adopted, the mortality was half as large again as in North Wales. The water-closet was not discovered by Bramah but was described by Vitruvius, and remains of one were found in the ruins of the Palace of the Cæsars in Rome. A full description, with illustration and specification, was found in the "Metamorphosis of Ajax," by Sir John Harrington, published in 1596; and the first patentee of the valve closet was Alexander Cummings in 1776. It was afterwards modified by Bramah and usually bears his name. Till lately it was believed that typhoid fever might arise *de novo* from decomposing excrement. But as he had shown in a paper read before the Epidemiological Society in 1874 this and other suitable conditions might be present for years and typhoid fever only break out when a fresh case was introduced from a distance. He quoted a case in which a maidservant developed typhoid fever when a sewer had been opened under her bedroom window. As no cases had occurred in the neighbourhood for some years it was supposed that this was due to infection from decomposing sewage but it was found that the sewer had been contaminated from a patient suffering from typhoid fever in a cottage six miles away. Although it was not generally held now that the disease could be transmitted by vitiated air he believed that this was sometimes the case. Sir William Gairdner had mentioned the case of the Prince of Wales as an instance in point. But on looking up the notes of his investigation made twenty-seven years ago he found that that view could not be adopted. Contrary to what was stated at the time there were no cesspools under the house in which the Prince was staying and the soil-pipe was efficiently ventilated. The fever attacked several of the gentlemen who were staying in the house at the same time and a few of the male servants, but the ladies and the female servants escaped. He believed that the vehicle of infection was some article of food. Dr. Corfield was satisfied that until lately in London one of the chief sources of propagation was the connexion of the waste-pipe from the water cistern with the soil-pipe which led to fouling of the water. It had been thought that the cistern could be dispensed with, but some storage was necessary and in the east-end of London where they had been taken out they were now being replaced. There were some curious differences to be observed in the spread of typhoid fever and cholera. As an instance he mentioned that in the town Lyons, which was a city of cesspools, typhoid fever was always prevalent; yet although cholera had been repeatedly introduced it had never spread, and this was so well recognised that the inhabitants of Marseilles and Paris hastened to Lyons for safety whenever an epidemic broke out in their own towns. He thought that the air of the houses became polluted from the cesspools beneath and so favoured the occurrence of typhoid fever.

Dr. **Seaton** referred to the reduction of 60 per cent. which had been effected in the mortality from typhoid fever. He thought that the fundamental point for the prevention of epidemics was the efficient organisation of the sanitary authorities—a point which he had discussed at length elsewhere.[1] Compulsory notification was one of the greatest safeguards and had proved to be a very great success in spite of the opposition and criticism to which it was subjected when first adopted. The sanitary authorities had greater responsibility in dealing with small-pox and typhoid fever than with other diseases. Disinfection, or if possible destruction, of all infectious material was most important for arresting the spread of the disease, and at Newcastle Dr. Armstrong was adapting the sterilisers which had proved so useful in disinfecting cholera-infected materials for use in the typhoid wards of the hospital. He hoped to see an amplification of the system of notification so that there should be inter-notification between sanitary authorities of adjacent districts. Such a system had been adopted by some county authorities, notably in Cornwall. He was strongly in sympathy with Dr. Poore's views so far as they applied to rural conditions, but he could not regard them as suitable for the immense aggregations of population in large towns. In France, where there was more frequently a plot of cultivated land surrounding the house, Dr. Poore's methods would be more easily applied than in this country. He thought that there were many rural districts supplied with elaborate water systems the sewage of which could be more safely, efficiently, and much more cheaply dealt with by dry methods.

Dr. J. E. **Squire** reminded the society that twelve years ago he brought before them some observations with regard to the spread of typhoid fever among the British troops then on service in the Eastern Soudan. These showed that the disease spread in that hot, dry climate through the dust which was carried by the wind and which conveyed particles of dried excrement. Recent observations on the virulence of the typhoid bacillus after drying supported this view. Although in this country this mode of spread was not a likely one yet it deserved careful consideration in connexion with the spread of fever in hot countries in which it was prevalent such as India.

Dr. **Fletcher Little** made a series of recommendations for the avoidance of typhoid epidemics. 1. Universal notification, with compensation to any bread-winners who were prevented from following their occupation. 2. Arrangement by the local authorities for the performance of tests such as Widal's reaction free of expense to the medical practitioner. 3. Supervision of all public buildings such as barracks, docks, railway stations, and hospitals by the local medical officer of health. 4. The water-test should be insisted on before any drains were passed. 5. Municipal control of the water-supply, with right of access and inspection back to the source. 6. Inspection of the sources of the milk-supply. 7. All raw shell-fish should be regarded as "suspected." 8. All cases should be treated in hospital under the care of their own medical attendant. 9. The typhoid excreta should not be applied to the soil.

Dr. **Theodore Williams** thought that during the discussion perhaps too little attention had been given to the vulnerability of the individual. He remarked that there was a distinct family proclivity to fall a victim to the disease and he was inclined to think that there was also a racial vulnerability, the Anglo-Saxon race being more prone to contract the malady than the Southern races. It was notorious, for example, that Englishmen were very apt to contract typhoid fever in some towns, such as Naples, at a time when there was very little among the natives. The immunity in some of the towns on the Mediterranean was astounding. He mentioned one town in which there were no drains and in which the excreta were deposited by each individual outside the city wall, leaving the disintegration to the birds, the dogs, and the flies, and yet typhoid fever was almost unknown.

Dr. **Horton Smith** referred to the long period after defervescence during which typhoid bacilli could be detected in the urine and fæces. If these excreta were not properly disinfected the disease might be spread through them. The bacilli had been found in the fæces twelve days after defervescence by Brieger, and forty-one days after by Lazarus, and he (Dr. Horton Smith) had found them in the urine twenty-two days after. He therefore urged careful disinfection of fæces and urine throughout convalescence. Even after the bacilli had disappeared from the urine and fæces they might remain in the bone marrow setting up chronic osteomyelitis, and in two cases they had been found at the time of operation in a cavity containing a sequestrum six years after the attack of fever. He thought it inadvisable to put typhoid excreta on the soil because the bacilli had been found by Lösener in soil from a ploughed field, and Martin and Robertson had shown that they could grow in soil. The dejecta should, if possible, be burnt and if not should be treated with strong antiseptics.

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[1] Transactions of the Sanitary Institute, October, 1897.

Mr. H. E. DURHAM said that much that had been written on the typhoid bacillus was untrustworthy because imperfect tests had been employed. The usual test to distinguish it from similar bacilli was the absence of evolution of gas when it was grown in culture media containing glucose. But there were several bacilli which could, like the typhoid bacilli, be cultivated at the ordinary temperature of the room on such media without evolution of gas. If the typhoid bacillus only be present there should be no evolution of gas when the tube is kept at the temperature of the body. Typhoid bacilli grew scantily in proteid-free media with formation of acid. The question of the identity of the typhoid bacillus might also be tested by Widal's test, but the serum of a typhoid fever patient had not a sufficiently high potency to be of value, and serum of high potency from an immunised animal must be employed. Mr. Durham did not consider Widal's test as usually applied of much value for clinical purposes.

Dr. CHILDS remarked that there were two methods of analysis, one chemical and bacteriological, which unfortunately was not usually adopted till the mischief was done, and secondly the physiological test by involuntary inoculation of the population. He considered that greater legal obligations ought to be laid on the water companies and that greater powers ought to be given to the local sanitary authorities who had now no power to inspect the sources of the supply if they lay in another district. There should also be a periodical inspection by an officer of the Local Government Board to see that supervision by the local authority was being actually carried out. He believed that we should yet see a great reduction in the frequency of this disease and thought that the reduction which had been effected in Munich, where it was formerly prevalent and where the mortality had now been reduced to a twentieth by improved sanitation, was an indication of what might be looked for.

Dr. SEYMOUR TAYLOR said that there were many clinical problems which required an answer. Dr. Williams had referred to family and racial susceptibility. He thought that an explanation was wanted of the escape of people for a long time although exposed to infection and then the sudden development of the disease. In London there was a regular seasonal increase in the number of cases in the early autumn which was unaccounted for. If the entrance of the bacilli were the only efficient factor it was difficult to understand how medical men and nurses, who must inhale bacilli from the stools and from the beds, rarely took the disease in this way. He mentioned some cases which he thought indicated that ordinary gastro-intestinal catarrh might prepare the way for infection. It was curious how often typhoid fever developed in new arrivals although those who had previously lived in the house for some time under the same conditions had escaped. Possibly the latter became immune from long exposure to the poison. Typhoid fever was supposed to be antagonistic to malaria.

Dr. POORE, in reply, said that he was unable to reply *seriatim* to the many points of interest which had been raised. With regard to the disposal of excreta on the soil some of those who differed from him had exaggerated what he had said. He had not advocated giving up water-closets in London or having recourse once more to surface wells. He had said that in order to prevent contamination of the water it was best to burn the stools, but that in the country it would be best to put the excreta near the top of a recently tilled humus. Merely digging a trench, filling it with excreta, and covering it firmly with soil simply preserved the fæces and did not lead to their disintegration. Surgeon-Major-General Jameson had drawn attention to the frequency of typhoid fever among the troops in India where dry methods were customary, but it must be remembered that in the tropics men had a raging thirst and would drink unsuitable water. Both Hindoos and Mussulmans often performed their ablutions in the tanks immediately after defecation. Although the mortality from typhoid fever was high among the troops in India and Bermuda it was very low in China, where the fæces were regularly collected and spread over the fields. The method of dealing with the excreta was not original. In Leviticus Moses compelled every man to carry a paddle and to withdraw outside the camp to get rid of his excreta, which he was then to cover lightly with soil. Much instruction in sanitary matters was needed by the officers who had to administer the Public Health Acts. With regard to the growth of the bacilli in soil he wished to point out that they had been shown to grow best in filthy soil—such as that of the middens in some of the northern industrial towns which had been referred to. The soil could only be properly cleansed by tillage and he considered that its productiveness was the best index of its purity. If the earth was as dangerous as had been maintained it was remarkable that farm labourers and market gardeners should be two of the healthiest classes in the country.

MEDICAL SOCIETY OF LONDON.

Discussion on Adherent Pericardium.

A MEETING of this society was held on Jan. 10th, the President, Dr. SANSOM, being in the chair.

Sir WILLIAM BROADBENT opened a discussion on Adherent Pericardium. He remarked that this condition often escaped recognition and an absolute diagnosis could rarely be made. Even total adhesion might not give rise to symptoms or signs provided that there were no outside adhesions of the pericardium to the chest wall. But while it might not give rise to shortness of breath on ordinary exertion it might hamper the right auricle and ventricle in cases of bronchitis or might hinder the hypertrophy of the left ventricle in Bright's disease, and again might aggravate the embarrassment of the heart in cases of valvular disease. Frequently there was nothing characteristic about the symptoms, which were merely those of embarrassment and dilatation of the heart and occurred in all forms of cardiac disease, such as irregularity and intermittence of the pulse and præcordial pain, frequently almost anginal in character. These would only be regarded as evidence of adherent pericardium when other causes had been eliminated. In one case the symptoms were peculiar; there was œdema of the legs, which subsided when the patient rested in bed but relapsed several times and then became permanent; there was never any evidence of back-pressure in the lungs or any pulsation in the neck. At the necropsy it was found that there was adherent pericardium which had almost obliterated the right auricle, completely closing the inferior vena cava. Sir William Broadbent mentioned several conditions of valvular disease in which the occurrence of adhesion of the pericardium would prevent compensation. The physical signs on which most weight should be placed were: (1) arrest of the normal respiratory movement seen in the epigastrium; (2) imperfect descent of the apex beat during inspiration; and (3) absence of shifting of the apex beat with changes in the position of the patient. None of these, however, necessarily implied adherent pericardium. Disappearance of the apex beat might be due to undue covering of the heart by the lung as well as to adherent pericardium. Dilatation and hypertrophy of the heart in the absence of valvular disease or of kidney disease were very suggestive of this condition, especially if the apex were outside the nipple line and did not shift with a deep inspiration and there was a diastolic tug at the apex. In some cases a sudden tug could be seen and felt over the left false ribs due to dragging on the diaphragm which might be so extensive as to suggest local pulsation. Similar tugging had been observed in cases of hypertrophy without adhesion. Pulsus paradoxus and pulsation of the veins had been described as frequent symptoms but he had rarely met with them. In one case there was apparent pulsation of a vein in front of the chest owing to the internal mammary artery being caught by adhesions so that blood could only pass through it when the heart was in a state of systole.

Sir R. Douglas-Powell said that the cases should be divided into two groups, the first embracing those in which the inflammation was limited to the opposed surfaces of the pericardium, and the other those in which the external surface of the pericardium was adherent to the mediastinal tissues. Clinically he thought that the cases which gave rise to clear symptoms were those in which there was much thickening of the pericardium, which might sometimes be equivalent to a solid adhesion. In others there was no sign or group of signs or symptoms which enabled a diagnosis to be confidently made. The action of the heart must be impeded in working in a tough, fibrous, adherent casing, and in addition there was a loss of the normal pericardial lymph space which probably normally guards the heart against sudden congestions from strains and the like, fluid being poured out and the congestion relieved. In adherent pericardium, however, the passage of lymph must be interfered with, although anastomotic loops may be formed with branches of the internal mammary artery which tended to reduce heart congestions. He thought that the adhesions were usually secondary to chronic disease of the heart and valves and were analogous to the thickening of the capsule of the liver and kidneys in parenchymatous disease of those organs. He mentioned the case of a sailor who was known to have aortic regurgitation and who died after an attack of hæmoptysis and was found to have had unsuspected adherent pericardium. The hæmorrhages had probably resulted from pulmonary congestion from failure of the left ventricle. In another case, that of a girl, ten years of age, the signs were distinct. She had been ill for four months with inflammation of the pericardium and endocardium. There was a double mitral murmur and great hypertrophy with systolic depression of the first, second, and third intercostal spaces near the sternum and also a systolic depression of the fifth, sixth, and seventh intercostal spaces outside the left nipple line. The apex beat was long and thrusting and did not shift with respiration or change of position. Internal and external pericardial adhesion was found. He had not seen the retraction at the apex which was often described, the pulsus paradoxus was not present, and there was no epigastric pulsation. He agreed that the stress on the heart in these cases fell mostly on the right side which faces the unyielding anterior wall of the thorax.

Dr. John Broadbent remarked on the small proportion of cases which were recognised during life, although the condition was a common one. At St. Mary's Hospital, from 1890 to 1893, out of eighty-six cases in which death was attributed to heart disease the pericardium was adherent in no less than thirty-one, and at the Children's Hospital, Great Ormond-street from 1881 to 1892, out of 100 cases of fatal heart disease there was evidence of pericarditis in all but six. He had observed several cases in which pericarditis had developed in a subacute manner. One of the most striking features was the rapid dilatation of the heart, as Dr. Lees had pointed out. There was some degree of myocarditis accompanying the pericarditis, and on the degree of this depended the amount of recovery. Even when the inflammation subsided the heart became permanently fixed in its dilated condition, and it was in these cases that symptoms were manifested. Tight adhesions in a child might prevent development of the heart. Sometimes rapid dilatation of the heart developed in the first few days of pericarditis and he suggested that this was due to a muscular paresis analogous to that which occurred in the muscular coats of the intestine in peritonitis. He laid stress on enlargement of the heart without other explanation as indicative of adherent pericardium. Adherent pericardium should also be suspected when the symptoms were out of proportion to the signs of valvular disease. In the subacute form the persistence of the rub over a varying area for some days or weeks, permanent enlargement of the area of cardiac dulness, prolonged convalescence with pallor and shortness of breath on the least exertion, and relapses without obvious exciting cause were some of the indications which would point to the formation of adhesions. This sub-acute form was most frequent in children who exhibited many rheumatic nodules.

Dr. Ewart regarded the simple bands of adhesion often limited to the apex of the heart as relatively unimportant, their length allowing considerable mobility. Universal adhesion of the pericardial membrane to the heart without thickening, a condition resulting from simple acute pericarditis, probably did not seriously hamper the cardiac movements. Even when this thin membrane was also adherent to its outer environment the heart was probably able to accommodate itself to the circumstances owing to the elasticity of the pulmonary tissue surrounding it. Greater difficulty would arise when the membrane was thickened by neoplastic deposits or by chronic mediastino-pericarditis, and this would be much aggravated by any induration of the surrounding organs causing the heart to be bound down in a rigid bed. In connexion with the collateral subject of pericardial effusion Dr. Ewart had been glad to hear it stated by Sir William Broadbent that the old view that the apex of the heart was raised by the effusion had been given up. He agreed with Sir Richard Douglas-Powell in thinking that the fluid contents of the pericardium might be subject to considerable physiological variations in quantity and might act in a manner analogous to the fluid in the meninges in equalising pressures. This view received support from his own observations on the frequency of transient pericardial effusions which were often overlooked, though readily detected by careful percussion. Reverting to the effect of pericardial adhesions upon the heart he believed that stress was thrown chiefly upon the left heart. The right side of the heart was fixed by the superior and by the inferior vena cava in addition to its basic attachment to the pulmonary artery. Its anterior ventricular surface was in permanent contact with the rigid chest wall, and its inferior surface with the diaphragm; its auricular surface alone was in contact with the right lung, whilst posteriorly it faced the convexity of the vertebræ. On the contrary the left side of the heart presented no attachment except at the base and the greater part of the left ventricle was surrounded normally by yielding lung tissue which allowed it great freedom of movement. This would be much interfered with by the establishment of rigid adhesions, and those points on the ventricular surface would suffer most which normally possessed the greatest range of movement. The work of the left ventricle being normally greater the superadded struggle against adhesions might readily overtax its strength. Dr. Ewart regretted that Sir Wm. Broadbent had limited the scope of his important communication and not given the society his views on treatment.

Dr. Samuel West said that he did not know that there was any evidence that pericarditis ever completely cleared up, although the patient might not have any symptom. In many cases the diagnosis was only made because other explanation of the signs and symptoms was wanting. Systolic recession of the apex beat although conclusive was so rare as to be of little help. The adhesion might be most dense at the base, and might prevent falling back of the apex beat during the diastole. The fibrous tissue of the pericardium was directly continuous with the fibrous tissues outside the heart and with the intermuscular septa, and interstitial myocarditis could often be demonstrated. There was usually more dilatation than hypertrophy and apparent hypertrophy was often really fibrosis. He quoted a case similar to that cited by Sir William Broadbent in which the inferior vena cava had been completely obstructed by adherent pericardium. Dr. West remarked on the frequency of a latent form of pericarditis leading to adhesions in gout and in Bright's disease.

Dr. Lees said that in the cases of internal and external adhesion a diagnosis could often be made with a considerable degree of certainty, but it was difficult to prove that simple internal adhesion was detrimental to the action of the heart. In cases in which there was cardiac disease the effect of the adhesion was to fix and render permanent the dilatation which was part of the original inflammation of the heart. He had noticed a sudden dilatation of the heart in children and also in young adults during their first attack of acute rheumatism in which no rub or murmur could be detected, the dilatation returning to normal if the patient was kept at rest in bed till he was quite convalescent from the rheumatism. In one case this was observed in two successive attacks of rheumatism. If pericarditis occurred it would fix this dilatation and render it permanent. Gaskell had shown that soda contracted the heart and vessels while lactic acid caused dilatation. He thought that rheumatism was probably a microbic process and that a toxin was liberated which acted on the wall of the heart in the same way as lactic acid. A similar form of acute dilatation, probably toxic, was often observed in connexion with influenza and was occasionally fatal.

Sir William Broadbent, in reply, while expressing acquiescence with most of the views which had been expressed, said that he could not agree with Dr. Ewart that the left ventricle was most impeded. Clinical observation showed clearly that it was the right, and he was unable to agree with what he had understood Dr. Ewart to say with regard to the normal movements of the heart.

OBSTETRICAL SOCIETY OF LONDON.

Adjourned Discussion on the Obstruction of Labour by Ovarian Tumours in the Pelvis.—Exhibition of Specimens.

A MEETING of this society was held on Jan 5th, Dr. C. J. CULLINGWORTH, President, being in the chair, when the adjourned discussion on Dr. McKerron's paper on the Obstruction of Labour by Ovarian Tumours in the Pelvis was resumed.

Dr. HERBERT SPENCER related a case of Ovariotomy during Labour which was obstructed by an ovarian dermoid incarcerated in the pelvis. In the case recorded the patient, aged twenty years, had had one dead child previously without difficulty; with the second child the labour was obstructed by an ovarian dermoid weighing sixteen ounces, incarcerated in the pelvis. As the tumour could not be pushed up laparotomy was performed, the uterus was withdrawn from the abdomen, the tumour was removed, and the child delivered by forceps applied in the dorsal position. Mother and child recovered. In the treatment of ovarian tumour obstructing labour Dr. Spencer thinks that the tumour should be pushed out of the pelvis if possible, but discards version, forceps, craniotomy, and simple incision or tapping of the tumour on account of their danger. Cæsarean section will be very rarely necessary if the uterus be withdrawn from the abdomen. Dr. Spencer discussed the merits of vaginal and abdominal ovariotomy and considered that on the whole the latter is the preferable operation.

Dr. HERBERT SPENCER also showed an Ovarian Dermoid Tumour which, becoming incarcerated in the pelvis, obstructed labour. The tumour was pushed up out of the pelvis under chloroform, the child delivered by forceps and ovariotomy performed seven months later. Mother and child recovered. A skiagram of the tumour was also exhibited.

Dr. ROBERT BOXALL exhibited a Tumour (Dermoid) of the Ovary occurring in a case in which Cæsarean section was performed at the end of the first stage of labour and the tumour removed. Both mother and child recovered.

Dr. HERMAN said that this paper was the fullest account of the complication of labour with ovarian tumour that had yet been given. He agreed in the main with Dr. McKerron's advice. But there was one method of treatment, the credit of which he believed had been given to Fritsch, which he thought deserved fuller consideration and commendation than Dr. McKerron had given to it—viz , the making an incision into the cyst through the vagina and stitching the opening in the cyst to the margins of the vaginal incision. In this way the emptying of the cyst contents outside the peritoneum was secured. If the cyst were a dermoid, as many of the cysts which obstructed labour were, simple tapping was attended with much danger of the cyst contents escaping into the peritoneal cavity. Of forty-three cases in Dr. McKerron's paper treated by tapping or incision twenty-four died. This danger was avoided by Fritsch's procedure. He (Dr. Herman) did not advise this for tumours that could be pushed up or for those which came under the care of experienced operators in circumstances suitable for the performance of ovariotomy. Many of these cases occurred in the practice of accoucheurs having little or no experience in ovariotomy.

Dr. PLAYFAIR said that twenty years had elapsed since he had communicated to the society the paper he had himself written on this subject. In that he had collected 35 cases which Dr. McKerron had incorporated with his own. He had tabulated the details of 126 more, making 183 in all. This conclusively showed that this serious complication of labour was by no means so rare as might be anticipated. It was a curious and important fact that the existence of ovarian tumours was only suspected in 18 per cent. of the cases before labour. Of course, if they did diagnose it during pregnancy it was now an admitted rule of practice that ovariotomy should be performed without delay, but unhappily the figures showed that this was only exceptionally possible. The explanation of this was probably that only very small and freely mobile tumours could engage in the pelvis and become impacted in front of the presenting part. He did not doubt that when it was feasible the best and safest practice was to remove the tumour either by abdominal or vaginal ovariotomy. The reason why he had not recommended this in his former paper was obviously because ovariotomy twenty years ago was on an entirely different footing from the operation in the present day. Then antiseptic precautions were unknown or in their infancy and laparotomy was a much more serious business than it is now. To do it during the actual progress of labour was a procedure that had never been considered a possibility. He related a case in which induction of labour was performed in preference to laparotomy with unhappily a fatal issue. While admitting that ovariotomy was the best course he felt that there must always be cases where it could not be judiciously practised. It was obvious that this plan required experience in operating and suitable surroundings in nursing. He did not envy the practitioner who had no experience in abdominal surgery if suddenly called on to perform such an operation. It behoved them, therefore, when ovariotomy was not feasible to decide what was the next best course to pursue. Obviously the one thing which should not be done was to leave the case alone in the hope that the fœtus might be pushed or drawn past the obstructing tumour. Dr. McKerron showed that in all such cases the mortality is 50 per cent. In his (Dr. Playfair's) paper he had recommended vaginal puncture of the tumour so that its size should be lessened as much as possible. When this had been done the results had been much more satisfactory, the mortality having been only 18 per cent.

Dr. HEYWOOD SMITH remarked that in 1884 he saw a single woman, aged twenty-four years, who had a small ovarian tumour behind and to the right of the uterus. She married and became pregnant; during the pregnancy he several times pushed the tumour above the uterus. During labour the tumour came down in front of the head obstructing delivery. He aspirated the cyst and the child was born alive. She again became pregnant and he performed ovariotomy during the third month and the patient was delivered of a full-sized child.

Dr. HORROCKS thought the paper valuable, but the statistics of cases quoted were historically interesting rather than having any bearing upon modern treatment; because the fact that in these days of aseptic operations one could open the abdomen without ill-effects rendered the question of what to do in cases of tumours obstructing labour capable of being answered quite differently. Twenty years ago and less it would have been wrong to perform laparotomy in such cases because the operation itself would have been fatal in the majority of cases from sepsis. He failed to see why Cæsarean section was performed in Dr. Boxall's case; the method adopted by Dr. Spencer was more scientific and better in every way for the patient. With regard to the question of vaginal *versus* abdominal operations he certainly thought the latter was preferable, because even in the non-pregnant state vaginal ovariotomy was often most difficult and perplexing, and when pregnancy complicated it all the vessels became enlarged and hence the hæmorrhage might easily become alarming, when it would be difficult and perhaps impossible to catch the bleeding points from the vagina.

Dr. SPENCER was glad to find a general agreement that the best treatment of incarcerated ovarian tumours which could not be pushed up was ovariotomy. Cæsarean section inflicted an injury on the patient which in ordinary cases was quite unnecessary, though it had been recommended in this society as recently as 1892. He thought the opinion of the society should go forth that ovariotomy was the proper treatment when practicable.

The PRESIDENT said that it was greatly to be regretted that Dr. McKerron had not been able to be present at the adjourned discussion. He agreed with Dr. Horrocks that in drawing conclusions from past experience it was necessary to have continually in mind the very different conditions under which operations were performed before and since the introduction of antiseptics. As a large proportion of the ovarian tumours that had been met with as obstructions to delivery had proved to be dermoids it seemed doubtful whether tapping would always succeed in effecting such a diminution in size as would suffice to overcome the obstruction. Undoubtedly the ideal treatment was the removal of the tumour there and then by abdominal section. Where this was impracticable the proper course, if the tumour could not be pushed out of the way, was to endeavour to deal with it temporarily by tapping or incision per vaginam and to perform ovariotomy as soon as possible after the labour was over. He did not think the alternative of Cæsarean section was to be commended. He concluded by referring to a case he had published in the St. Thomas's Hospital Reports for 1887, p. 143, in which abdominal section had been performed on a patient nineteen weeks after delivery for the removal of a dermoid tumour of the ovary that had caused serious obstruction to delivery and that had subsequently undergone suppuration and discharge per vaginam through a rent in the posterior wall of the cervical canal.

The following specimens were exhibited:—

Dr. **McCANN**: (1) Malignant Adenoma of the Cervix with Microscopical Slides; and (2) Uterine Fibroids.

Dr. **JOHN PHILLIPS**: The Placenta from a Full Term Extra-Uterine Fœtation, the child being dead and removed by abdominal section five months later, the patient doing well on the seventh day.

Dr. **REMFRY**: Hydrocele of the Canal of Nuck.

The **PRESIDENT**: Malignant Growth of (?) Fallopian Tube.

HARVEIAN SOCIETY OF LONDON.

The Pathology and Treatment of Gout.

A MEETING of this society was held on Jan. 6th, the President, Dr. **MILSON**, being in the chair.

Dr. A. P. **LUFF** read a paper on the Pathology and Treatment of Gout which is published *in extenso* at p. 147.

Dr. **EWART** in the course of the discussion dwelt upon the value of the suggestions contained in the paper and upon the clearness with which Dr. Luff had stated his views as to the chemistry of gout. Apart from the question as to any detrimental action of common salt the suggestion as to the use of an artificial table salt was a happy one. Dr. Luff's observations on the properties of the ash of vegetables had a practical bearing upon the general question of diet. They lent support to a largely vegetarian rather than to an exclusively meat treatment. The soundness of this view was not necessarily disproved by the well-known fact that an acute attack had occasionally been induced by an abrupt change to a strictly vegetarian diet. The chemical theory which had been propounded was plausible and complete so far as it went. But whilst it professed to explain how uric acid might be accumulated it failed to show why the kidney should take on abnormal action. The antecedents of gout remained mysterious and needed elucidation.

Mr. WM. **ARMSTRONG** (Buxton) expressed his appreciation of the very lucid manner in which Dr. Luff had put before the society so complicated a subject. He had been much impressed in a considerable number of cases by the great increase in the persistency and gravity of gouty symptoms when even slightly defective kidney action was present. He felt sure that the state of the nervous system had much to do with the genesis of gout. Nerve strain and disturbance without doubt greatly affected the deeper and more subtle digestive processes and favoured the occurrence of fermentation and consequent auto-poisoning, and many of those cases of irregular gout now so common came on in persons whose general nerve tone had become distinctly lowered. This had a very considerable bearing upon the questions both of dietary and treatment and was a strong argument in favour of Dr. Luff's view that it was impossible to indicate one general treatment for all gouty cases, but that each should be treated as a unit and dealt with according to the special indications present. With regard to the taking of common salt he had been noting its effects by means of quantitative determination of the uric acid for some time past but had not been able to satisfy himself that it was harmful; still, Dr. Luff's suggestion that a table salt should be prepared from the salts of vegetables ought not to be lost sight of. One of the most valuable means of keeping the gouty tendency in check was no doubt the drinking of hot water in the morning fasting and at bedtime, as was also the taking of a single grain of calomel, followed by a saline aperient, once a week. With regard to dietary, while favourable to the use of vegetable foods, he could not shut his eyes to the fact that vegetables were ill-digested by many of the gouty and therefore prescribed them very largely in the form of purées with excellent results. In old-standing cases or where the patient was much debilitated beef or mutton might be freely given, but it was then absolutely necessary that the hot-water drinking should be strictly carried out and that carbohydrates should be cut down as much as possible. Bread should be taken either twice baked or at least cut very thin and thoroughly torrefied. In some of the most refractory cases of chronic gout surprising results had been achieved by the "Salisbury" treatment, which consists in giving only beef or mutton, the whites of eggs, and considerable quantities of hot water. This method is one which should only be carried out under careful medical supervision, but is well worthy of attention in obstinate cases. With regard to alcohol he had found that many gouty people could never get rid of their ailments so long as they drank whisky, while their symptoms at once abated when that spirit was abandoned. Probably Dr. Luff's theory that in many of these cases the kidneys were in a more or less abnormal condition would account for this fact. In some cases of atonic and so-called neurotic gout patients were greatly benefited by taking a little sugar-free champagne or a glass of port-wine (thoroughly matured in the wood) with meals, but still Moselle diluted with sufficient alkaline water to neutralise its acidity was probably the least harmful form of alcohol.

Dr. **HUBBARD** asked Dr. Luff if he had any experience as to the value of lysidin, a German preparation of somewhat recent introduction described as a powerful solvent of uric acid. He (Dr. Hubbard) had used it in three or four severe conditions of gout and was under the impression it was useful.

The **PRESIDENT** asked whether such large doses as from 30 to 40 minims of vinum colchici were given in cases where cardiac lesions existed. He thought that saline aperients with a pill containing blue-pill and colchicum each night would be safer.

Dr. **CALEY** spoke of high arterial tension in cases of chronic gout where there was no evidence of renal disease. He thought that this pointed to some toxæmic agency. Though there was evidently a close connexion between gout and granular kidney it had not been made clear that the latter was the primary change.

Dr. **LUFF** in reply said that he had never known full doses of vinum colchici to disagree even with the subjects of cardiac disease, but where there was reason to suspect advanced fatty degeneration of the heart smaller doses would be indicated. He had tried lysidin but had been unable to ascribe to it any good effect.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Nephrectomy associated with Pregnancy.—Diseases of the Sinuses adjacent to the Nasal Cavity.

A MEETING of this society was held on Jan. 7th, Dr. **THUDICHUM**, Vice-President, being in the chair.

Mr. G. E. **TWYNAM** read a paper on Nephrectomy and its Relation to Pregnancy. He had had under his care three cases bearing on the subject and had examined the literature of the same and had found a record of six other cases. After referring to the notes of his three cases—two being pregnancies which went to full term after nephrectomies had been performed for severe lesions of the urinary tracts, and the third one in which the kidney was removed at the third month of pregnancy—Mr. Twynam discussed the effect of the loss of one kidney, firstly upon the pregnant and parturient woman, and secondly upon the development of her offspring. The conclusions which his observations had led him to come to he summarised to be (1) that a fatal result has not been recorded in consequence of the pregnancy following nephrectomy; (2) that slight albuminuria may occur during the gestation; (3) that the nephrectomy wound may have a tendency to allow the formation of a ventral hernia during delivery; (4) that the liquor amnii is not excessive in amount; (5) that no marked œdema occurs; (6) that morning vomiting tends to be severe; (7) that eclampsia or uræmia has not been present; (8) that some irregularity of the pulse may occur after delivery for a short time; (9) that all the children born were well-developed and healthy; and (10) that in every case the mother was able to suckle her child. Hence Mr. Twynam believes it may be fairly concluded that women can after a nephrectomy bear children without very great danger to themselves or their offspring provided the remaining kidney and their other organs are healthy.—Dr. AMAND ROUTH congratulated Mr. Twynam on his valuable paper. He referred to two cases bearing on the subject and gave it as his opinion that in all the cases quoted there had been chronic disease of the kidney which had been removed and so the other kidney had assumed compensatory work. He would like to know what would be the effect of the removal of a healthy working kidney in a pregnant woman.—Mr. SWINFORD EDWARDS had had a case in a male subject where for laceration he had removed one kidney, thus throwing all the work suddenly on the opposite organ. The result was that in four days' time both the amount of urine and urea were normal. — Mr. TWYNAM replied.

Dr. THUDICHUM read an abstract of a paper on Inflammation, Abscess, and New Growths in the Cavities adjoining the Nasal Cavities and their Operative Treatment. Ethmoidal abscess, he averred, might be due to tubercle, syphilis, septic inflammation and injury. It was often confounded with, and mistaken for, abscess in the maxillary sinus. When the ethmoidal abscess was found in the anterior part of the ethmoid it usually presented as a swelling at the inner canthus of the eye. The proper treatment of such cases was to make a free opening from the nose and not to open them externally if it could be avoided, on account of the great liability there was of a permanent sinus remaining as a result. In abscess of the maxillary sinus he advised that the opening should be always made through the nose and not through the alveolar process of the maxilla. In discussing the treatment of polypi he considered free removal of a great part of the ethmoid bone essential. Tuberculosis of the nasal cavity was often a starting point of lupus of the face. He believed that tuberculin was of no permanent good in such cases.—Dr. ALDERSON thanked Dr. Thudichum for his most valuable paper. He had had but few cases in many years of suppuration in the sinuses. He believed that the swelling caused by an ethmoidal abscess was always smaller than that produced by an abscess of the maxillary sinus.—Dr. J. B. BALL considered Dr. Thudichum's plans of treatment were original, vigorous, and effective. He doubted, however, the advisability of active treatment in latent inflammatory affections of the sinuses, since if symptoms were not distressing operative procedure might cause more harm than good. He did not agree that the maxillary sinus should not be opened through the alveolar border, but in every case the opening should be such as to allow free access for syringing out the cavity by the patient himself.

LIVERPOOL MEDICAL INSTITUTION.

Mules's Operation.—Acute Bright's Disease.—New Tuberculin in Lupus.—Bladder Growths discovered by the Cystoscope.—Traumatic Insanity.

A MEETING of this society was held on Jan. 6th, Dr. RICHARD CATON, President, being in the chair.

Mr. BICKERTON showed two men on whom Mules's Operation had been performed six weeks previously. A silver ball was inserted in one case, a glass ball in the other. The chief point of interest was that in both the sclerotic and conjunctiva were sutured together, the resulting cicatrix being firm with conjunctival granulations which were subsequently snipped off. Movement of the resulting stump in each case was very good.

Dr. CARTER read notes of two cases of Acute Bright's Disease which had developed severe symptoms after being exposed to wet and cold. In the first case a girl had convulsions and became comatose with congested face and stertorous breathing. The urine contained one-third albumin. Under inhalations of oxygen the amount of urine increased, the albumin diminished, and the percentage of urea rose. The convulsive attacks became less frequent immediately and soon ceased. The patient recovered. In the second case there were general œdema, headache, one-half albumin in the urine, but no convulsions occurred. This patient recovered under treatment with jaborandi.—Dr. MACALISTER, Dr. BARR, and the PRESIDENT made some remarks.

Dr. G. STOPFORD TAYLOR read notes of cases of Lupus in which he had used the new Tuberculin and showed three patients suffering from lupus vulgaris all of whom had benefited considerably by inoculations with this substance. He thought that the cost of the remedy would prevent its being extensively used.—Dr. LESLIE ROBERTS, Dr. BUCHANAN, and Dr. ABRAM discussed the cases.

Mr. THELWALL THOMAS related two cases of Bladder Growth diagnosed by means of the Cystoscope. The first case was a simple papilloma in the bladder of a man, aged thirty-eight years, who for six months had suffered from hæmaturia. The growth, which was pedunculated, was situated to the right of the orifice of the right ureter: suprapubic cystotomy was performed and the growth removed. The second patient was a woman, aged forty-two years, who had an ulcer surrounded by papillomatous fringes to the left of the orifice of the left ureter. The urethra was dilated and the growths were cut away with scissors. In the after history of both cases there was no pain or hæmaturia.—Mr. LARKIN, Dr. KENNAN, and Mr. DAMER HARRISSON made some remarks.

Mr. DAMER HARRISSON read a note on Traumatic Insanity and related some cases where insanity had been entirely relieved by the operation of trephining.—Dr. NATHAN RAW, Mr. C. G. LEE, Mr. RUSHTON PARKER, Dr. GLYNN, and Dr. BARR took part in the discussion.

Reviews and Notices of Books.

A Text-book of Special Pathological Anatomy. By ERNST ZIEGLER, Professor of Pathology in the University of Freiburg. Translated and edited from the Eighth German Edition by DONALD MACALISTER, M.A., M.D. Cantab., Linacre Lecturer of Physic and Tutor of St. John's College, Cambridge, and HENRY W. CATTELL, M.A., M.D., Demonstrator of Morbid Anatomy in the University of Pennsylvania. Sections IX. to XV. New York: The Macmillan Company. London: Macmillan and Co., Ltd. 1897. Price 17s. net.

WITH the issue of this volume the English-reading student has now the opportunity of perusing that portion of Professor Ziegler's deservedly popular text-book which deals with Special Pathological Anatomy. The translators, Dr. D. MacAlister and Dr. Cattell, are to be congratulated on the completion of this part of their labours, for we presume that they will also undertake the reproduction of the much-extended and revised volume of General Pathological Anatomy. The present instalment contains sections upon Diseases of the Digestive, Respiratory, Renal, and Generative Organs, together with one on Diseases of the Eye by Professor Haab, of Zurich, and one on Diseases of the Ear, by Professor Wagenhäuser, of Tübingen. The book is eminently suited for the student, since it is comprehensive without being diffuse, and its facts are marshalled in a systematic manner. The illustrations too are clear and for the most part artistic, although we notice with regret a few that have been recently introduced which do not come up to the standard for which Professor Ziegler's book has hitherto been famous. But if of value to the student it is no less useful for the practised pathologist, to whom the bibliographies appended to each chapter cannot fail to be of much service. We consider the sections dealing with pulmonary and renal diseases to be the best in the book, partly because of the admirable manner in which the somewhat intricate series of morbid changes in these organs is analysed and illustrated and partly because of the accuracy with which these lesions are described. Thus nothing can be better than the expositions of the forms of bronchopneumonia and of the part played by inhalation of foreign or septic material in their inception; nor have we anywhere so excellent and clear a description of the modes whereby tuberculous infection involves the lungs and the dangers that ensue from it. So, again, as regards the kidney, the differentiation of the types of acute renal degeneration and acute hæmatogenous nephritis shows a thorough and minute acquaintance with renal pathology and throws considerable light upon the inflammatory changes in these organs. The discrimination of the arterio-sclerotic contracted kidney from the granular kidney of chronic interstitial nephritis which is admittedly difficult has much to justify it and a study of the excellent histological drawings which are here presented enables the reader to seize the points of difference emphasised by Professor Ziegler. We observe that he regards the two forms of hepatic cirrhosis—atrophic and hypertrophic—as closely allied in origin and as probably both commencing with primary degeneration of the hepatic cells. In respect to the etiology of the round ulcer of the stomach we find that Professor Ziegler adheres to the opinion of its dependence upon the solvent action of the gastric juice upon mucous membrane which is devitalised, whether by local ischæmia from disturbance of the circulation or by actual mechanical or chemical injury. We cannot find that he alludes to Dr. Soltau Fenwick's alternative—namely, the origin of ulcer in the solitary glands of the stomach, although in the bibliography reference is made to that observer's paper in the *Journal of Pathology and Bacteriology*. Indeed, in more than one section is it possible to find reference to recent writings the results of which are not embodied in the text; for instance, appendicitis is attributed mainly to the impaction of foreign bodies in the appendix, a view which is surely now obsolete. In the main, however, the work is well abreast of modern inquiry and having long occupied a foremost position amongst pathological text-books we do not doubt that it will maintain it and that the excellent translation which is here presented will enable it to become a favourite text-book in English medical schools.

Diseases of the Gall-bladder and Bile-ducts. By A. W. Mayo Robson, F.R.C.S. Eng., Member of Council and Hunterian Professor of Surgery and Pathology, Royal College of Surgeons of England; Senior Surgeon to the General Infirmary at Leeds; Professor of Surgery in the Yorkshire College of the Victoria University, &c. London: Baillière, Tindall, and Cox. Pp. 177. 1897. Price 7*s.* 6*d.*

Exactly twenty years have elapsed since the first successful case of opening the gall-bladder for the removal of an impacted calculus, though the operation had been suggested previously by Handfield-Jones and Marion Sims had had a fatal case. Before this it could hardly be said that any surgery of the gall-bladder existed, but this organ with its associated ducts has shared in the general advance in abdominal surgery. In 1897 Mr. Mayo Robson delivered some lectures at the Royal College of Surgeons of England on the subject of the diseases of the gall-bladder and bile-ducts and everyone who had the opportunity of hearing them or of reading the abstract which appeared at the time in The Lancet must have appreciated their value and importance, and their appearance in their present form will be very welcome to many. It would be impossible to find anyone better qualified to speak with authority on this branch of surgery than Mr. Robson and every page is full of the practical experience of the author.

The volume is divided into five chapters and the first deals with the anatomical relations of the parts especially treating of the anatomical variations which are of importance from a surgical point of view. The second chapter treats of the inflammatory affections and in this connexion it is of great interest to note that normal bile is generally sterile. As to its supposed antiseptic properties there is very little proof that it has any power to prevent the growth of micro-organisms and the fact that it does not decompose readily is to be attributed chiefly to its poverty in nourishing materials. It has been repeatedly shown that ligature of the common bile-duct leads to the presence of organisms in the bile, a fact of value in the etiology of cholecystitis. A short chapter follows on intestinal obstruction produced by gall-stones. Chapter IV. deals with the tumours which may affect these parts; and the last chapter is concerned with the surgical treatment of gall-stones. This is the most important chapter in the book and is a notable contribution to the literature of the subject. The technique of the various operations described is carefully explained and the arguments in favour of the different methods of treatment are fully discussed. A very valuable table is given of all the operations on the gall-bladder and bile-ducts performed by Mr. Mayo Robson with the result and after-history in each case. Altogether there are 170 cases, and Mr. Robson is very fortunate in being able to say that he has never lost a patient after any operation for gall-stones in the absence of malignant disease, deep jaundice, or infective cholangitis. This branch of surgery is remarkable for the length of the names applied to the operations, such as cholecystotomy and cholecystectomy. It is a pity that simpler names cannot be devised; and is there any real need for such a decasyllabic monstrosity as "choledochoduodenostomy"? Of the fifty illustrations the majority are satisfactory reproductions of photographs of the museum preparations which were exhibited at the lectures at the Royal College of Surgeons of England. We cannot but regret the absence of an index.

Selected Essays and Monographs. London: New Sydenham Society. 1897.

This volume of "Translations and Reprints from Various Sources" forms an excellent addition to the valuable selection of works issued by the New Sydenham Society. The contents are varied and the choice has been made with judgment. The first essay in the volume is that on Syringomyelia, by Dr. Isaac Bruhl, of Paris, which has been translated and annotated by Dr. James Galloway and Dr. Lindley Scott. This monograph is well known as comprising one of the most detailed and accurate accounts of a condition of which the symptomatology is especially marked by sensory and trophic disturbances and at the same time so well defined as to admit of clinical diagnosis. Dr. Bruhl established the fact of the frequent association of this affection with a central "gliomatosis" of the spinal cord, whilst his more recent opinions upon the relation of Morvan's disease to syringomyelia are cited by the translators and show that Dr. Bruhl is more inclined to a belief in the dependence of the two affections on similar pathological lesions than he was in 1890 when this monograph appeared. The translators have also appended some important extracts from the more recent work of Schlesinger especially referring to the cutaneous and ocular affections that may be met with in syringomyelia. A case of Cerebro-spinal Syphilis with an Unusual Lesion in the Spinal Cord by Dr. H. M. Thomas is reprinted from the Bulletin of the Johns Hopkins Hospital. The symptoms began with intense headache, paralysis of the right sixth cranial nerve, later paralysis of the left fourth and then of the left third nerves, weakness of the right side of the body with sensory changes, and ultimately death by coma. In addition to other visceral lesions gummata were found on several cranial nerves and on the anterior roots of the third cervical nerves; there were also spinal meningitis and poliomyelitis of the lumbar enlargement. This last-named change, perhaps unique in spinal syphilis, was attributed by Dr. Thomas to a somewhat extensive hyaline degeneration of the walls of the small vessels of the cord. Then follow two essays on Pemphigus Vegetans, translated by Dr. F. H. Barendt; the one is by Professor H. Köbner, of Berlin, and consists of descriptions with comments of three cases of this fatal affection together with remarks on the differential diagnosis of Bullous Eruptions of the Skin and Mucosa from Syphilis; the other, by Professor J. Neumann, of Vienna, details nine cases and insists on the importance of recognising the independent, non-syphilitic character of the disease. The subject of Yaws is treated in an essay by Dr. James Maxwell, of Jamaica, for which he received a gold medal from the University of Edinburgh. The distinction of this affection from syphilis is argued and the question of its relationship with leprosy discussed. Some excellent coloured drawings accompany the essay. The same subject is dealt with in an Epitome of Dr. A. Nicholls' Report on Yaws compared with British Guiana and Fiji Experiences by Mr. J. S. Wallbridge and Mr. C. W. Daniels. Syphilis is unknown amongst the Fijian natives. Two other essays are given on this subject, one by Professor Achilles Breda, of Padua, entitled a Contribution to the Clinical and Bacteriological Study of the Brazilian Framboesia or "Boubas," the other by Dr. M. Charlouis, of Java, on Polypapilloma Tropicum (Framboesia). These are both translated by Dr. A. E. Garrod. The writers in each instance conclude that the affection has nothing to do with syphilis, but Dr. Charlouis points out that mercury and iodide of potassium have a distinct therapeutic value. Other papers in the volume are on the Visceral Complications of Erythema Exudativum Multiforme, by Dr. W. Osler; on Sleep in its Relations to Diseases of the Skin, by Dr. C. Duncan Bulkley; a Remarkable Case of Purpuric Eruption ending in Gangrene, apparently Caused by Sodium Salicylate, by Dr. F. J. Shepherd; and two papers by Professor A. Fournier, of Paris, translated by Dr. Guthrie Rankin, their subjects being Syphilis and General Paralysis, and Parasyphilitic Epilepsy. A short paper on the Relation between Treatment in the Early Stage and Tertiary Syphilis, by Professor Neisser, concludes the collection. The volume thus contains chiefly subjects of dermatological and syphilographic character and is perhaps most to be valued by reason of the opportunity it affords to the English reader of the study of the characters of a tropical malady the nature of which has often been debated.

Nettleship's Diseases of the Eye: a Manual for Students. Revised and Edited by W. T. HOLMES SPICER, M.A., M.B. Cantab., F.R.C.S. Eng., Ophthalmic Surgeon to the Metropolitan Hospital and to the Victoria Hospital for Children. Sixth Edition. London: J. & A. Churchill. 1897. Pp. 465. Price 8*s.* 6*d.*

SEVEN years have elapsed since the appearance of the last edition of this well-known manual which, like the present, was revised and edited by Mr. Holmes Spicer. The work being one which was originally designed for students and which therefore dealt with the more common forms of disease, with the more characteristic symptoms, and with the broad principles of treatment it was not to be expected that any material alteration should be made in it. Nevertheless, careful examination has convinced us that Mr. Spicer has taken great pains with the volume as it now stands. By the adoption of a larger page and better type he has made it much more pleasant to read; some new figures have been introduced, of which the two that represent syphilitic and plastic iritis are exceedingly well executed; the descriptions of operations have been simplified and rendered more intelligible; statements that have not been sanctioned by more mature experience have been omitted; new facts founded on observations have been added and minor corrections made upon almost every page, so that the book may be regarded as well and thoroughly representing the present state of ophthalmic knowledge and as constituting a work that will be useful alike to the student and the practitioner. The only omission of any importance which we have noted has been that of reference to the Roentgen rays, which have on several occasions since their discovery proved serviceable in locating fragments of metal and led to the preservation of eyes that would otherwise have been sacrificed.

LIBRARY TABLE.

Guy's Hospital Gazette.—The issue of this paper for Jan. 8th devotes a good deal of its space to Christmas festivities at Guy's Hospital. The decoration of the wards reflected great credit upon those responsible for it, as the illustrations from photographs show. From the article headed "1897" we are glad to note that: "It is this that above all marks for us the close of the last year—the prospect, for the last twenty years a purely visionary prospect, of the whole of the hospital being restored to full activity with all necessary improvements and a standing balance to boot at the banker's. Indeed, the treasurer declares that it is the first time within the memory of man that the hospital has ended the year with a balance standing to its account on the credit side."

The M'Ewan Hall. Edinburgh: *Student* Office, Darien Press, Bristo-place. 1897. Pp. 30, and 24 full-page Plates.—This handsome book, nearly one-half of which consists of full-page reproductions of photographs, gives a good idea of the splendid building which the University of Edinburgh owes to the munificence of Mr. William M'Ewan, M.P. for Central Edinburgh. The opening of the hall was described by our Edinburgh Correspondent in THE LANCET of Dec. 11th, 1897, p. 1562, this ceremony being the completion of an important extension of the University buildings which had for many years been recognised as inevitable, and for which the first actual preparations were made in 1872. The extension originally contemplated an outlay of about £230,000 on a university hall and new buildings for the medical school; for financial reasons the part relating to the hall was not proceeded with, but the educational buildings were completed in 1885. In 1886 Mr. M'Ewan intimated that he was prepared to contribute £40,000 towards the erection of a university hall and, as it subsequently appeared that a building larger and more ornate than the one at first designed would harmonise better with the existing structures, he ultimately undertook the full cost (about £115,000) of the present hall which the university has caused to be named after him and which will under certain conditions be available for use by the municipal corporation of the city on public occasions. The plan of the hall is based on the form of the ancient Greek theatre, this form being chosen as best suited for an auditorium and one likely to ensure good acoustic results. The hall will accommodate nearly 3000 people. The internal diameter is 106 feet, the height to the dome light is 90 feet, and the total height from the street level to the top of the lantern is 130 feet. The preparation and execution of the book reflect much credit on the conductors of the *Student*, a university magazine. Mr. M'Ewan's portrait forms an appropriate frontispiece.

On Induction and its Association with the History and Progress of Medicine. By W. F. CLEVELAND, M.D. St. And. London: Baillière, Tindall, and Cox. 1897.—This little book is a reprint of the Harveian Lectures delivered before the Harveian Society in December, 1896. The choice of subject is very fitting for if ever there was a man who used the inductive method of reasoning rightly and with success that man was Harvey. Dr. Cleveland, after giving a plain and simple account of the inductive method as compared with the deductive, traces the course of medical science beginning with Hippocrates down to the present time. The first two lectures are a periscope of medicine while the last is devoted to a record of illustrative cases showing the value of the inductive method, cases which are very interesting and deal with the most varied subjects.

Verhandlungen des Congresses für Innere Medicin. Fünfzehnter Congress, Juni, 1897. (*Transactions of the Congress of Internal Medicine.* Fifteenth Meeting, June 9th to 12th, 1897.) Wiesbaden: J. F. Bergmann. Glasgow: F. Bauermeister.—One of the most interesting medical congresses is that on "Internal Medicine" which is held annually in Germany—at Wiesbaden usually, but occasionally in other centres. Last year it took place at Berlin under the presidency of Professor Leyden whose opening address dealt with modern therapeutic tendencies. The special subjects for discussion were: (1) Chronic Articular Rheumatism and its Treatment, which was contributed to by Dr. C. Baumler, Dr. A. Ott, Dr. F. Chvostek, Dr. P. Singer, Dr. M. Schüller, Dr. Davidsohn, and others; (2) Epilepsy, opened by Dr. H. Unverricht; and (3) Morbus Basedowii, opened by Dr. Eulenberg. The Transactions contain full reports of these debates and a large number of papers read at the Congress, including such subjects as the Roentgen rays in diagnosis, lumbar puncture, treatment of chronic heart disease, acute leukæmia, leucocytosis in childhood, fatty degeneration, the gastric function, icterus, &c. The volume is one to be referred to by all interested in scientific medicine.

The German Nature Cure and How to Practise It. By I. Aidall. London: Nicholls and Co. Price 3*s.* 6*d.*—This book contains a certain amount of sense and a great deal of nonsense. Cleanliness, air and sunlight are, as everyone knows, most valuable adjuncts in the treatment of disease, but they are not everything. On page 18 we learn that "vaccination ...... occasions the fearful spread of that terror of families—diphtheria." On page 224 an account is given of Herr Louis Kuhne's system of diagnosis which consists in examining the head and neck only. If a patient suffers from a "side encumbrance" we are told that "foreign matter presses into the lungs from above which is why the tips of the lungs are always first affected." We should like to know if Herr Kuhne has ever seen a case of pneumonia.

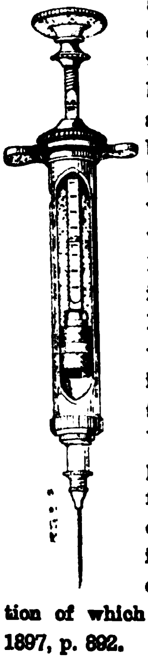
JOURNALS AND REVIEWS.

The Journal of Anatomy and Physiology. Conducted by Sir W. Turner, Professor D. J. Cunningham, Professor A. Macalister, Professor J. G. M'Kendrick, and Professor G. D. Thane. Vol. XXXII., Part 1. October, 1897. London: Charles Griffin and Co., Limited.—The present part contains several important articles, viz.:—1. A Topographical Sketch of the Lateral Wall of the Pelvic Cavity, with special reference to the Ovarian Groove, by William Waldeyer, M.D., with one plate. 2. The Insular District of the Cerebral Cortex in Man and in the Man-like Apes, by D. J. Cunningham, F.R.S., with ten woodcuts. 3. The Relation of the Fornix to the Margin of the Cerebral Cortex, by G. Elliot Smith, M.D., James King Travelling Scholar of the University of Sydney, St. John's College, Cambridge, with twenty-three woodcuts. 4. Skiagraphy after Injection of the Blood-vessels with Mercury, by Harold J. Stiles, M.B. Edin., with three woodcuts showing very good results. 5. Observations on the Development and Nutrition of Bone and Cartilage and on the Relations of Connective Tissues to each other in Health and Disease, by Professor Redfern, M.D. Lond., with twenty figures. 6. On the Anatomy of Macropus Rufus, by Bertram Windle, D.Sc. and F. G. Parsons, F.R.C.S. 7. Endarteritis Proliferans, by W. Ainslie Hollis, M.D. Cantab., with five woodcuts. Amongst the shorter communications are those of W. J. Otis, M.D. Boston, U.S.A., on the Structure of the Rectum; of Dr. H. D. Rolleston, on a Case of Abnormal Relation of the Vermiform Appendix to the Plica Vascularis, leading to Appendicitis; of Dr. Robert Howden, on a Case of Marked Distension of the Transverse and Descending Parts of the Colon; of Dr. Thomas H. Bryce, on a Pair of Negro Femora; of M. C. de Bruyne, of Ghent, on a Functional Adaptation of Phagocytosis; of Dr. W. Hunter, on a Modification of the Chrome-Silver Method for Nerve Cells; of Mr. C. F. Myers-Ward, on the Structure and Function of the Epididymis and Vas Deferens in the Higher Mammals, with a plate; and of Mr. F. Cole, on the Intromittent Sac of the Male Guinea-pig. Lastly, the part contains the Proceedings of the Anatomical Society.

We have received the first number of a monthly journal entitled *Centralblatt für die Grenzgebiete der Medizin und Chirurgie* (Jena: G. Fischer. Annual subscription 16 marks). It is edited by Dr. Hermann Schlesinger, of Vienna, and is promoted by Professor Mikulicz and Professor Naunyn, who about two years ago initiated a journal for original contributions to subjects on the "borderlands" of medicine and surgery. In some introductory remarks which these well-known authorities contribute to the *Centralblatt* it is intimated that the new periodical is intended to supplement the work of the more ambitious journal, which has already been the means of publication of several important memoirs. The new *Centralblatt* will be limited to abstracts and reports of published meetings and will contain no original matter. The number before us contains a review of recent advances in the study of Cerebral Abscess from Ear-disease, by Professor O. Körner; a review of the literature since 1892 on the Pathology and Treatment of Moveable Kidney, by Dr. J. Fischer; and upwards of thirty pages of abstracts of papers on subjects of medico-chirurgical interest.

New Inventions.

AN IMPROVED HYPODERMIC SYRINGE.



Messrs. Oppenheimer, Son, and Co., of 14, Worship-street, E.C., have recently brought out a hypodermic syringe which presents some novel and useful features. The piston is not packed with leather in the usual way but is made of cork, an arrangement which enables the syringe to be treated with any aqueous antiseptic solution or to be rendered aseptic by boiling without any fear of injury to the piston which would result if the packing were of leather. Moreover, the cork may be expanded so as to increase the tightness of the fit if required. For this purpose the piston-rod is provided with a square nut which can be fixed by drawing it into a recess at the top of the tube, and the fit of the piston may then be regulated by rotating the piston rod. There is no possibility of particles becoming detached from the cork, as may happen with some other forms of packing. The syringe is fitted in a hypodermic case containing twelve tubes of soluble hypodermics, an illustrated description of which appeared in The Lancet of March 27th, 1897, p. 892.

THE LANCET.

LONDON: SATURDAY, JANUARY 15, 1898.

There are few things in medical practice more sacred or important than an engagement to attend a woman in childbirth. Every right-minded practitioner will agree with us in this view. Such a view should have the support of the law and undoubtedly the general opinion of the profession, in which we have shared, has been that such an engagement had the sanction and support of law. A very rude shock to this view has been given by a recent decision delivered by Judge Addison in the Greenwich County Court in a case in which Dr. Walter Scott sued for his fee of 15*s*. in respect of his having been engaged to attend Mrs. Pascoe, the wife of a labourer, who subsequently engaged someone else (*vide* p. 199). Judge Addison has, we believe, the credit of being a good judge and in the meantime his opinion of the law on this subject will doubtless have wide acceptance. The husband (the defendant) said he never engaged the plaintiff and never gave his wife permission to pledge his credit. This seems to us a poor point and is inconsistent with what we believe to be the rule of law that a wife's contracts made for the sole purpose of supplying herself with necessaries suitable to her station in life are in general binding on the husband. But the judge held that even if the husband had himself engaged the plaintiff and subsequently seen fit to engage someone else the medical man had no remedy. On all other points he was equally adverse to the medical view of such claims. "How could the medical man charge for work he never did?" "Lawyers cannot recover fees in similar cases, neither can a doctor." There might be the argument that the plaintiff "booked" the engagement, "but that would not support his claim as the booking was only for the purpose of jogging his memory." The next point made by the judge is simply startling. "Notwithstanding an engagement the plaintiff would have been free on the date of its fulfilment not to have done so had he chosen and the defendant would have had no claim against him"! The plaintiff was non-suited and costs were ordered for the defendant.

On only one point do we find ourselves in agreement with the judge in this case and that is where he declares that the question is "an important one." It is especially important for the poorer classes to be able to rely on the binding nature of an engagement by a medical man to attend when summoned to a confinement. Previous engagement is of the very essence of safety and comfort of a woman who knows that shortly she will be in the pain and risks of child-birth. The judge's decision tends to demoralise the whole transaction. The woman may make another engagement; the medical man when he is sent for is free not to attend. This may be good law but it certainly is bad morals. We do not go so far as to say that the woman may not change her mind or the medical man, too, for that matter; but the judge would seem to imply that neither are under any obligation to announce this change of mind and so to liberate both parties from an engagement. Let us suppose that the woman changes her mind. Can anything be more simple or more obvious than her duty to intimate the fact to the gentleman whom she has engaged? We are persuaded that if this were done in reasonable time no medical man would object or think of carrying his claim into court. Judges should remember that it is the uncertainty of time in an obstetric engagement which makes it so reasonable that the claim of the plaintiff in such a case as this should be allowed. He orders his holidays, his time, his life, with reference to such engagements. He restricts his liberties and his engagements. The time occupied in merely attending a lying-in woman is only a part of the time reserved, so to speak, for her use. In other engagements a day and an hour may be fixed, but not so in this. The time is altogether uncertain while the duty in its nature and claim is superior to most other professional duties. For after all the chief argument for strong law on this subject, that is, law in accordance with the sense of duty, is derived from a consideration of the interest of lying-in women; and it is simply lamentable that from the judgment seat all contracts between them and their accoucheurs should be pronounced of no legal value and such as can be entirely ignored at the moment when service is required. It is fortunate that there is between such patients and their medical men a sense of obligation deeper than any which is fostered by the law as laid down by Judge Addison—too deep, let us hope, to be altered by such an unfortunate decision. Were it otherwise medical men, certainly the best medical men, would decline to trammel their lives with obstetric engagements, especially among the poor, and those who were compelled by circumstances to do so would have to secure themselves by substantial deposits beforehand in earnest of their fees.

Judge Addison drew a comparison between the case of lawyers in the higher ranks of practice and that of medical men in the lower. The comparison cannot well be made. Among the poor lawyers are not in demand to the same extent—for no one will deny that the labourer has, as a rule, more babies than law-suits; and from rich clients lawyers can easily command retainers which secure their position. Medicine and its aids are as indispensable to the poor as to the rich and its practitioners should have the support of law in their modest claims for hardly earned fees. The extreme modesty of these claims do not permit of their enforcement by any prolonged litigation, so that the county courts are likely to have their way without any fear of appeals in this class of cases. But this is an excellent reason why county court judges should not disparage the great unwritten contracts which govern life and death transactions between the poor and their medical advisers.

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The remarkable case of total extirpation of the stomach successfully performed by Dr. Carl Schlatter and recorded in another column of this issue cannot fail to attract much attention. We are glad to be able to present to our readers a full and detailed account of the case from the pen of Dr. Schlatter himself. Within the last thirty years the triumphs of surgery have been so numerous and so brilliant that we have grown accustomed to hear of ever-new advances and of brilliant achievements; but to hear of the removal of the entire stomach and of the successful union of the œsophagus with the jejunum must excite anew our wonder at the powers of the human constitution and our admiration of the courage and technical skill of the surgeon.

The patient was a woman, fifty-six years of age, who was admitted to the Surgical Clinic of Zürich with a large, moveable tumour in the epigastric and left hypochondriac regions which was associated with persistent vomiting and rapid emaciation. It was diagnosed to be a malignant tumour of the stomach and an exploration was made to establish the diagnosis and to determine the possibility of operation. The growth was found to infiltrate the stomach so extensively that partial resection of the organ and gastro-enterostomy were alike impracticable. As the stomach was free from adhesions and as there was no evidence of secondary growths anywhere it was separated from the greater and lesser omentum and removed by cutting across the lower end of the œsophagus and the duodenum just beyond the pylorus. It was found impossible to approximate the duodenum and œsophagus, so the duodenum was closed by careful suture and then the œsophagus was united to the jejunum about a foot below its origin. For the all-important details of this brilliant operation we must refer our readers to Dr. Schlatter's careful account of the case. The operation was a long one and occupied considerably over two hours, yet the patient did not suffer seriously from shock and she made an excellent recovery. She quickly regained the power of taking even solid food by the mouth and she gained 11 lb. in weight in six weeks after the operation.

The case is of the highest surgical and physiological importance. It demonstrates the possibility of removing the entire stomach in the human subject; this had already been proved in animals, particularly the dog. It shows that a patient can not only live after such a removal but can even thrive to the extent of gaining 2 lb. per week in weight. And it shows the feasibility of uniting the cut end of the gullet to the jejunum. This case has been led up to by the more extensive partial resections of the stomach which have been undertaken of late years as well as by experiments upon animals. It is well known that the stomach is much more tolerant of operative interference than is the small intestine, and we are not surprised to learn that the prolonged operation upon the stomach was not followed by profound shock. The freeing of the stomach ought to be accomplished also without serious loss of blood. We gather from Dr. Schlatter's paper that the direct union of œsophagus and jejunum proved quite satisfactory, although vomiting occurred on two or three occasions; as a rule there was no regurgitation into the mouth of the contents of the intestine, and the intestinal secretions were able to deal so satisfactorily with the various elements of an ordinarily mixed diet that the fæces and urine showed no marked deviation from the normal beyond the diminution of the chlorides in the urine. Careful investigation of this case showed that the albumins of the food could be digested without the aid of the gastric juice and that after a short time the bowel accommodates itself to the reception of a moderate meal direct from the mouth. Dr. Schlatter thinks that he fed his patient a little too freely at first and that the vomiting that occurred then was due to this cause. In this he is probably right. But we gain something from the practical error, for we have the proof that in man vomiting can occur quite independently of the stomach in any way whatever.

The cases in which such an operation is permissible are very few in number. Where there is such extensive infiltration of the stomach secondary deposits in the glands of the liver would nearly always preclude a radical operation. It cannot be supposed, too, that every patient with cancer of the stomach can undergo such a prolonged and difficult operation as this without severe or even fatal shock. The execution of such an operation will test the powers of a surgeon very severely—his endurance, his strict carefulness to make good every step before passing on to the next, and his thorough command of the methods of aseptic surgery. The operation may long remain unique and it can hardly ever be other than one of very great rarity. And, after all, the physiological interest of the case almost transcends the surgical. Dr. Schlatter discusses the physiological problems with great care and acumen in the paper before us; the case must do something to lessen the importance of the gastric portions of the alimentary canal. We can well believe that this patient will be as familiar to all physiologists as Dr. Beaumont's Alexis St. Martin and we trust she will survive her operation as long as he did his injury and enjoy as good health as he did.

To Dr. Schlatter we must offer our sincere congratulations on the brilliant success that has attended his bold effort. He has accomplished the most striking and remarkable of all the many anastomoses of the alimentary canal and has effected one of the most brilliant advances of surgery on record. If he has imitators we trust they will copy his perfection of detail as well as his surgical courage.

We drew attention last November to the important decision given in the Court of Queen's Bench in the case of Baker *v.* Williams, by which it was determined that the Town Council of Southport had the right to require a definite amount of cubic space for each cow in a cowshed under their regulations as to dairies, cowsheds, &c., this requirement being one that can be made under the term "ventilation" named in the Order of the Privy Council which is now administered by the Local Government Board. This decision was not directly concerned with the amount of the cubic space in question, which was 800 cubic feet; but as it was given on a regulation insisting that this space should be the local minimum in the case of all cowsheds it has caused a great deal of uneasiness amongst agriculturists and owners of dairy farms generally, by whom it is contended that whilst such an amount of cubic space may perhaps be necessary in crowded town and cities a very much smaller amount ought to be deemed sufficient in country districts and even in sparsely populated urban areas. As the matter now stands nothing could well be in a more unsatisfactory state. The Local Government Board have no power to require any minimum space at all and they are practically compelled to accept whatever amount of space is inserted by the local authority unless they are prepared to refuse their sanction altogether to the regulation on the ground that it is bad or too restrictive. The consequence is that in one district one minimum is adopted and in adjacent districts quite other ones are in force—a condition of affairs that tends to local dissatisfaction.

The first thing that is wanted is to get some minimum fixed that shall never be further lowered whether the cowshed be in an urban or a rural district and whether the cowshed be a new one or an existing one. Then some further rules for increased stringency might be laid down which should take some account of the surroundings of the cowsheds in so far as these affect ventilation, and for a term of years at least existing cowsheds might be dealt with somewhat more leniently than new ones. But in granting any concessions it must be remembered that conditions tending gravely to affect public health are at stake. This is not solely an agricultural question, it is one of supplying the public with milk that is either wholesome or liable to convey the germs of disease, notably of tuberculosis. The dairy industry is a prosperous one and public health considerations are not to be sacrificed to those of mere pecuniary gain.

The subject is one that must almost necessarily be taken cognisance of by the members of the Royal Commission on Tuberculosis, for the reference which has been made to them includes a request that they shall specify the administrative measures that are necessary to prevent tuberculosis in the human subject by reason of the consumption of the milk of tuberculous animals. When it is remembered that milch cows are often stalled in cowsheds for a period of from eight to ten months without ever getting, even for a moment, into the outer air, and when it is considered that, for the purposes of inducing an artificial secretion of milk, the cowsheds are kept at an abnormally high temperature, it is not difficult to conceive how considerations of fresh air and ventilation tend to be forgotten and to become subsidiary to the one idea of the amount of milk to be procured; it is, moreover, obvious how easily this condition of things leads to the steady increase of tuberculosis in the bovine race and especially amongst milch cows. For new cowsheds nothing less than 800 cubic feet should be thought of for the purposes of due ventilation even in rural areas, and anything short of this for existing cowsheds should be deemed to be of the nature of a provisional concession only and it should only be granted when it can be made under local circumstances that are compatible with the requirements of public health.

LLANDAFF CATHEDRAL BURIAL GROUND.—At a meeting of the Llandaff and Dinas Powis district council held on Jan. 5th a report presented by one of the sanitary inspectors stated that upon the occasion of a recent interment in the burial ground of Llandaff Cathedral coffins were found too near the surface and when the earth was removed a great nuisance was experienced by people living in houses near. The council decided to write to the Home Secretary and also to the dean and chapter.

Annotations.

"Ne quid nimis."

THE CASE FOR VACCINATION.

WE may direct attention, especially of those members of our profession who are engaged in the public health service, to the letter addressed to us by Dr. Bond, the indefatigable secretary of the Jenner Society. It is quite true, as he says, that in the vaccination controversy most of the talking is done by one side—that which deems Jenner to be a charlatan and vaccination a "filthy rite." Their letters and pamphlets, which constantly go over the same ground, teem with unverified assertions and are often disfigured by unwarranted abuse of the medical profession. Occasionally here and there a medical man ventures to give utterance to what he believes to be the truth based on his personal experience and on the accumulated facts of a century of vaccination. He often suffers for his well-meant temerity, for we know of hardly any subject in which personal vilification has more frequently sufficed to take the place of argument. It is too much to expect that any professional man should subject himself to such attacks at the hands of persons whose zeal outruns discretion and even decency of debate. Nor can we expect the Jenner Society to successfully deal with the multitudinous onslaughts that are now being made upon the practice it was founded to promote. Therefore it would be well for those who have the care of the public health — who are well informed upon the question as to the utility of vaccination and who could readily meet the arguments advanced against it — to descend into the arena. On the other hand it would not surprise us to learn that strong as is the opinion held by the vast majority of the profession upon the benefits which vaccination has conferred upon mankind there may well be a feeling of indifference to active propagandism of their views. Even the love of humanity may be chilled by the violent language with which the actions prompted by it are received; and so far as compulsion in the enforcement of a medical prescription is concerned there are few medical men who would support it were it not that they know its value. Nor does the question of "compulsion" or "no compulsion" necessarily enter into the sphere of the medical man's action. That is a political measure—a procedure adopted by the State deliberately with the intent of safeguarding the people so far as is possible from a disease which was once so common but which, owing to vaccination, has declined in intensity and extent.

AN INTERESTING EXPERIMENT.

ONE of the most puzzling problems in biological science is the apparently unending activity of unorganised ferments like diastase, pepsin, pancreatin, &c. The action of organised ferments such as yeast or bacteria is much more easy to understand. There is little doubt that as the nature and action of these unorganised ferments is understood we shall get a better understanding of the vital processes both in the animal and vegetable kingdom. That the unorganised ferments are essential to life, at least in the vegetable world, is pretty certain. Germination at any rate depends largely upon the presence of enzymes. In an interesting series of experiments lately conducted in the University of Vermont the effects of soaking more or less old seeds in solutions containing ferments like diastase and pepsin are recorded. From these experiments it appears that seeds which have lost their power of germination through being kept from two to twenty years may be fructified, so to speak, by immersing them for a time in a solution containing an active unorganised ferment. By this process an increase of from 567 per cent. to 608 per cent. in the germination through the action of the artificially supplied ferments takes place. These results are of the utmost importance in throwing light upon the development of plants and as affording a means perhaps of restoring or giving impetus to seeds which otherwise might fail.

"TRANSMISSION OF SYPHILIS TO THE THIRD GENERATION."

A paper on this subject by Dr. George Ogilvie appears in the October and November (1897) numbers of the *British Journal of Dermatology*. Dr. Ogilvie considers the matter very exhaustively and has evidently studied very carefully the literature already existing that bears on this question. His contribution is divided into three parts. In the first the possibility of syphilis being transmitted to the third generation is discussed. Numerous authorities are quoted and cases cited which tend to prove that such an event is possible, but at the same time the numerous and obvious difficulties which lie in the way are fully admitted, the chief being that it must be granted once for all that to absolutely exclude acquired syphilis is impossible, and each individual case must be decided on the evidence that is obtainable. Dr. Ogilvie concludes this division of his subject thus: "On the one hand we are told that 'there is not the slightest evidence' of such transmission; on the other that 'there are undoubtedly cases' in which syphilis was thus transmitted. Both statements are equally unwarranted. The evidence before us furnishes us, if not with absolute proof, still with 'reasonable probability' that syphilis may descend to the third generation." In the second part of the paper the "dystrophic" influence of syphilis on the third generation is considered, but Dr. Ogilvie remarks that up to now statements to this effect are more or less vague conjectures and incapable of being proved by clinical evidence. In the last part of his essay the author comes to the conclusion that clinical evidence tends to show that healthy children born of syphilitic mothers during the secondary stage may receive a transitory immunity against syphilitic infection.

THE LINCOLN WATER-SUPPLY.

The Lincoln Medical Society has rendered good service by awakening public attention to the condition of the water-supply of that town. On Nov. 29th last this society passed a resolution pointing out that as the water-supply was liable to contamination from many sources it was most important that there should be a bacteriological and chemical analysis made every fortnight. The water-supply from the Witham received the sewage effluent from the Bracebridge Asylum, where there had been some cases of typhoid fever. This resolution was forwarded to the mayor and the town council was also recommended to purchase a plot of ground measuring about 2024 square yards which could be obtained for £400 and which adjoined the premises of the waterworks reservoir. It would thus be possible to increase the size of the storage grounds or filters. To this the waterworks committee replied that in 1892 Sir George Buchanan, the former chief medical officer of the Local Government Board, had given evidence to the effect that the process of analysis then used "was of no earthly value for the demonstration of morbid elements." The waterworks committee would only sanction a reasonable expenditure for such analyses if it could be shown that recent improvements had rendered water analysis more reliable. The waterworks committee also pointed out that the sewage from the asylum mentioned passed through irrigation lands and that there was no reason to believe that the effluent contained any injurious properties. Even were this the case it is mixed with other waters, travels a long distance, and finally has to pass through the corporation filters, therefore the Lincoln supply is as safe as the Thames water drunk in London. Further, the excreta from the typhoid patients at the asylum had not been thrown into the drains, and the death-rate of Lincoln showed that the health of the inhabitants was in no wise affected. Dr. W. A. Carline, secretary of the Lincoln Medical Society, meets this reply by explaining that within the last four years there had been a very rapid development in bacteriological science. By the use of Pasteur filters and centrifugal action the collection, separation, and identification of different bacilli had been greatly facilitated and a much larger volume of water could now be examined. Nor was it necessary that the water examined should contain pathogenic germs, for where innocuous organisms can penetrate there also the disease germs can pass. As for the exclusion of typhoid excreta this was not always possible, as such excreta passed into the drains before the true character of the disease was ascertained; also mild and undiscovered cases were just as dangerous. As for the death-rate that of Maidstone compared favourably with that of Lincoln. Such is, briefly, the present position of the controversy. The whole question apparently depends upon the efficacy of the methods of filtration employed. When water is not gathered underground and brought to the town in a covered aqueduct or in iron pipes there is always danger of contamination. Therefore such water must be filtered, but there is the risk that the filters may get out of order. It is to check this risk that there should be constant analysis. Such examinations will indicate whether the water is up to its normal standard, and any departure from that standard will suggest the urgent necessity of immediately examining the condition of the filters. By such means it may be possible to nip the mischief in the bud. It seems absurd to spend large sums of public money in building reservoirs, filters, &c., and then to stint the small cost of analyses. This policy of spoiling the ship for the sake of a pennyworth of tar is the most foolish of all policies. Surely the ratepayers of Lincoln will not object to the very small outlay necessary so that a proper control may be established to watch over the quality of their water-supply. They will remember the well-merited abuse that was poured upon the town council of Maidstone because it had under similar circumstances ordered its medical officer of health to cease to analyse the water-supply of that town.

HOSPITAL ABUSE AT NEWPORT INFIRMARY.

We have received from the medical staff of the Newport Infirmary the following document, with a request for its publication:—

"Considering the prominence attained by the unfortunate dismissal of Mr. Ensor from his post of honorary ophthalmic surgeon to the Newport and Monmouthshire Hospital by the directors, we think it due to ourselves to state the position which we have taken since the beginning of this controversy. At the meeting of directors in December, when Mr. Ensor was dismissed from his appointment, those of the staff who were present protested and voted against the mode of his dismissal. As soon afterwards as possible a meeting of the honorary medical staff was called to hear Mr. Ensor's explanation of the charges preferred against him at the directors' meeting. This explanation appeared to throw a fresh light upon the case and the staff drew up a unanimous memorial asking that the notice of dismissal should not take effect until Mr. Ensor had been allowed to state his side of the case before a full meeting of the board. Upon the memorial being sent to the directors the house committee asked the staff to meet them in order to discuss the memorial. The staff consented and urged the house committee to call a meeting of directors to hear Mr. Ensor. After a long discussion the house committee refused to call a special meeting unless Mr. Ensor first apologised (the apology to be one that would satisfy their chairman and a member of the medical staff). This was agreed to by the staff who saw no other method of getting Mr. Ensor's case considered before his dismissal came into force. Mr. Ensor on receiving the form of apology drawn up as beforesaid refused to sign it, saying he had nothing to regret. The house committee then declined to call a special meeting of directors. The original memorial of the staff, however, came before the directors on Jan. 4th, four days after Mr. Ensor's connexion with the hospital had ceased. The whole staff had an interview with the directors when it was carried by a large majority that inasmuch as Mr. Ensor had written saying that he had no reason to regret his action the board refused to reopen the case. The staff then entered their strong protest against this action of the directors, and expressed their intention of publishing their protest in the medical papers. The annual meeting of subscribers will take place at the end of this month, when the matter will come up for further and probably final consideration. We do not now, therefore, propose to enter further into the merits of the case, except to say that no doubt Mr. Ensor acted under a sense of great provocation; but we do not support all his actions which led to the present crisis.

(Signed)

"MELVILLE BREWER.
"REGD. E. WORMALD BREWER.
"A. E. BULWER MARSH.
"ROBERT J. PATON.
A. GARROD THOMAS.
J. E MACORMACK.
H. B. SEDDON.
CHAS. STUART VINES.

"Jan. 7th, 1898."

As the matter is to be further considered at the forthcoming meeting of the subscribers we propose to reserve full comment until after this meeting except so far as regards one point and that is that we cannot approve of the action of the staff in agreeing to demand the apology. It was prejudging the case, for if Mr. Ensor had signed the apology it would have been tantamount to confessing himself in the wrong and almost to accepting dismissal. The staff should have insisted upon Mr. Ensor being heard in any case. As will be seen from a report in another column the members of the Newport Medical Society have unanimously passed a resolution disapproving of the action of the directors.

THE PREVENTION OF TYPHOID FEVER.

THE very instructive discussion upon the prevention of typhoid fever which has occupied three meetings of the Royal Medical and Chirurgical Society terminated on Tuesday last. It has been the means of bringing to light the various points of view from which this important subject may be regarded—the propagation of the virus by means of contaminated water- and food-supplies, the regulation of water-supplies and drainage, the germicidal action of the well-tilled soil, the bacteriological examination of suspected water, the conditions of existence and the persistence of the bacillus typhosus, the question of natural immunity and individual predisposition, besides many other interesting facts and suggestions as to the control of epidemics, methods of disinfection, and the like. Reserving for more detailed comment and examination the numerous points that have been raised in the course of the debate we must content ourselves to-day with merely noting that the speeches delivered at the final meeting were no less instructive than those that preceded, fully justifying the President's closing remarks upon the value and importance, practical and scientific, of so free a ventilation of the subject. Dr. Poore's advocacy of dry methods of the disposal of excreta in rural districts was strenuous and well maintained, nor do we think that his chief argument was shaken by the numerous criticisms that were passed upon it. However, as he forcibly pointed out in his reply, there is a wrong and a right way of disposal of refuse and when, as so often happens, the wrong way is chosen the method defeats its own object. He complained, and not without reason, of being misunderstood in his main contention by many of his critics. The discussion will have done good if it impresses on the Legislature the need for better control of water- and milk-supplies and the enlargement of the powers of district sanitary authorities, with whom should rest the responsibilities of securing the community from the invasion of epidemic disease.

THE LANCET COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

WE publish in another column a letter from our Special Commissioner, who was appointed to give a description of the sources, treatment, and distribution of the present London water-supply (the results of his inquiry being published in various numbers of THE LANCET throughout last year). From this we seem to have unintentionally, in summarising the work in THE LANCET of Dec. 25th, 1897, conveyed to some readers the impression that this important and onerous investigation was undertaken with the view of setting a *financial* estimate upon the existing London water undertakings. We wish to state positively that the inquiry was not instituted with such a purpose in view and the following sentences from the article referred to may be quoted in support of this statement. "We have felt that, despite the great number of official inquiries and Royal Commissions that have been held on water-supply, not in the reports of any of these inquiries are to be found, at least compiled in a convenient way, facts and statistics relating in detail to the undertakings of the companies, beginning with the intake and ending with the means of distribution. At any rate we do not know of an independent inquiry ever having been made on these points. *It is exactly this omission which the articles that have appeared in* THE LANCET *this year are believed to repair.*" And again in a later sentence it is written that "after all it is largely the important question of the public health that is concerned *and this primarily is our reason for instituting the inquiry.*" In speaking of "the real value of the machinery and plant" we were referring to the points of view of adequacy and efficiency not to their intrinsic worth. We wish to add our thanks to those of our Special Commissioner to the secretaries and engineers of the various water companies for their courteous assistance in our inquiry.

THE BRITISH MEDICAL ASSOCIATION.

THE sixty-sixth annual meeting of the British Medical Association is to take place this year in Edinburgh, the President-elect being Sir Thomas Grainger Stewart, K.C B., M.D. Edin. The meeting will commence on Tuesday, July 26th, and terminate on Friday, July 29th. An address in Medicine will be delivered by Professor Thomas Fraser, M.D. Edin., one in Surgery by Professor Thomas Annandale, F.R.C.S. Edin., and one in Psychological Medicine by Sir John Batty Tuke, M.D. Edin. There will be as many as sixteen sections, the subjects of Anatomy and Physiology being assigned to separate sections, and three departments not hitherto separately formed are constituted distinct sections — namely, Neurology, Medicine in Relation to Life Assurance, and Tropical Diseases. The following is a list of the presidents and secretaries of the sections:—A. Medicine: President, Dr. G. W. Balfour; honorary secretaries, Dr. J. Graham Brown, Dr. S. H. Habershon, and Dr. G. L. Gulland. B. Surgery: President, Mr. J. Duncan, F.R.C.S. Edin.; honorary secretaries, Mr. F. M. Caird, Mr. J. W. B. Hodsdon, and Mr. T. K. Dalziel. C. Obstetrics and Diseases of Women: President, Professor A. R. Simpson; honorary secretaries, Dr. R. Milne Murray, Dr. F. W. N. Haultain, and Dr. J. Campbell. D. State Medicine: President, Professor Sir H. D. Littlejohn, M.D. Edin.; honorary secretaries, Dr. C. H. Stewart and Dr. W. L. Mackenzie. E. Psychology: President, Dr. T. S. Clouston; honorary secretaries, Dr. J. Macpherson and Dr. G. M. Robertson. F. Neurology: President, Dr. Byrom Bramwell; honorary secretaries, Dr. R. A. Fleming and Dr. W. F. Robertson. G. Pathology: President, Professor W. S. Greenfield, M.D. Lond.; honorary secretaries, Mr. H. J. Stiles and Dr. R. Muir. H. Pharmacology and Therapeutics: President, Dr. J. O. Affleck; honorary secretaries, Dr. R. D. Helm and Dr. A. L. Gillespie. I. Ophthalmology: President, Dr. D. Argyll Robertson; honorary secretaries, Dr. W. G. Sym and Dr. A. MacGillivray. J. Laryngology and Otology: President, Dr. P. MacBride; honorary secretaries, Dr. A. B. Kelly and Dr. A. L. Turner. K. Diseases of Children: President, Dr. Joseph Bell; honorary secretaries, Dr. G. H. M. Dunlop, Dr. J. Thomson, and Dr. W. S. Colman. L. Dermatology: President, Dr. W. A. Jamieson; honorary secretaries, Dr. J. Limont and Dr. N. Walker. M. Medicine in Relation to Life Assurance: President, Dr. Claud Muirhead; honorary secretaries, Dr. J. Murdoch Brown and Dr. F. D. Boyd. N. Tropical Diseases: President, Dr. P. Manson; honorary secretaries, Mr. J. Cantlie and Surgeon-Captain M. L. Hughes. O. Anatomy: President, Sir J. Struthers, M.D. Edin.; honorary secretaries, Dr. D. Hepburn and Dr. J. R. Whitaker. P. Physiology: President, Professor W. Rutherford, M.D. Edin.; honorary secretaries, Dr. E. W. W. Carlier and Dr. R. A. Young.

THE FATE OF PRESCRIPTIONS.

IN a very well-known and deservedly popular Sunday newspaper, which some little time ago took the right course of doing away with its medical information column, there appears week by week an article written specially for women. In the issue of Jan. 9th the writer of this article relates the following story. She had a friend who, although aged forty-five years, could and did sit with her face to the light and did not show a wrinkle. This filled the writer of the article with admiration and she said so. Whereupon "she gave me a box of what she called 'Face Massage Cream' and told me the history of her case. ...... Eight years ago she noticed her first wrinkle ...... more wrinkles appeared until she was quite in despair. Finally she went to see a celebrated doctor in Harley-street ...... and he gave her a prescription. ...... She has given the prescription to dozens of her friends and they have been so pleased with it that now she thinks seriously of putting it on the market, so that it may have in the future a wider field of usefulness. .... Nearly a year has passed since I wrote this article, and meantime my friend has placed the face massage cream upon the market, and it can now be found at .... Full directions are given with each box, and I will answer any letters privately about it." It seems to us a most extraordinary thing that two educated ladies should not only be apparently quite unaware of the blatant dishonesty of this procedure but should also not be ashamed to publish it in the press. "She thinks seriously of putting it on the market." But it is not hers to put.

THE TOWN COUNCIL AND THE MEDICAL PROFESSION OF BATH.

WE lately reported and commented on a meeting of the medical profession of Bath summoned on the invitation of the Mayor to confer with regard to some scheme for securing the harmonious coöperation of the profession and the corporation in respect of the full utilisation of the baths of that historical city. The meeting ended in a resolution, suggested by the Mayor, that the profession should resolve itself as a whole into a committee for this purpose and elect an executive and perhaps a sub-committee to confer with the council when necessary on questions of a medical or quasi-medical character. The Mayor at a recent meeting of the corporation reported the matter. We regret to say that some members of the town council objected to adopt the course so sensibly proposed by the Mayor, appearing to think that it might interfere with the independence of the corporation in the management of the baths for which they are responsible to the ratepayers. We are sure that such an action of a committee is far from the conception of the profession and that on mature reflection Mr. Ricketts and other councillors will see that it is not involved in the plan suggested by the Mayor, the essence of which was to secure the judgment of the profession as a whole apart from any few members of it who might be in the corporation or have the ear of its members. Unfortunately one circumstance gave a little excuse to those who hesitated to adopt the Mayor's suggestion. The whole profession of Bath, numbering some ninety practitioners, includes two or three homœopaths. These were not included in the invitation of the Mayor to the profession. The circumstance has raised the whole ethical question of meeting homœopaths, thus embarrassing the Mayor and imperilling the success of his excellent scheme. The profession itself, we gather, is divided on the question, part holding that the rules which regulate consultation with homœopaths should obtain here, and part that the question is quite a different one. We are asked for our opinion and we have no hesitation in saying that we regard the question as quite simple. The meeting of a homœopath in a consultation is quite a different matter from meeting him in a committee. For the latter purpose he is a member of the profession as much as any other practitioner and entitled to a voice in a committee of the whole profession. In any such general committee the homœopathic practitioner will always be in a hopeless minority. His system has had a hundred years to commend itself and it remains a fantastic fad of a small section of the profession. But, this fact notwithstanding, he is by law in the profession and entitled to all the amenities of it when they do not involve others in grave ethical difficulties which cannot well arise out of any reasonable coöperation between the profession and the corporation. In the circumstances arising at Bath we should advise the entire elimination of the distinction of regular and homœopathic practitioner so as to facilitate the object of the Mayor. If it falls through let it not be due to the fault of the profession.

SCHOOL SANITATION AT NAPLES.

SINCE the appalling epidemic of cholera which decimated the population of Naples notable efforts have been made to improve the sanitary conditions of that town. Unfortunately there was so much to be done that it is not surprising if a great deal still remains undone. Thus Professor Eugenio Fazio in a report prepared for the Minister of Public Instruction gives a terrible picture of the actual condition of the elementary schools at Naples. From this official document we gather that Naples now possesses a population of 539,395 inhabitants, and yet there are only 81 schools for primary education. They are subdivided into 41 schools and 270 classes for boys and 40 schools and 210 classes for girls. These schools accommodate 11,518 boys and 8825 girls—total, 20,343 pupils. This is just about half the number of places that should be provided if the law on primary education was faithfully enforced. Thus 2200 demands for admission have had to be rejected. Of these 81 schools 6 are qualified from the sanitary point of view as good, 45 as bad, and 30 as homicidal. Sixty-six schools are in buildings that were not constructed as schools but as dwellings let out in flats. In many cases one or two flats have been rented in houses that are situated in very narrow streets. The school is often on the third or fourth floor and reached by a dark dirty staircase where foul closets are situated. The classrooms vary greatly in respect to height, cubic capacity, light, &c. Three-fourths of the class-rooms are on the second or third floor of houses in streets varying from 9 ft. to 16 ft. in width, and are so dark that artificial light has to be used in the daytime. The superficial space per pupil varies from 2 metres to 0 54 metre square and the cubic space from 10·31 to 1·95 cubic metres. In the new schools the superficial space per pupil is 1 metre square but the cubic space is 5·40 metres. In three-fifths of the class-rooms the flooring is made of porous bricks, in the new schools of cement, asphalt, or hard wood. In many of the schools the wall-paper is damp, torn, covered with stains and obscene drawings, and it serves as a ready refuge for numerous vermin. The furniture is often most unsuitable and may well induce curvature of the spine. Since Naples has been provided with a system of sewers there has been, however, a great improvement in the closets which in many instances are now properly flushed and trapped. In theory these schools should be visited every day by medical inspectors, as a matter of fact they are only inspected on special occasions. A proper staff of inspectors has not yet been appointed. To remedy this deplorable state of affairs Professor Fazio urges that a law should be enacted rendering the construction of primary schools by the municipality not optional but obligatory. Such a law must also stipulate that schools shall be built under certain conditions with regard to space, ventilation, light, furniture, drainage, &c. Professor Siniscalchi and Signor Varola, civil engineer, submit plans of what may be qualified as a sanitary school to accommodate 360 pupils, which at Naples would cost £3600, the price of the land included. Thirty-three such schools should be built at Naples and this would represent an expenditure of £160,000. As at the present time £4800 are paid per annum for the rent of the very unsuitable and unhealthy apartments which are used as schools. This sum would suffice to cover the cost of a loan of £160,000, repayable within twenty-five years. Thus the evil can be remedied without increasing local taxation, which in the poverty-stricken condition of the country it would be difficult to impose.

EARLY CHANGES IN THE SPINAL CORD IN TABES.

ALTHOUGH the pathological anatomy in advanced cases of tabes is pretty well known and recognised the changes occurring in early cases are, naturally enough, not so well known. In a recent number of the *Manchester Medical Chronicle* Dr. R. T. Williamson describes the condition of the cord in a patient whose symptoms were not very severe and in whom they had lasted a comparatively short time. His death was the result of an accident, so that the tabes had, at least directly, nothing to do with it. A few weeks before his death he had been an in-patient in the Manchester Royal Infirmary under the care of Dr. Thomas Harris and while there he was noticed to have an ataxic gait and to suffer from occasional severe pain in the back and in the left hip. His pupils did not react to light, the knee-jerks were absent, but there was no visceral affection. When the spinal cord was examined after hardening and staining there was found to be well-marked sclerosis in the posterior columns in the lumbar, dorsal and cervical regions, but the changes were most marked in the lumbar region. The other columns were not affected. The sclerosed parts showed the neuroglia greatly increased and the walls of the blood-vessels thickened. In the lowest lumbar region the sclerosis was chiefly in the white matter adjacent to the middle third of the posterior horn and in Burdach's column just internal to this. A semi-circular area at the posterior part of Burdach's column was less degenerated than the rest. This is the region described by Marie as probably consisting of endogenous fibres, and it is interesting to note that in Dr. Williamson's case the tract described by Dr. Alexander Bruce and Dr. Muir as probably of the same nature—the septo-marginal tract—is also undegenerated. The posterior nerve roots in the lumbar region were but little affected. In transverse section the nerve fibres seemed to be separated by more interstitial tissue than the fibres of the anterior roots at the same level, but no other change could be detected, either with Weigert's stain or with Marchi's. Nor could any change be observed in teased specimens stained by different methods. The pia mater in the lumbar region was a little increased in thickness Dr. Williamson alludes briefly to the various views as to the starting point of the morbid change in locomotor ataxy, especially with reference to the absence of marked changes of the posterior roots in his case. According to Obersteiner and Redlich such changes commence just at the point where the posterior roots pass through the pia mater to enter the cord and are the result of chronic meningitis and arterial sclerosis at this point. In Dr. Williamson's case also it is significant that the fibres in the lower lumbar region which were not degenerated were the so-called endogenous fibres—i.e., fibres which do not come from the posterior roots, but probably are commissural and connected with cells in the cord itself.

THE CENTENARY OF A MEDICAL POET.

THE success we anticipated[1] for the centenary of Dr. David Macbeth Moir, of Musselburgh, has been more than realised. Emeritus Professor Masson's address at the banquet was an eloquent yet judicious tribute to the kindly medical poet, for whom he had no difficulty in asserting a permanent place in literature and a not less enduring hold on the growing locality the gratitude of which he so honourably earned. The suggestion that a prize should be founded for proficiency in the poet's writings is to take effect, and Professor Masson, skilfully utilising the hint of THE LANCET that Dr. Moir's work in medical history should be recognised in the subjects set for competition, was at pains to show the many-sided culture attained by his hero and the finely developed character, in sentiment and practice, which it contributed to form. Such personalities as Dr. Moir's are happily to be found in all professions, but in none more than in the medical do they act as a stimulating and salutary social leaven. The duty-doing practitioner who not only lives up to his "sense of citizenship" but can make it his pastime to give poetic form to the generous emotions and ennobling thoughts inspired by contact with the men amongst whom he moves is indeed of "the salt of the earth." It will be much if the prize just instituted keeps fresh the life-work of the "medical poet." It will be more if it gives rise to similar developments, improving on the standard it has raised and so helping upward and onward our common evolution.

THE BACTERIOSCOPIC DIAGNOSIS OF DIPHTHERIA.

THE Bureau and Division Reports of the Department of Health, Chicago, for November, 1897, are supplemented by some remarks on "Diphtheria Diagnosis." It is stated that there is a notable increase in the number of bacteriological examinations made by the medical profession generally, so that the cases referred for diagnosis to the laboratory of the department have been fewer. A new form of culture-incubator, designed by Dr. W. H. Jaques, chief of the Diphtheria Antitoxin Staff, is figured and described, and an interesting excerpt from a paper by Dr. Jaques on the Diagnosis of Diphtheria is appended. He illustrates the importance of making a correct diagnosis by two examples culled from his own experience. In the one he was called to intubate the child of a milkman. A week before this one of the milkman's drivers had suffered from a sore throat and consulted a physician who administered antitoxin. The man resumed his work the next day. Dr. Jaques found diphtheria bacilli in both patients, and asks how many families may that driver have infected besides that of his employer? The second instance presents the converse, for here the child of a milkman suffered from inflammation of the throat which was pronounced to be diphtheria by the attending physician who did not however take a culture. The milkman, who had lost a child from diphtheria in the previous year, closed his business and transferred his customers to another dairyman. On the second day the child was so much better that another physician was called; he made a culture and found no bacilli. Dr. Jaques adds: "The milkman's business was ruined, and the first doctor threatened with suit for damages. Doctors have paid many judgments far less just than this milkman may get." He also declares that in cases of mixed infection the symptoms of ptomaine poisoning due to the Klebs-Löffler bacillus may be preceded by those due to staphylococci and streptococci, which latter may even subsist before the onset of the graver symptoms. He is convinced that if the Klebs-Löffler bacillus is the "principal invading germ" then "antitoxin will bring the crisis of the disease within twenty-four hours. If it is the streptococcus there will be a long hard fight." Streptococcus angina is marked by pain, and is not benefited by antitoxin; for, he says, the "toxin developed by the streptococcus is usually of small importance." We note these observations as showing the direction in which the differentiation of diphtheria is tending, and the importance that is being attached to bacterioscopic diagnosis.

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[1] THE LANCET, Dec. 18th, 1897, p. 1608.

THE DARENTH SCHOOLS.

IN view of the importance of the matter of training weak-minded children we felt it necessary to advert, in THE LANCET of Dec. 18th, 1897, to the recent resolution of the Metropolitan Asylums Board which proposes to amalgamate the schools and asylum of Darenth under one medical superintendent and to retain the educable and curable children in that large institution, the accommodation of which will then amount to over 2000. One of the managers of the Metropolitan Asylums Board writes to us in reference to the matter suggesting that we are not altogether rightly informed upon the position and forwarding a copy of "The Special Committee *re* Darenth Schools." We are obliged to this gentleman for the document, although it only represents a small portion of the controversy, and we had already seen this report and fully investigated the matter. That a considerable number of the managers were opposed to the continuance of a plan by which the educable and improveable children should remain part of such an immense institution as Darenth, where they cannot, as conclusively proved by the Departmental Committee, receive the individual attention necessary, is evidenced by the fact that an amendment, proposing that they should be removed, and their education carried on in an entirely distinct establishment, was only lost on a division by one vote (23 to 24).

LARYNGITIS STRIDULA WITH PERMANENT DYSPNŒA.

IN the first number of the *Archives de Médecine des Enfants*, a periodical which has just appeared under the editorship of Dr. J. Comby, Dr. Soca, of Montevideo, has published four cases of a hitherto undescribed form of laryngitis stridula characterised by inspiratory dyspnœa protracted for several weeks, but there were no paroxysmal attacks such as are the principal feature of the ordinary form. To avoid possible misunderstanding let us state that we do not refer to laryngismus stridulus, a condition with very different symptoms and generally regarded as simply a neurosis. One of Dr. Soca's patients, a girl aged two and a half years, was admitted to hospital on the eighth day of the disease in an exhausted state, with pale face, anxious expression and noisy and difficult respiration. There were stridulous inspirations with marked supra-clavicular, supra-sternal and epigastric recession. The respirations were 50, and the throat was normal. The chest gave no signs except some rhonchi and there was no evidence of disease of the lymphatic glands. The temperature was 103·8° F., the voice was hoarse, and there was a barking cough. All the symptoms were aggravated at night but there were no attacks of suffocation. Laryngoscopic examination, which could be made only imperfectly, showed subglottic laryngitis. The child remained in this condition for forty-six days, then the symptoms began to abate and in ten days recovery was complete. A similar attack had occurred six months previously. In another case, that of a boy, aged seven years, the attacks alternated irregularly with, and were even interrupted by, attacks of suffocation. This fact is important because it shows that both were manifestations of the same disease—laryngitis stridula—and that such attacks are not necessary symptoms (as is generally supposed). In a third case the malady was secondary to measles. In the presence of this permanent obstruction true croup would usually be diagnosed, but in none of the cases was the slightest trace of membrane or any other evidence of that disease ever observed. Laryngitis stridula with permanent dyspnœa has been described by Touchard and others, but their cases were of short duration—two or three days—and were always interrupted by attacks of suffocation.

DR. MICHAEL BEVERLEY AND THE NORFOLK AND NORWICH HOSPITAL.

ON the 8th inst. the quarterly meeting of the Board of Management of the above institution was held in the board-room of the hospital. The report was read, which stated that amongst other matters Dr. Beverley's resignation had been accepted with much regret, that he had been unanimously elected consulting surgeon, and that a resolution expressing the thanks and regret of the governing body would be presented to him. Dr. Beverley, in reply, said that he had been connected with the hospital for nearly thirty years and for twenty-five years he had been on the staff. He wished to explain why he was resigning at the end of twenty-five years instead of remaining as he could do for another ten years. He had served as assistant surgeon for sixteen years and during that long term of office had made up his mind that he would never stand in the way of promotion for his younger colleagues. Hospital appointments should not be held so long as they had hitherto been. The advances in surgery of late years had been most remarkable and for such advances and the admirable results accruing thereby the hospital was mainly indebted to the junior staff. Hence he thought that those who like himself had served the hospital for a long series of years should make room for others equally if not better qualified to carry on the surgical work. Dr. Beverley's modest action shows that he is a man full of the right spirit for the official of a charitable institution—a man absolutely devoid of self-seeking or pride. It is not everyone who would stand up and openly confess his inability to do surgical work under conditions of modern technique, but there is nothing to be ashamed of in such inability. We are glad to see, however, that the hospital will still be able to command Dr. Beverley's opinion, for the opinion of an old practitioner of wide experience is always of the greatest value. The esteem in which Dr. Beverley is held by his colleagues and friends is high, but none too high,.

and we commend his example as one most worthy of imitation in their turn by younger men.

THE MEDICAL ACTS OF PARLIAMENT AND THE GENERAL MEDICAL COUNCIL.

THE views held by Mr. Victor Horsley with regard to the Medical Acts of Parliament are not endorsed by Mr. Brudenell Carter who, on Wednesday last, delivered an address before the South-West London Medical Society in reply to Mr. Horsley's address on "The Medical Acts of Parliament: as They Are and as They Ought to Be." The matter is one of such paramount importance to the profession that we published Mr. Horsley's address and it will be found in THE LANCET of Jan. 1st. We hope to publish Mr. Brudenell Carter's address next week.

THE OFFICIAL INQUIRY INTO THE MAIDSTONE EPIDEMIC.

WE understand that the official inquiry by the Local Government Board into the causes of the recent epidemic of typhoid fever at Maidstone will be opened on Jan. 31st. The inspectors to hold the investigation will be Mr. J. S. Davy, general inspector, Dr. Theodore Thomson, medical inspector, and Mr. G. W. Willcocks, engineer inspector. It appears that Dr. Thomson's inspection into the causes of this epidemic had to be suspended because of the demand for a formal inquiry; but it is much to be hoped that this does not mean that the results of the etiological researches usually made into such occurrences will therefore be lost in this exceptionally interesting and obscure case.

NURSING IN COUNTRY WORKHOUSES.

IN an excellent letter to the *Times*, full of common-sense, Lady Lothian calls attention to the course which events are likely to take under the present aspect of affairs in the question of workhouse nursing. A new Nursing Order has just been issued by the Local Government Board which creates a necessity for trained nurses—or, as the Local Government Board unfortunately calls them, nurses who have had the requisite "experience"—in workhouses and infirmaries throughout the kingdom. The question is, with the present unattractive nature of the service, where are they to come from? Lady Lothian gives an extract from a local (presumably provincial) paper which is worthy of reproduction:—

> "Women, from eighteen to twenty-five, required as assistant nurses in the workhouse infirmary. Increased attention being given to the nursing of the pauper inmates, the workhouse committee have adopted a new policy likely to have useful results. The infirmary staff is to be increased on economical lines, not only making adequate provision for the care of patients but giving an opportunity of useful training in an important branch of nursing work. It is a new departure and deserves success."

This, in point of fact, is what we feared and indicated in a recent article on the subject. The provincial guardians unable to obtain trained women, and no longer having the Workhouse Infirmary Nursing Association to assist them, will go out into the highways and bye-ways and gather in all sorts and conditions of young women with the promise of giving them training. To the evils of such a system, and the inadvisability of bringing inexperienced girls of eighteen into contact with paupers of this class Lady Lothian very properly refers. And what kind of training, or even "experience" is likely to be obtained among the chronic cases—the semi-able-bodied paupers of a country workhouse—even though there may perhaps be one trained, though overworked, nurse to superintend the whole? Is it not time that the matter was submitted to the searching inquiry of a departmental committee?

WITH reference to an article in the *Chemist and Druggist* of Jan. 8th, 1898, purporting to publish the first part of a critical review of the forthcoming British Pharmacopœia, we are asked to state that the publication of the article is entirely unauthorised by the General Medical Council and that criticism of the work is at present not possible because it is still incomplete. We are also officially informed that the article contains numerous inaccuracies and that it bears internal evidence of having been based upon an unrevised proof.

ON Wednesday next, Jan. 19th, Mr. Hutchinson will deliver at the Clinical Museum, Park-crescent, Regent's-park, a New Year's address which will form a summary of the year's work at the Museum. All members of the medical profession are invited to attend. There will be a demonstration of cases at 4 P.M., and the address will be given afterwards.

THE following resolution was unanimously passed at a meeting of the Medical and Surgical Staff of the London Hospital Medical College on Jan. 7th:—

> "That the Medical and Surgical Staff of the London Hospital is in favour of the scheme embodied in the Bill of 1897 for a new University of London, to be amended if possible according to the representations of the delegates of the Metropolitan Medical Schools."

THE Lord Mayor, President of the Metropolitan Hospital, has consented to take the chair at the festival dinner to be held on Monday, April 18th, at the Whitehall Room of the Hôtel Métropole.

OCCUPATIONAL MORTALITY.[1]

FIRST NOTICE.

AS intimated in THE LANCET of Dec. 25th, 1897, the second and concluding volume of Dr. Tatham's decennial supplement to the Fifty-fifth Report of the Registrar-General has recently been published by the Queen's printers. Part 1 of this work, which was published last year, deals with the subject of general mortality in regard to age and cause in England and Wales and in its several registration subdivisions; whilst Part 2, which is now before us, treats of the mortality incidental to males above the age of fifteen years engaged in the more important of the British industries during the three years 1890–92. The subject-matter of the present is similar to that of previous supplements, but the greater importance which Dr. Tatham now attaches to the subject of occupational mortality and the addition of a new Healthy District Life Table have necessitated the division of the work into two volumes.

Although in the present volume the matter relating to occupational mortality occupies, in addition to the tables, more than a hundred closely printed pages, it is a relief to find in a formal statistical treatise like this that the author has summarised within the first score of pages the results of his investigations and has contrived to arrange these pages, with the addition perhaps of pages 93 to 102 as an introduction to the more detailed remarks and tables in the remainder of the volume. In his preliminary remarks Dr. Tatham has taken pains to explain the various methods and processes by which his results have been obtained and he has done this in language at once forcible and clear. His readers, including ourselves, will be thankful to him for having employed technical terms but sparingly throughout the work—a departure from the ordinary practice which we would gladly see more frequently adopted.

At the last census the male population above fifteen years of age in England and Wales numbered in round numbers nearly 9,000,000, of which about 8,500,000 were returned as following some stated occupation, and the remainder, some half million in number, were returned as unoccupied. The terms "occupied" and "unoccupied" as here used must not, however, be taken as equivalent to "employed" and "unemployed," inasmuch as at the census those operatives who are temporarily out of work are included in the tables under their ordinary employment. Dr. Tatham's remarks with respect to the unoccupied members of the community are so interesting that they would seem to deserve more than cursory notice. It appears that before the census of 1881 persons who had retired from business, patients in lunatic asylums, and inmates of workhouses, of whatever age, were classed under their former occupations wherever these were stated; on the other hand, at the censuses of 1881 and 1891 all persons stated to have retired from business, all lunatics and those workhouse inmates who had passed their sixtieth year, were classed as of no occupation, consequently the mortality statistics of the last two inter-censal periods present us with an "unoccupied class" which is not represented in the records of earlier years. This class is of a mixed character, comprising as it does those who are unoccupied because of misfortune, of misconduct, or of failure of health, as well as those who are unoccupied by reason of easy circumstances. Of the unoccupied males between twenty-five and sixty-five years of age living at the last census 35 per cent. were returned as having retired from business, 23 per cent. as living on private means, and 15 per cent. as lunatics; the remainder, including an unknown proportion of paupers and prisoners, are returned indefinitely. With respect to the first of these divisions it would appear that among persons under sixty-five years of age described as "retired from business" there must be included many who have been compelled to retire on account of infirmity and also an uncertain but possibly large proportion of unfortunate as well as of dishonest and dissolute persons who would be more accurately described as having failed in business than as having retired from business. From what has been stated it will not be surprising to find that the death-rate of the unoccupied class as here defined is enormous; it is nearly 2½ times higher than that of the general population. But even these figures do not state the whole truth. Dr. Tatham finds that of the half million males returned as unoccupied about one-half are subject to a death-rate which does not exceed that of the general population. From this it would follow that the mortality of the remaining half must have been far in excess of the high figures above stated for unoccupied males collectively—a mortality which, as Dr. Tatham puts it, must be regarded as truly appalling. A table is given at page xiv. which exhibits very strikingly the difference between the mortality of unoccupied and occupied men. The rates are given for several ages. Disregarding the ages under twenty, concerning the accuracy of which there appears to be some doubt, it is seen that as compared with those of occupied males the death-rates of unoccupied males at ages twenty to twenty-five are nearly six times as great, at ages twenty-five to thirty-five nearly three and three-quarter times as great, and at ages thirty-five to forty-five more than two and three-quarter times as great. As age advances the disparity between the death-rates of the unemployed and the employed rapidly diminishes, so that at ages above sixty-five the mortality of the former exceeds that of the latter class by only 3 per cent. On comparing the rates of death of the unoccupied in the 1891 period with those of the same class in 1881 it appears that they have decreased considerably at ages under forty-five years whilst they have seriously increased at the higher ages. Probably the increase at these ages was mainly due to epidemic influenza, for it is known that this disease attacked with special severity persons who had passed middle-life and that it was the indirect cause of many deaths which were returned under other headings. There is also reason to believe that it was exceptionally fatal in some sections of the unoccupied class. The comparative mortality figures of occupied and of unoccupied males vary enormously; that is to say, the number of males of definite age constitution between their twenty-fifth and sixty-fifth year that would give 1000 deaths among the general population and 679 deaths in the healthy districts of England and Wales would give 953 deaths among occupied and 2215 among unoccupied males. By reference to a table it is shown that nearly two-thirds of this excess is due either to diseases of the nervous system or to pulmonary consumption; but the mortality under the first of these headings is mainly, and that under the second is largely, due to the inclusion of a large proportion of insane persons in the unoccupied class. Among other causes of death diseases of the circulatory system account for 114 and influenza, together with respiratory diseases, accounts for 100 of the excess in the mortality figure of the unoccupied class. The mortality from cancer is more than double and that attributed to alcoholism (with liver disease), to diseases of the urinary system, and to suicide is about double as heavy among the unoccupied as it is among the occupied class. The excess of mortality from violence among unoccupied males possibly results from the addition to their ranks of men who, having been permanently disabled whilst at work, finally die from their injuries.

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[1] Letter to the Registrar-General on the Mortality of Males engaged in Certain Occupations in the Three Years 1890–92. Supplement to the Fifty-fifth Annual Report of the Registrar-General. By John Tatham, M.A., M.D. Dub. Eyre and Spottiswoode. 1897.

(To be continued.)

ANNUAL REPORT FOR 1896 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

First Notice.

In The Lancet of Jan. 1st we noticed in general terms Mr. Shirley Murphy's recently issued report for the year 1896; but that document contains information so vast in amount and the importance of which to every inhabitant of the metropolis is so great that we have decided to reserve some of the subjects of which it treats for further and more detailed consideration. The present report, which is the fifth of the series commenced in the year 1892, differs but little in general arrangement and in scope from its predecessors. It is divided into two principal sections, the one statistical, the other administrative; the report, with appendices, extends to 124 folio pages and is well worthy of the most attentive perusal.

The population of the administrative county of London was ascertained by actual enumeration in the spring of 1896 and in the middle of that year it is estimated to have amounted to 4,443,311. The annual rate of persons married in the registration county of London was 18·0 per 1000 living, which is the highest marriage-rate recorded in London since the year 1883. The birth-rate in the same area averaged 30·2 per 1000 of the population, which is lower than the rate of any recent years, except 1894 when it was only 30·1. As in previous years the highest birth-rate in 1896 was in the eastern group of districts and the lowest in the western. The statement of the rate of birth as so many per 1000 living of both sexes is obviously unsatisfactory and we are therefore glad to see that Mr. Shirley Murphy has given in his table the proportion of births to 100 females living at the child-bearing age—namely, from fifteen to forty-five years. The deaths registered in the administrative county were equal to a rate of 18·1 per 1000 of the population, as compared with a rate of 20·1 in the ten years 1886 to 1895. Comparing the corrected death-rate of London with the rates of the principal provincial towns in 1896 it appears to have been lower than that of any of them except West Ham, Bristol, Nottingham, and Bradford.

As in previous reports Mr. Shirley Murphy has calculated for each of the metropolitan sanitary areas not only the death-rates corrected for age and sex differences of population, but also the comparative mortality figures in those areas. The mortality figure of London being taken at 1000 the lowest figure is that of Stoke Newington, 705 and the highest that of St. Luke, 1404. By an elaborate calculation Mr. Shirley Murphy shows that during the period 1891–96 as compared with 1881–90 there has been a mean annual saving of 2461 lives, and that this represents 104,742 years of "life capital" annually saved to the community. The mean annual number of lives saved has increased in recent years as compared with 1881–90, while the amount of "life capital" in proportion to the number of lives saved has decreased, this decrease having been particularly marked in the period 1891–96. The latter result is of course due to fluctuations in the mortality from certain diseases that affect particular ages. The deaths of children under one year of age in the county of London were in the proportion of 160 per 1000 births, which is slightly higher than the average rate in the previous ten years. From 1886 to 1895 London had a lower infantile mortality than any of the chief provincial towns except West Ham and Bristol and in 1896 a lower mortality than any except Bristol. In the several sanitary areas of London infantile mortality varied considerably in 1896 as it had done in previous years. Of these areas St. Saviour's Southwark had the highest infantile mortality in the year 1896 and Hampstead the lowest. In many of the sanitary areas, however, the deaths under one year are too few in number to afford trustworthy rates of mortality. In the year 1896 the cases of small-pox notified to the London medical officers of health numbered 225 in all and were equal to a rate of 0·050 per 1000, the death-rate in London from this disease being only 0·002 per 1000. Mr. Shirley Murphy devotes several pages of his report to the question of small-pox as affected by vaccination which will repay attentive perusal, although we cannot adequately discuss his remarks here. Measles has been more fatal in London during 1896 than in any year since 1864. In the last ten years the average death-rate from measles has been higher than in the previous ten years. These facts have led to the re-opening of the question of the notification of measles in London and also to that of hospital provision for this disease. Up to the present time, however, nothing definite has been decided on either point. Of scarlet fever there were notified during 1896 as many as 25,758 cases, or nearly 6000 more than in the previous year. These 25,758 attacks gave a "case-rate" of 5·7 per 1000 of the population and resulted in a death-rate of 0·21 per 1000. In the first three quarters of 1896 the eastern group of districts suffered the highest mortality from scarlet fever and in the fourth quarter the central group suffered most heavily. During the year prosecutions were instituted in Marylebone and in Plumstead for wilful exposure of persons whilst infectious from scarlet fever. Considerable dissatisfaction seems to have been expressed by several of the local medical officers of health at the insufficiency of hospital accommodation for the isolation of scarlet fever cases, the disease having apparently spread in consequence. In certain districts, school attendance seems to have been instrumental in causing the dissemination of this disease. In the year 1896, there were notified 13,825 cases of diphtheria, giving a case-rate of 3·1 per 1000 of the population, compared with a rate of 2·6 in each of the two previous years; the cases however were of a slightly milder description in 1896 than in the preceding year. With the exception of that of West Ham the London death-rate from diphtheria in 1896 exceeded the rate of any of the chief provincial towns. The eastern districts of London suffered most severely from diphtheria, and the central districts least severely. The highest death-rate was in Chelsea (1·17) and the lowest in St. James's Westminster (0·09). With regard to the influence of school attendance in encouraging the spread both of this disease and of scarlet fever Mr. Shirley Murphy still continues to speak with that caution and reserve which become his position. Under the Notification Act, however, facts are rapidly accumulating; and we look forward with confidence to the time, probably not far distant, when Mr. Shirley Murphy will feel justified in pronouncing a decided opinion on this momentous question which is one that in the interest of education not less than in that of the public health urgently needs solution. We trust that when after adequate experience a deliberate judgment shall have been arrived at on this point definite and concerted preventive action will speedily follow. With respect to the use of antitoxic serum in the treatment of diphtheria Mr. Shirley Murphy gives some new and important information. Quoting from a special report on this subject presented to the Metropolitan Asylums Board by their medical superintendents he shows that while in 1894 before this special treatment had been adopted the fatality among 3042 cases was 29·6 per cent., in 1896 with the advantage of the treatment by antitoxic serum the fatality among 4175 cases fell to 20·8 per cent., this reduction in fatality having been observed at each age period. If we assume, adds Mr. Shirley Murphy, that the whole of this reduction of mortality has been due to this special treatment of patients in the hospitals of the Metropolitan Asylums Board there would have been without this treatment 365 additional deaths from diphtheria in London during 1896. Instead, therefore, of a London diphtheria death-rate of 0·59 per 1000 this death-rate would have been 0·68 per 1000, and instead of a London case-mortality of 19·3 per cent. there would have been a case-mortality of 21·9. The death-rate in 1894 had been 0·61 per 1000 and the case-mortality 23·6 per cent. The subject of seasonal variation both in relation to age distribution of attacks of diphtheria and to case fatality is ably discussed by Mr. Shirley Murphy in the present report and his observations merit careful consideration on the part of practitioners generally not less than on that of medical officers of health. In 1896 the number of attacks notified as from enteric fever was 3196, equal to a case-rate of 0·7 per 1000 persons living, which is lower than the rate of any other year since 1892. There were 564 deaths from enteric fever in London within the same period; the death-rate was therefore equal to 0·12 per 1000. For the whole year the central group of districts had the highest death-rate from enteric fever, and the western group the lowest, the district with the highest death-rate being the City and those with the lowest the Strand and St. Saviour's Southwark. The deaths from phthisis in London during 1896 numbered 7586 and were equal to a death-rate of 1·73 per 1000, which is lower than in any year mentioned in the tables. The Registrar-General having since 1894 distributed the deaths occurring in public institutions to the sanitary districts to which the patients belonged it is now possible to compare the phthisis death-rate of the various sanitary districts. The phthisis death-rate, both in 1895 and in 1896, was highest in the central group of districts and lowest in the western group. In the latter year the rates varied in the several sanitary districts from 3·24 in Holborn to 0·82 in Stoke Newington.

(*To be continued.*)

THE OXYTUBERCULIN TREATMENT OF TUBERCULOSIS.

THE REPORT OF A COMMITTEE OF THE FACULTY OF THE COOPER MEDICAL COLLEGE UPON THE HIRSCHFELDER TREATMENT.

IN February, 1896, Dr. J. O. Hirschfelder, of San Francisco, called the attention of some of his professional friends to a new method of treatment of tuberculosis with a bacteriological product of his devising which he called oxytuberculin. He presented a number of patients for examination and apparently demonstrated its value. Nevertheless he was advised to withhold the results from publication until further experience and time should verify them. Subsequently—that is, in April, 1897—he read before the State Medical Society a paper recording seventy cases treated with oxytuberculin.[1] Thirty of these were in advanced stages of the disease, many having vomicæ, and forty were in earlier stages. Each of these exhibited the physical signs of tuberculosis in one or other of its stages; bacilli were found in the sputa of all. Other physicians had examined a large number of the patients at the beginning of, and at different periods during, the treatment, and had verified the diagnosis. Dr. Hirschfelder reported that sixteen of these patients were cured—that is, no evidence of the disease can now be discovered objectively or subjectively. Thirty-six were much improved—that is, they are subjectively well, little evidence of present disease can be discovered, there are few or no sputa and no bacilli. In some of these latter large vomicæ exist, but seem healed. Six cases were slightly improved; six remained unchanged; one became worse and five died. All the latter were in the worst stages of the disease when treatment was begun; four died in from a month and a half to two months and one in three and a half months.

During the progress of these investigations Dr. Hirschfelder made forty-one series of culture experiments in the laboratory. These uniformly proved the inhibitory power of oxytuberculin upon the growth of tubercle bacilli in veal bouillon. It appeared a just inference that similar results might follow the injection of oxytuberculin into the body. With these facts and statements before them the members of the Faculty of Cooper Medical College determined to investigate the new treatment and for that purpose the undersigned committee was appointed. Its several members have repeatedly witnessed the laboratory culture experiments and have had before them for examination fifteen patients who have been under treatment from two to several months during the past two years, together with their histories, bacteriological specimens, and the corroborative evidence of other physicians as to the diagnosis. Two of these patients at the beginning of treatment presented a mild form of the disease, in five the disease was pronounced, in four the lung was very seriously involved, and the remaining four seemed hopeless.

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[1] Transactions of the Medical Society of the State of California, 1897.

There is no reason to doubt that all were cases of tuberculosis. Fever, cough, expectoration, hæmorrhages, night sweats, &c., had been present in nearly all; the physical signs and bacilli had been found in all; in many the diagnosis had been confirmed by other physicians. Physical examination of many of these cases was made by the members of the committee. No evidence of present tuberculosis could be discovered, although in some old cavities were found. The concurrent testimony of all except two or three recent cases was of complete return to health so far as appetite, weight, and vigour are concerned. There were no cough, expectoration, hæmorrhages, or other symptom of disease. Several had been discharged from treatment months ago.

The conclusions reached by the committee are: (1) Oxytuberculin prevents the growth of tubercle bacilli in veal bouillon; (2) a positive therapeutic value has been demonstrated for it in the fifteen cases examined, the more clearly as no other treatment was used; (3) no dangerous or untoward effects have resulted from its use; and (4) it has been legitimately brought before the profession since a full description of its mode of preparation has been published, thereby putting it within the reach of all.[3]

Finally the committee feels justified in certifying these facts to the profession to the end that oxytuberculin may be thoroughly tested, the limits of its successful application determined, and its place in therapeutics established at the earliest possible time. While some remarkable results have been obtained in advanced cases no claims are made for the later stages of the disease.

L. C. LANE (President),
C. N. ELLINWOOD,
A. BARKAN,
R. H. PLUMMER,
HENRY GIBBONS, JUN. (Dean),
Committee.

PLAGUE IN THE NORTH-WEST PROVINCES OF INDIA.

AN interesting series of papers has been published by the Government of India relating to the outbreak of bubonic plague which occurred at Hardwar in the district of Saharanpur during April, May, and June, 1897. The infection was brought by pilgrims from Sind, Hardwar being a great pilgrimage centre. During the three months above mentioned four bathing fairs took place attracting a great number of pilgrims, and although there were eighteen cases of plague, of which fifteen proved fatal, the outbreak was promptly met and successfully suppressed. The medical officers upon whom rested the main responsibility were Surgeon-Major S. J. Thomson, sanitary commissioner in charge of the sanitary arrangements; Surgeon-Captain J. Chaytor White, Deputy Sanitary Commissioner; Surgeon-Major J. F. Tuohy, Civil Surgeon of Saharanpur, in direct charge of the medical arrangements; Surgeon-Captain T. F. Kelly, on special duty; Surgeon-Lieutenant-Colonel T. H. Hendley, C.I.E., Officiating Inspector-General of Civil Hospitals; and Surgeon-Major D. S. Reade, A.M.S., who visited the town during the course of the fairs; Surgeon-Captain A. W. Dawson and Mr. E. F. L. Winter with Mr. E. A. Kendal of the Indian Civil Service. In addition the Government received most valuable assistance from Thakur Hardan Singh, Deputy Magistrate; and Thakur Dalaman Singh, Tahsildar of Roorkee, to all of whom the Government express their best thanks.

The preventive and curative measures are set out at great length in the report but we can only shortly summarise them here. Pilgrims arriving by train were not only inspected under the provisions of the Epidemic Diseases Act at Saharanpur and Ghaziabad Junctions but in addition every passenger was inspected at Pathri Station, close to Hardwar by a staff of hospital assistants and vaccinators. Passengers found to have come from infected centres were sent on to Hardwar in locked carriages and lodged on arrival in the observation camp upon Rori Island, where they had to sleep and cook their food, though allowed to go into Hardwar to bathe and buy food. No disease occurred among them. Pilgrims coming by road were also inspected and the site of the fair was kept scrupulously clean by a large staff of sweepers and others numbering in all 700. All pilgrim lodging-houses were carefully inspected and any case of illness or death was promptly reported. Up to April 22nd there had been eight cases, so still more stringent measures were entered upon.

The position being explained to the members of the municipal board, the leading Brahmans of the town, and the priests of the temples, by the Lieutenant-Governor it was decided with the full and willing coöperation of the native gentlemen concerned (*a*) that the infected area should be evacuated and placed in quarantine; (*b*) that after evacuation the houses should be thoroughly cleansed and disinfected; (*c*) that all dead bodies before disposal, whether by burning or burial, should be examined by a medical officer; and (*d*) that all pilgrims from infected districts should reside in a special camp under medical observation. Those removed from the infected area were either to leave the district altogether after receiving permission from a medical officer or were to reside in a camp of observation.

In the infected area all huts or temporary structures were either demolished or burned, compensation being given, while permanent structures were carefully disinfected. During the month of May the fairs were not forbidden but pilgrims were discouraged as far as possible from visiting Hardwar. Such as did go were carefully inspected and not a single case of plague occurred among them. Between April 22nd and May 16th no case occurred in Hardwar, but from May 16th to June 8th nine cases occurred outside the infected area. To assist in diagnosing doubtful cases Mr. E. H. Hankin and Surgeon-Captain Milne were deputed to help the medical officers already on duty. After June 8th no case of plague occurred in Hardwar, and by the end of June the whole union, Hardwar, Kankhal, and Jawalapur, had been thoroughly cleaned and disinfected. Most of the special restrictions were withdrawn on July 12th, although the arrangements for the medical inspection of passengers by train remained in force.

About the middle of June an extensive mortality was observed among rats at Kankhal, a town distant about a mile from Hardwar, and upon the bodies of these rats being submitted to bacteriological examination the plague bacillus was detected. It was considered that these rats had become infected by eating grain or sweetmeats removed from Hardwar to Kankhal when plague was prevalent in the former place. The disease among the rats died away, but in order to prevent the transmission of the plague to men the following precautions were taken and proved eminently successful. Any house or go-down where rats were found to be dying in unusual numbers was disinfected in exactly the same way as if a case of plague had occurred there; grain, sugar, and any raw food-stuffs were exposed to sunlight and air for eight days and then locked up in a disinfected room for ten days before being used; sacks, bags, and baskets were either disinfected or destroyed.

From the end of June to the beginning of September no cases of plague occurred in either Hardwar or Kankhal, but during the first week of September an acute quickly fatal fever was reported as occurring in Kankhal. This upon inquiry proved to be merely the usual seasonal malaria. But on Sept. 16th an undoubted case of plague occurred and was at once removed to the plague hospital. Despite the stringent measures which were taken, isolation of the whole town, segregation of the sick, and thorough cleansing of plague-stricken houses, the disease spread slowly until up to Nov. 4th 51 cases with 38 deaths had occurred; no fresh case had been reported since Nov. 1st, 1897. On Oct. 16th the Lieutenant-Governor and other officials visited the town and found all the precautionary measures in admirable working order and more satisfactory still the native population were working in loyal coöperation with the Government. About this time it was found that the monkeys frequenting the town were dying in larger numbers than usual and the dead bodies were found to contain plague bacilli. This constituted a greater difficulty than the rats, for rats could be destroyed, while monkeys, on account of religious scruples, could not be, so the only alternative was to trap them and keep them in isolated cages, which was done.

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[3] Occidental Medical Times, November, 1896. The Medical News, New York, July 3rd, 1897. Journal of the American Medical Association, July 31st, 1897. Deutsche Medicinische Wochenschrift, May, 1897.

A study of these reports makes it very plain that plague can be met and stamped out if, as in this epidemic, all classes, even at the risk of some personal inconvenience and in many cases at the sacrifice of their most cherished convictions, work in harmony for the common good. But to bring about this most desirable end there must be a head and that head a Government that does not shrink from the essence of a Government—namely, the function of governing. If the Government of Bombay had not shilly-shallied in the foolish way it did enormous sums of money would have been saved, to say nothing of many valuable lives.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on Jan. 12th, the President, Sir WILLIAM MACCORMAC, Bart., being in the chair.

The minutes of the previous meeting of the Council were confirmed, with the exception of the resolution which was carried at that meeting, in which the Council expressed its willingness to consider evidence respecting the connexion of any individual Fellow or Member with an association canvassing for patients to the injury of private practitioners and allowing the well-to-do classes to take advantage of rates of payment arranged to meet the necessities of the poor. This resolution was referred to a committee who were to consider again the question involved and to report to the council.

It was resolved to hang in the corridor from the Inner Hall to the Common Room, the picture of Henry VIII. presenting the Act of Union to the Barbers and Surgeons which has been recently repaired.

The Senior Vice-president reported that on Jan. 6th, the day appointed for the half-yearly meeting of Fellows, only fifteen Fellows, including eight members of the Council, attended and that accordingly no meeting was held.

A letter was read from the Secretary of State for War acknowledging the receipt of the letter from the Presidents of the Royal Colleges of Physicians and Surgeons respecting the Army Medical Service.

A letter was read from Dr. William Gordon, the chairman of the Sub-Committee on Army Medical Reform of the Parliamentary Bills Committee of the British Medical Association, thanking the Council for the consideration given to the report of his committee and for the assistance rendered to the cause of reform by the letter to the Secretary of State for War.

MEETING OF FELLOWS.

THE half-yearly meeting of Fellows of the Royal College of Surgeons of England was fixed for Thursday, Jan. 6th, but when at the appointed time, 4 P.M., the two Vice-Presidents, Mr. Alfred Willett and Mr. H. G. Howse, entered the theatre only four Fellows were present. Some members of the Council came in immediately after the Vice-Presidents, and Mr. Willett as senior Vice-President having taken the chair the meeting waited for a quorum; only fifteen Fellows were present and of these more than half were members of the Council and the quorum for these meetings of Fellows has been fixed at thirty. The waiting, however, was in vain and at a quarter past four the Secretary rose and informed the Chairman that a quorum was not present and the meeting was declared at an end. The business which should have come before the meeting consisted merely of the confirmation of the minutes of the last meeting of Fellows, for no notice of any resolutions had been received.

AT a meeting of the Hull Corporation Asylum Committee on the 5th inst. Mr. J. S. Anderson, L.R.C.P. Lond., M.R.C.S. Eng., assistant to Dr. Merson, the medical superintendent of the City Asylum, Willerby, near Hull, was awarded an honorarium of £25 for extra services rendered on behalf of Dr. Merson who was ill but who has now resumed his official duties.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 7628 births and 4612 deaths were registered during the week ending Jan. 8th. The annual rate of mortality in these towns, which had been 17·7 and 24·9 per 1000 in the two preceding weeks, declined again last week to 21·4 In London the rate was 23·0 per 1000, while it averaged 20·4 in the thirty-two provincial towns. The lowest rates in these towns were 12·6 in Cardiff, 15·8 in Oldham, 16·5 in Portsmouth, and 16·6 in Brighton; the highest rates were 24·4 in Salford, 25·0 in Blackburn, 26·8 in Plymouth, and 27·5 in Norwich. The 4612 deaths included 546 which were referred to the principal zymotic diseases, against 480 and 650 in the two preceding weeks; of these, 220 resulted from measles, 128 from whooping-cough, 74 from diphtheria, 44 from scarlet fever, 43 from "fever" (principally enteric), and 37 from diarrhœa. No death from any of these diseases was recorded last week in Plymouth; in the other towns they caused the lowest death-rates in Gateshead, Newcastle-upon-Tyne, Birkenhead, and Portsmouth, and the highest rates in Preston, Swansea, Derby, and Blackburn. The greatest mortality from measles occurred in Oldham, London, Halifax, Croydon, Derby, Swansea, and Blackburn; from scarlet fever in Wolverhampton; from whooping-cough in Leeds, Birmingham, and Norwich; and from "fever" in Blackburn and Preston. The 74 deaths from diphtheria included 50 in London, 3 in West Ham, and 3 in Leicester. No fatal case of small-pox was registered during the week under notice, either in London or in any other of the thirty-three large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital was 3450 on Saturday last, the 8th inst., against 3733, 3619, and 3572 at the end of the three preceding weeks; 239 new cases were admitted during the week, against 260, 222, and 273 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 353 and 701 in the two preceding weeks, declined to 533 last week, and were 139 below the corrected average. The causes of 66, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Leeds, Newcastle-upon-Tyne, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Liverpool, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 18·6 and 24·1 per 1000 in the two preceding weeks, further rose to 24·3 during the week ending Jan. 8th, and was 2·9 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 18·7 in Perth and 21·1 in Aberdeen to 25·0 in Edinburgh and 34·9 in Greenock. The 733 deaths in these towns included 21 which were referred to diarrhœa, 16 to whooping-cough, 14 to scarlet fever, 14 to measles, 9 to diphtheria, and 2 to "fever." In all, 76 deaths resulted from these principal zymotic diseases, against 65 and 73 in the two preceding weeks. These 76 deaths were equal to an annual rate of 2·6 per 1000, which was slightly above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 26 and 27 in the two preceding weeks, declined to 16 last week, of which 12 occurred in Glasgow and 2 in Greenock. The 14 deaths referred to measles were within one of the number in the preceding week, and included 11 in Glasgow. The fatal cases of scarlet fever, which had declined from 12 to 8 in the four preceding weeks, rose again to 14 last week, of which 4 occurred in Glasgow, 3 in Edinburgh, and 3 in Greenock. The deaths from diphtheria, which had been 5 and 3 in the two preceding weeks, rose to 9 last week, and included 4 in Aberdeen, 2 in Glasgow, and 2 in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 149 and 186 in the two preceding weeks, fell to 177 last week, but were 25 above the number in the corresponding period of last year. The causes of 47, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·8 and 33·3 per 1000 in the two preceding weeks, declined again to 31·0 during the week ending Jan. 8th. During the thirteen weeks of last quarter the death-rate in the city averaged 24·6 per 1000, the rate during the same period being 19·4 both in London and in Edinburgh. The 208 deaths registered in Dublin during the week under notice showed a decline of 15 from the number in the preceding week, and included 18 which were referred to the principal zymotic diseases, against 13 in each of the two preceding weeks; of these, 6 resulted from "fever" (principally enteric), 5 from scarlet fever, 4 from whooping-cough, 3 from diarrhœa, and not one either from small-pox or diphtheria. These 18 deaths were equal to an annual rate of 2·7 per 1000, the zymotic death-rate during the same period being 3·3 in London and 1·9 in Edinburgh. The deaths referred to different forms of "fever," which had been 10, 5, and 6 in the three preceding weeks, were again 6 last week. The fatal cases of measles, which had declined from 4 to 1 in the three preceding weeks, rose again to 5 last week. The mortality from diphtheria and from diarrhœa also exceeded that recorded in recent weeks. The 208 deaths in Dublin last week included 38 of infants under one year of age and 60 of persons aged upwards of sixty years; the deaths of infants showed a further increase upon recent weekly numbers, while those of elderly persons showed a slight decline. Five inquest cases and 8 deaths from violence were registered; and 62, or nearly a third, of the deaths occurred in public institutions. The causes of 10, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

THE following appointments are announced: — Deputy Inspector-Generals of Hospitals and Fleets: R. W. Coppinger to Jamaica Hospital and R. S. P. Griffiths to Haslar Hospital. Surgeons: R. C. Munday to Jamaica Hospital; J. C. Rowan to the *Talbot*; S. Conner to the *Albacore*; B. E. Heather to the *Alecto*; and I. E. Darnell to Royal Victoria Yard, Deptford.

INDIA AND INDIAN MEDICAL SERVICES.

The services of Surgeon-Captain Peck, Bengal, are replaced at the disposal of the Military Department. Surgeon-Captain Grant has been appointed on Plague duty at Hubli under Surgeon-Captain Meyer.

The Queen has approved of the following promotions among the Officers of the Indian Medical Service made by the Government of India:—Brigade-Surgeon-Lieutenant-Colonels to be Surgeon-Colonels:—Bengal Establishment: Benjamin Franklin, C.I.E., and George McBride Davis, M.D., D.S.O. Bombay Establishment: George William Robertson Hay, M.D., and Randolph Caldecott. Surgeon-Lieutenant-Colonels to be Brigade-Surgeon-Lieutenant-Colonels: Bengal Establishment: Adam Scott Reid. (Substituted for the *Gazette* notice of Oct. 22nd, 1897.) Bombay Establishment: James Sutherland Wilkins, D.S.O., and William Alexander Barren.

VOLUNTEER CORPS.

Artillery: 2nd Glamorganshire: Surgeon-Lieutenant J. L. Thomas to be Surgeon-Captain. 1st North Riding of Yorkshire (Western Division, Royal Artillery): Surgeon-Lieutenant-Colonel T. R. Pearson, M.D., resigns his commission. *Rifle*: 3rd Volunteer Battalion the Welsh Regiment: Surgeon-Major J. L. Leckie to be Surgeon-Lieutenant-Colonel; Surgeon-Lieutenant W. W. Jones, M.B., to be Surgeon-Captain. 21st Middlesex (the Finsbury): Surgeon-Major J. Adams to be Surgeon-Lieutenant-Colonel. 1st Volunteer Battalion Prince of Wales's (North Staffordshire Regiment): Charles Sumner Edwards to be Surgeon-Lieutenant.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The appointment of General Medical Officer Instructor of the Volunteer Ambulance School of Instruction rendered vacant by the resignation of Surgeon-Major H. F. Stokes, London Rifle Brigade, has been accepted by Brigade-Surgeon-Lieutenant-Colonel P. B. Giles, V.D., F.R.C.S., Welsh Border Brigade.

THE SOUDAN EXPEDITION.

Great activity has been displayed recently in connexion with the strengthening of the Egyptian force in the Soudan. As we stated last week intelligence had been received of a threatened advance of the Dervishes northwards. The Khalifa, it was believed, did not intend to wait quietly at Omdurman to be attacked, but taking advantage of a favourable condition of things, to assume the offensive. A large Dervish force was massed at Metemmeh and Shendy with plentiful supplies ready for an advance and it was thought by the Egyptian Intelligence Department that an attack on Berber and possibly on other points was threatened. The garrison of Berber consists of a large Egyptian force armed with artillery and maxims, and the Sirdar's troops, fighting well as they always do behind entrenchments, should be able to give a good account of themselves and repel all attacks. Still it was very wisely considered that the force in the Soudan required to be strengthened by a strong re-inforcement of British troops. The British regiments in Cairo were accordingly moved up and their places supplied by others from this country while an addition was also made to the British force in Egypt so as to have troops available for field service in case of need. The news, moreover, of a French expedition having penetrated in the direction of the Upper Nile and occupied Fashoda probably was not without its influence politically on the authorities in this country. A number of officers of the medical staff and men of the Medical Staff Corps have already been, or are being, sent to Egypt. It does not seem at all clear, however, that the Anglo-Egyptian expeditionary force is likely to take the initiative and advance on the Dervishes in the direction of Khartoum. The probability is that Sir H. Kitchener's Egyptian force, having been strengthened by a British reinforcement, will await attack and select their own time for making their intended advance on Khartoum.

THE INDIAN FRONTIER WAR.

It is satisfactory to think that there is reason to believe that the outlook regarding the frontier war in India has somewhat improved. The Shinawaris have begun to send in their rifles in token of their surrender, the Chumlawals are ready to submit, and two important sections of the Bunerwals have also sent a deputation to General Meiklejohn to arrange terms for their submission. The latest military operations comprise the capture of important passes by General Blood's column with insignificant loss; roads were being made and the transport of baggage was being quickly and safely carried out for the force concentrated at Kingargali. The campaign against the Afridis was, it is needless to say, reluctantly undertaken, but in the opinion of the Indian Government it had to be done. The Tirah expedition was conducted in the face of terrible physical difficulties and it has entailed great expense and loss of life, with much hardship and sacrifices on the part of our Indian troops. Although it has not up to the present time been followed by the submission of the Afridi tribes—for according to the latest telegrams the Zakha Khel Afridis are still irreconcileable—the neck of the rebellion on the frontier has nevertheless been broken and it is quite possible that the Afridis may yet follow the example of the other tribes inhabiting these bleak highlands rather than risk a re-opening of operations against them in the spring. Once their submission has been obtained the policy towards them will, no doubt, be one of conciliation, and it is hoped that in time our relations with them will improve. The health of the troops continues to be fairly good, and the wounded are, speaking generally, doing well.

PHYSICAL CONDITION OF RECRUITS FOR THE ARMY.

The misquotation of some of the evidence given before Lord Wantage's committee in 1891 by Deputy-Surgeon-General Don by Mr. H. O. Arnold-Foster in a letter to the *Times* has called forth a letter of protest from Deputy-Surgeon-General Don and Mr. Arnold-Foster has made a handsome apology. This incident, however, has served to call attention to Deputy-Surgeon-General Don's views on the subject of recruiting in the service of which he has been for many years engaged. The passage alluded to says: "Any gain (in older recruits) to be secured in physical development would be more than counterbalanced by deteriorated moral adaptability. Under twenty both body and mind are flexible and amenable to the good influences of military drill and discipline; *over* twenty, recruits, except for the Royal Engineers, are now drawn from the strata of poor workmen, dissipated idlers, and rolling stones. It would not be desirable to hold out any large monetary inducements for the purpose of getting men over twenty; if you dip into that stratum you would frequently get very undesirable men." He explains, however, that he does not mean that all recruits enlisted after twenty years of age are necessarily bad, but that a recruit caught before that age is much more likely to make a better soldier.

MEDICAL STAFF CORPS FOR INDIA.

It is, we believe, the first time that men of the Medical Staff Corps have proceeded for service to India. Surgeon-Major-General O'Dwyer inspected a draft of the Medical Staff Corps on Monday last previously to the draft leaving for India and expressed his satisfaction with their appearance and outfit. He also spoke of the responsibility of the position in which the men were to be placed and urged them to uphold on all occasions the honour and credit of the corps.

Amongst the names mentioned in the despatches from Major-General Sir B. Blood, K.C.B., and Major-General E. R. Elles, C.B., regarding the operations of the Malakand and Mohmand Field Forces are those of Surgeon-Captain Hugo, Surgeon-Colonel J. C. G. Carmichael, Surgeon-Colonel E. Townsend, Surgeon-Captain J. B. Jameson, and Surgeon-Colonel J. F. Williamson.

At a quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on the 11th inst., Inspector-General W. H. Lloyd in the chair, the sum of £82 was distributed among the several applicants.

Correspondence.

"Audi alteram partem."

THE NATURE AND TREATMENT OF WHOOPING-COUGH.

To the Editors of THE LANCET.

SIRS,—There was no subject which seemed to me some years ago more deserving of study at the Hospital for Sick Children in Great Ormond-street than the nature and treatment of whooping-cough. The various theories which had prevailed at various times on these matters appeared to me to require and justify most patient and careful study. The singular inability which some of my esteemed friends and colleagues displayed to free their minds from the influence of opinion and rely upon observation sometimes amused but more often surprised me. The idea that whooping-cough was nerve disturbance due to association and imitation and possible of control by the poor little patient, and that a birch-rod was a reliable curative agent, annoyed and almost disgusted me, and I have never forgotten the story told to me by the wife of a great friend now one of our leaders in anatomy how she told her little son that Dr. Niemeyer recommended the birch-rod. When a few weeks later the lady herself was suffering, having caught the malady from her children, her son asked whether she remembered what she had said about Dr. Niemeyer and how whooping-cough should be treated. That must be about five-and-twenty years ago, but things have changed, and at last there seems to be very little doubt or difference of opinion in the profession as to the real nature of whooping-cough.

When Sir Thomas Watson, not very long before he ended an honoured life, wrote to tell me that his grand-children were suffering from the malady, and how far and how very greatly his own views had changed on many points connected with it, I entertained no doubt but that error was being corrected, truth established, and that our profession would not much longer remain ignorant of the nature of the malady so serious in its effects as whooping-cough. To dispel the idea that an infant of a few weeks old could vocalise a "whoop" and that this peculiar symptom was never absent and by its presence alone diagnostic was not very difficult; and now we can see a movement in the direction of classing the malady among the infectious diseases which demand preventive methods for its treatment more than, or at least as much as, curative methods.

Seeing a notice in some of the daily journals that a ward is being prepared at the Hospital for Sick Children for whooping-cough I think it well to draw attention to the singular fact that the more we bring cases together in the same apartment the more violent are the symptoms and the more difficult the relief of them. In the crowded courts in the West-Central district I have often seen three or four children suffer in one room from the malady and it was usual in my experience for one or more to die. Fathers and mothers were liable when breathing the poisoned air of such a room to catch the disease, although they had already had it themselves in childhood, and the same principles seemed to apply to whooping-cough as to maladies that spread like influenza and others by the agency of the atmosphere. The question, therefore, arises whether a hospital like that in Great Ormond-street is not acting inconsistently with the principles on which whooping-cough should be treated if it creates a powerful focus of infection by a special ward and does really more harm than good by following such a plan. This harm might possibly be diminished by a constant and scientific disinfection of the poisoned air; but unfortunately the science of atmospheric disinfection is not understood, though for years I have drawn attention in THE LANCET to this important subject and for the necessity of some improvement in the ignorance displayed in the composition and method of administration of the vapores of our Pharmacopœia, which are of a very inadequate or totally negative value for the destruction of infective germs, and from which no assistance could be obtained in the management of a whooping-cough ward. Further, it appears to me very doubtful whether any knowledge gained by the study of whooping-cough in such a ward would justify the injury done by the increase in severity and duration of symptoms and consequent sufferings of patients.

I am, Sirs, yours faithfully,

Gunterston-road, W., Jan. 3rd, 1898. ROBERT LEE.

"THE UNQUALIFIED ASSISTANT AND THE GENERAL MEDICAL COUNCIL."

To the Editors of THE LANCET.

SIRS,—Since the adoption of the momentous resolution of the General Medical Council with reference to the employment of unqualified assistants I have been looking in your columns for some interesting correspondence thereon, and am at last pleased to see that the subject is exciting the attention it deserves. But almost all the letters which have as yet appeared treat the question from a purely personal point of view. They insist on the capacity of the unqualified assistant, his competence for doing work that a qualified assistant might consider beneath him, and one correspondent has even gone so far as to refer to the necessity of an unqualified assistant for night work. "Justitia" says: "These assistants, therefore, help their principals only in a small degree in their medical work, but this assistance is a great boon to them when there is pressure of work and when the principal is not in the way or otherwise engaged." If the General Medical Council were to frame laws on such hypotheses as these one could easily imagine the legal chaos into which they would inevitably fall and how futile any such resolutions would in practice become. Furthermore, it has been stated that there is ambiguity in the rule laid down by the Council and that under the *alias* of "dispensers" or "surgery attendants" we shall soon see our old friend the unqualified assistant redivivus. To my mind there can be no ambiguity whatsoever: the rule refers specifically to the *legitimate* employment of dispensers, &c., and there can be no doubt as to what the *legitimate* employment of a dispenser is, viz., to dispense medicines. And here, it seems to me, we have the crux of the whole matter. It is useless to affect ignorance of what are the duties of a dispenser or surgery attendant; these duties certainly do not include seeing, visiting, or prescribing for patients, and it is these duties which the unqualified assistant has been performing whether his principal was "otherwise engaged" or not. The line of demarcation is absolutely clear; the assistant either acts as a doctor or he does not, and surely it is to the true interest of the profession that in the former capacity he should be eradicated entirely, and the sooner the better. The letter from Mr. Wigham in your current issue comparing the organisations of the legal and medical professions comes in very aptly indeed and I can only hope that it will be widely read by those who in their short-sighted selfishness are cavilling at this much needed reform. Hoping, though I fear vainly, that the profession as a whole will, for once at all events, sink its personal interests and support the Council in this wise and timely action,

I am, Sirs, yours faithfully,
R. L. GUTHRIE.

Paper-buildings, Temple, E.C., Jan. 8th, 1898.

To the Editors of THE LANCET.

SIRS,—I have read with regret the letters in THE LANCET of Jan. 8th by "Justitia" and "X. P." on the subject of "The Unqualified Assistant and the General Medical Council." In both town and country we find all medical men strongly opposed to quacks who practise the healing art and yet, as soon as the members of the Council have taken a step in the right direction to suppress unqualified practice, a number of general practitioners immediately cry out against them. I have no hesitation in saying that unqualified assistants (as now employed) constitute the worst form of quackery.

Who are the unqualified assistants? They are chiefly a number of men who have spent eight, nine, or ten years at one or other of our different universities or colleges and left without obtaining any degree, and in some cases without even having passed a single preliminary examination. We are all well acquainted with the way in which they have spent their college career, and yet, notwithstanding, some principals think it is only right and just that such men should usurp the positions of the industrious students who, after an honourable career, obtained their full qualifications. "Justitia" says: "These assistants (unqualified) do all the dispensing and bookkeeping and attend to a number of minor matters which the qualified assistant would consider beneath his notice." Why not have a competent dispenser who can attend certain hours daily to do dispensary and bookkeeping? This evidently would not suit such men as those who keep unqualified assistants simply because a few emergency cases occurring during their absence might go to a neighbouring practitioner.

As to the qualified assistant considering "minor matters beneath his notice," no medical man with any love or zeal for his work would consider any duties connected with his profession *infra dig*. Why have we recently had so many letters written to the medical papers by principals on behalf of their unqualified assistants? Is it not for the reason they know that they can treat them a little worse than their groom or a little better than their surgery boy? Or is it a case of a few extra pounds a year which they would have to pay for a qualified man? Why do men who employ unqualified assistants and set so much value on their services not give them a chance or encourage them to become qualified? To possess a degree would deduct nothing from their present knowledge but, on the other hand, would render their services more valuable, by enabling them to sign death certificates and obtain fees for giving evidence at inquests, &c. In conclusion, I think it is the duty of all qualified men to support the Council in their endeavours to suppress illegitimate practice.

I am, Sirs, faithfully yours,
Jan. 10th, 1898. M.B.

To the Editors of THE LANCET.

SIRS,—The decision of the Council on the subject of unqualified assistants is so far-reaching that I hope it will be modified in some degree in the interests both of the public and of the profession. There are all sorts and conditions of unqualified assistants ranging from those who have had no medical education whatever either at hospital or medical school to those who have taken out all their lectures and hospital practice and passed all but their final examination. Surely it is a great injustice to class these men as all alike. The modification I would suggest is as follows. Allow those who are now acting as unqualified assistants and who have passed all but their final examination a reasonable time—say two years—in which to get qualified, permitting them to earn their living as heretofore during that period. In future allow a man who has passed his third professional examination to act as an unqualified assistant for a limited period—say two or three years; and if at the expiration of that period he fails to get on the Register, withdraw the permission. I am sure the public would gain by such an arrangement, for a man who has had two or three years' experience in general practice in addition to his hospital work is a better trained man than one who has had hospital experience alone. The profession would gain, for all who are engaged in general practice know the difficulty of getting bookkeeping, dispensing, and general surgery work done by qualified men. As a rule, even if these are willing they know little or nothing about such work, and many practitioners cannot find other work sufficient to employ an assistant who will not do this dispensing, &c. A senior student would be willing to do this and, in addition, could see under supervision many cases of illness which would add to his own knowledge. I mean cases which in all probability he would never see in a hospital; he would also be able to follow up his cases to their termination.

Of course, if every *qualified* man were compelled to act as an assistant for a certain time after he was qualified (and I should very strongly urge that such a regulation be made in the interests of the public) the difficulties created by the recent action of the Council would soon disappear. There would be a larger demand by qualified assistants for situations and they would be compelled to do the necessary surgery work, which they now think beneath them, and the public would be secured against practitioners acting on their own responsibility who have very little practical knowledge of the treatment of such diseases as are not seen in hospitals. At present a youth who has passed his L.S.A. is qualified to practise medicine, surgery and midwifery on his own account. If the public only realised how little *practical* knowledge of treatment is required to enable a man to become qualified, pressure would soon be brought to bear to bring about a change.

I am, Sirs, yours truly,
GENERAL PRACTITIONER OF TWENTY-SIX
Jan. 7th, 1898. YEARS' STANDING.

To the Editors of THE LANCET.

SIRS,—Since you are allowing a discussion in the columns of THE LANCET on the recent decision of the General Medical Council with regard to unqualified assistants perhaps a letter dealing with the subject from a feminine point of view may not be out of place. If the decision of the Council is to be considered final our husbands are deprived of the means of earning a livelihood after five, ten, or even more years spent in the service of the public. I am far from upholding the right of unqualified men to practice—by all means abolish the institution for the sake of the men themselves, who work harder and certainly longer hours than any navvy and for a pittance which the said navvy would despise; but give those who already exist a chance to qualify or admit them to the profession on modified terms. I dare venture to predict that 99 of every 100 so admitted would only too thankfully qualify as they gained money and leisure. My own is a somewhat peculiar case, let us hope unique. I am a nurse and the wife of a medical student who has also been for ten years an unqualified assistant. He is a hard-working, steady man and an abstainer, and our one aim in life is for my husband to qualify; but lack of means, and consequently of time for reading, have prevented us attaining this end, though from six to nine months' leisure would make it an accomplished fact. Knowing this I arranged a scheme which I thought would give us the necessary time, &c. I hold the papers of one of the largest London nurse training schools and have also excellent testimonials and references and am capable of earning two and a half guineas a week at private nursing; I thought nothing would be easier than to get on the staff of one of the nursing coöperations and in a few months my husband could leave his appointment and finish reading while I worked to keep myself and two children till such time as he should qualify. But I reckoned without my host, for, being a married woman, none of the nursing institutions to which I have applied will give me work; nor for the same reason can I get district nursing. If I were single or a widow *without child* I could get anything that is open to the profession, but because I am married and have an old-fashioned affection for my husband and a laudable desire to help him I am debarred, and I think it cannot be right that I should be prevented from working for such a reason when women with illegitimate children are to my knowledge employed in the nursing profession. I have hitherto been perfectly honest in my dealings with people when seeking employment, but these constant rejections on the score of marriage make one feel tempted to resort to untruthfulness, a course which would not trouble a person without a conscience. One lady superintendent of whom I asked the reason of the objection to married women and widows with children told me it was because they begged from their patients! I enclose my name and address and with apologies for trespassing so largely on your valuable space I am, Sirs, yours obediently,

THE WIFE OF AN UNQUALIFIED ASSISTANT.

Jan. 3rd, 1898.

"THE HOSPITALS, THE PROFESSION, AND THE PUBLIC."

To the Editors of THE LANCET.

SIRS,—Dr. Lionel S. Beale shows by the letter you publish in THE LANCET of Jan. 8th that he is labouring under complete misapprehension as to my views. I am in entire agreement with Dr. Lionel Beale that care must be taken to provide that the "one out-patient who happens to be sickening for serious illness," and indeed all cases of distressing illnesses such as he indicates, should be carefully safeguarded and provided for. The meshes of the net which there is now every reason to hope will soon be affixed to the entrance of each out-patient department must by careful thought and the exercise of infinite tact, in coöperation with the medical staff, be so adjusted as to secure that no cases of the kind shall be excluded.

I am confident that an arrangement can be come to in the out-patient departments which will secure this result and at the same time win the approval and confidence of every intelligent member of the medical profession.

I am, Sirs, your obedient servant,

HENRY C. BURDETT.

The Lodge, Porchester-square, W., Jan. 7th, 1898.

THE CASE FOR VACCINATION.

To the Editors of THE LANCET.

SIRS,—I shall be glad if you will allow me at this early period in the new year to invite the attention of your readers to the need for their coöperation in meeting the very active agitation which is being carried on by the Anti-vaccination League at the present time. In view of the probability of legislation during the ensuing session of Parliament in furtherance of the recommendation of the late Royal Commission an effort is being made to influence the members of the Legislature both directly (by personal communications) and indirectly (through their local constituents). To effect this latter object letters are addressed to such local publications as will admit them, not only attacking compulsory vaccination but seeking to discredit vaccination itself. It is of the greatest importance that these letters, wherever they appear, should be answered. It has been too much the practice hitherto to disregard them as in most cases unworthy of notice. To this mistaken policy is in a large degree attributable the hold the anti-vaccination agitation has obtained in many localities. To reply to them is useful in two ways: it serves at the same time to neutralise misrepresentations and to educate the public to appreciate the facts on which vaccination rests. This is work which must be done mainly by the medical profession, for few others are in a position to do it. But there is another reason why it is incumbent on the profession to undertake it. Anti-vaccinators constantly make it a subject of complaint that vaccination is the only medical prescription which is enforced by law. This is true; and it is therefore only right that as the maintenance of vaccination so largely rests upon medical opinion every effort should be made to instruct the public as to the justification for this position. I trust, therefore, that whenever any of your readers see a statement in any local paper, whether in the form of a paragraph or letter, misrepresenting the case for vaccination, if they do not themselves reply to it, they will send the paper to the Jenner Society, that it may be dealt with if practicable and desirable. I have, on behalf of the society, during the past year replied to a large number of such letters, but it is only possible for me to do a limited amount of work of this kind and it is much better that local attacks should, if possible, be met by local defence. I shall at all times be glad to give any assistance towards this work. It is a form of warfare which needs some little training to ensure success; for the enemy is crafty, is familiar with the use of his weapons, and too often does not mind striking a foul blow when a fair one fails.

I am, Sirs, yours truly,

FRANCIS T. BOND, M.D. Lond.,

Gloucester, Jan. 10th, 1898. Hon. Secretary, Jenner Society.

SANTONIN IN SPRUE.

To the Editors of THE LANCET.

SIRS,—I trust you will again grant me a little of your valuable space to urge upon my brother practitioners, especially those practising in tropical countries, the certainty of curing sprue by my method of using santonin. The experience I have had since I last wrote to you in 1891 confirms me in my belief that all cases yield to it. I have not yet had a failure. It has been said that the sprue of China differs from that met with in India and elsewhere. I doubt it; but granting that, it remains that since my return from China in 1894 I have had several cases invalided home from India and my treatment has cured them after they had tried everything at the hands of those who in this country are considered to be authorities on the subject. In a recent issue you review a book published by Dr. Thin on sprue. He I now see accepts my explanation of the disease, but only recommends the same old weary course of treatment—milk, rest, and change of climate. I do not think the disease of sufficient importance to deserve a book to itself; it is only another kind of diarrhœa and a chapter in any work on intestinal diseases would be quite enough. Usually the diseases to which poor humanity are subject are equally cursed by the number and variety of their cures. Sprue stands alone in being calmly accepted as incurable. But my experience leads me to believe that of all diseases it is the one which in its symptoms shows such a logical sequence that I was led to guess at its cause and publish an account of it long before I was able to verify my conclusions at a necropsy on a patient under the care of Dr. Thin and, better still, acting on my conclusions, to cure the disease wherever I met it. In conclusion I wish only to say that I lay more stress than ever on the details of the treatment as described in my published paper and the fact that the refined white santonin is quite useless.

I am, Sirs, yours faithfully,

Hotel Cecil, W.C., Jan. 10th, 1898. CHARLES BEGG.

MEDICAL FEES UNDER THE POOR-LAW.

To the Editors of THE LANCET.

SIRS,—Will you kindly answer me the following question in your next issue?

I receive a parish order to attend a woman in my district. The case was one of compound comminuted fracture of the left leg. I set the fracture and visited her twice; at my own suggestion she was removed to the workhouse for the reason that she lived in a wretched hovel and there was no one to nurse her or to assist me in dressing her leg—in fact, the case could not have been properly treated where she lived. Some of the guardians have succeeded in carrying a resolution that I should be paid half the fee only. I have given a receipt for that amount on account. The chairman and other right-thinking men are of opinion that I am entitled to the full fee, as I am myself. What is your opinion—am I or am I not?

I am, Sirs, yours faithfully,

E. P. KING,

Medical Officer Chepstow Workhouse and District.

Chepstow, Jan. 5th, 1898.

P.S.—The clerk told them that they could not split the fee, they must pay all or none.

*** We see no reason for any reduction.—ED. L.

THE LANCET COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

To the Editors of THE LANCET.

SIRS,—With reference to the remarks in your annual summary on the above subject will you allow me to say that the articles which I have written for THE LANCET were intended to give an account of the sources of the present London water-supply, of how the water is treated, and how distributed? The articles were not written "to decide the real value of the machinery and plant." On these questions I have no knowledge whatever.

I should be glad with your permission to take this opportunity to thank the secretaries and engineers of the metropolitan water companies for the invariable courtesy and patience with which they have given me their assistance to carry out the inquiry which I undertook. They have devoted a great deal of time to and trouble in making clear to me the difficult and complicated arrangements over which they have charge. Had it not been for their careful and disinterested help the articles could not have been written. From them I have uniformly received the greatest consideration. In more than one case the responsible officials have gone out of their way to make my inquiry a source of great interest and instruction and I shall always look back with pleasure to many days spent amongst the Kentish hills and in the valleys of the Thames and of the Lea.

I am, Sirs, your obedient servant,

Jan. 3rd, 1898. YOUR SPECIAL COMMISSIONER.

"THE MEDICAL ACTS."

To the Editors of THE LANCET.

SIRS,—In his letter in THE LANCET of Jan. 8th Mr. Wigham sounds the right note and his contention is at the bottom of one of our greatest grievances—viz., the vast amount of unqualified but not illegal practice which flourishes in our midst to the detriment of the legitimate practitioner.

Instead of tinkering with the old Medical Act imposing fresh penalties upon us and hedging us round with further restrictions why does not the General Medical Council propose fresh legislation and make it penal for anyone except a registered practitioner to practise medicine for pay as it is now in the case of the law? Let a man practise as a lawyer, whether he calls himself a lawyer or not, and he is soon stopped; but he can practise as a medical man with impunity so long as he does not assume a title. What we want is not protection for our titles—they can take care of themselves—but for ourselves and our livelihood, which is now being taken from us by the great army of quacks, druggists (many of whom are not even registered as chemists), and irresponsible nobodies upon whom the law has no hold whatever, whereas the registered practitioner is at the mercy of anyone who chooses to attack him. All this might easily be stopped by putting medicine upon the same footing as the law and a single clause in an Act of Parliament would effect the mighty reform which would be hailed with delight by every

Bolton, Jan. 11th, 1898. GENERAL PRACTITIONER.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Hospital Sunday in Liverpool.

HOSPITAL SUNDAY and "Wet Sunday" might well be considered in Liverpool synonymous terms; the weather on Sunday, the 9th inst., when collections were made in the various places of worship in the city and suburbs on behalf of the hospitals, proving no exception to the miserable atmospheric conditions prevailing in previous years. The contributions to the same fund in 1897 fell short of the year 1896 by some £300, hence an urgent appeal was made by the committee of the Hospital Sunday Fund for increased contributions, which was warmly seconded by the press and the clergy. It is satisfactory to record that the appeals were not made in vain, the collective contributions up to date being in excess of last year's efforts. In some churches the collections were postponed owing to thinned congregations due to the inclemency of the weather, whilst in others additional appeals will be made. It is reasonable to hope, when the returns shall be completed, for a larger collective sum than was obtained in 1897. Needless to say that the usual annual growl finds vent in the columns of the local press as to the inexpediency of appealing for contributions at this period of the year, but as this question has been fully threshed out by the Hospital Sunday Committee it is not at all certain that any financial improvement would accrue to the hospitals from an alteration of date to April or May. Moreover, the hospitals would lose more than a quarter's contribution of the amounts allotted on the first change of date. This would prove a serious matter and no doubt largely influences the committee in adhering to the present fixture.

A Busy Day for the City Coroner.

The city coroner had an arduous task on the 4th inst. conducting inquiries as to the cause of death of ten individuals. The medical evidence in a large proportion of these cases went to prove that the deaths were either due to excessive drinking or to accidents resulting therefrom.

Death of Mr. Robert Hibbert Taylor, M.D., L.R.C.S. Edin.

Dr. R. H. Taylor, a retired local practitioner, died on the 5th inst. at the advanced age of eighty-five years. He was born at Dumfries and pursued his medical education at Edinburgh, Guy's Hospital, Paris and Berlin, eventually settling down in Liverpool in 1845. For a considerable number of years he was attached to the Liverpool Eye and Ear Infirmary as one of its honorary surgeons and latterly as consulting surgeon. He was the first lecturer on ophthalmic medicine and surgery in the old Royal Infirmary School of Medicine. He was largely interested in philanthropic movements, especially those connected with the blind and deaf and dumb. Dr. Taylor retired from active practice twelve years ago but continued to give his services to the poor gratuitously. He leaves a widow and a grown-up family.

Jan. 11th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Richmond District Lunatic Asylum.

THE governors of the Richmond Asylum met in the boardroom of Grangegorman Prison on the 11th inst. and received the report of the medical superintendent, Mr. Conolly Norman. It appeared that during the last fortnight four new cases of beri-beri had occurred among the female patients of the asylum. The board voted a fee of five guineas to Professor McWeeney for the special report referring to the means by which an abatement in the spread of infective disease in the hospital might be effected.

Poor-law Medical Superannuation.

The Irish Medical Association has recently addressed letters of inquiry to the candidates for the Parliamentary representation of the St. Stephen's Green Division of Dublin in reference to their views as regards Poor-law superannuation. The replies of both gentlemen—Mr. Campbell, Q.C., and Count Plunket—were published in the morning papers of the 8th inst. and were both of a character to satisfy the promotor of a measure for the superannuation of the Poor-law medical men of Ireland.

The Ulster Medical Society.

At the monthly meeting of the Ulster Medical Society held on Jan. 6th a discussion took place in reference to alleged irregularities in notifying cases of infectious disease and it was unanimously decided to adopt a recommendation of the Council, who suggested that a letter should be sent to each member of the society urging that care should be taken in following up the after history of cases of infectious disease notified to the public officer of health. Dr. Whitaker, who was present, made some most suitable observations on the question which were of great value as coming from the health officer of Belfast as well as from one who is most friendly in his relations with all branches of the medical profession in that city. Professor Thompson read a paper on the Action of Peptone and its Precursors on the Function of the Kidney, and Surgeon-Lieutenant-Colonel Moorhead, M.D.Q.U.I., read a paper on the Life and Work of Civil Surgeons in India. A notice of motion, "That the hour of meeting of this society be changed from half-past eight to eight," was, after discussion, withdrawn, as the feeling of the great majority of those present was in favour of the former time.

The Proposed Infectious Diseases Hospital at Belfast.

The question as to where the Infectious Diseases Hospital is to be located in Belfast is still not quite settled. The city corporation, who have had great difficulty in obtaining a suitable site for their hospital, asked the asylum governors to grant them thirty-five acres, a portion of their grounds at Purdysburn which is separated by a road and a large drain from the rest of the asylum grounds; and on Dec. 14th, 1896, at a meeting of the Asylums Board, it was decided, when the request of the corporation came up for consideration, on the motion of Professor Cuming, M.D. R.U.I., not to offer any obstacle in the way of the erection of the proposed hospital. The Ulster Medical Society has waited on the Law Committee of the corporation asking them not to take this ground as it was too far away from the city for a hospital for infectious diseases. In the draft of the Belfast Hospitals Bill which the city corporation propose to introduce next session of Parliament they have applied for power to take this ground for their new infectious hospital and the Board of Control of Asylums in Dublin having seen a draft of this Bill wrote to the Belfast Asylum governors stating that in their opinion the lands of Purdysburn proposed to be taken are necessary for the asylum and that it is not desirable for an infectious hospital to be placed there. They also ask for an expression of the views of the governors and at the monthly meeting of the asylum board held on Jan. 10th a resolution was passed to the effect that the board saw no reason to depart from their previous decision of Dec. 14th, 1896. The matter will now have to be arranged between the city corporation and the Dublin Board of Control. It seems strange that the Board of Control, if they were opposed to the location of the hospital at Purdysburn, did not take action before allowing matters to go so far.

Trinity College Graduates in Ulster.

At a large and representative meeting of Trinity College graduates held in Belfast on Jan. 10th the following resolution was passed unanimously: "That an annual dinner of old T.C.D. men resident in Belfast and the North of Ireland or connected therewith be held, the first of such dinners to be held in March next." A large committee has been appointed to carry out the arrangements.

County Armagh Asylum.

At a meeting of the governors held on Jan. 10th the new superintendent, Mr. Lawless, in his report said that the time had now come when it became necessary to consider the appointment of an assistant medical officer. He drew attention also to the fact that there was no supply of drinking water to the new hospital, the existing supply coming from the river—in his opinion a dangerous source. He suggested that they should apply to the town commissioners for a supply. The board decided that the matter of the appointment of an assistant medical officer should be postponed for the present.

Attack on a Medical Man by an Inmate of a Workhouse.

Dr. Montgomery, medical officer of the Mallow Union Hospital, whilst riding along a road near the workhouse was attacked by one of the inmates. The onslaught, which was quite unexpected, caused the horse to plunge and fall. Before Dr. Montgomery could extricate himself his assailant rushed at him again. Fortunately, the clerk of the union was at hand and pluckily grappled with the infuriated pauper, who was eventually given in charge to the police. Luckily the injuries sustained by Dr. Montgomery were not of a serious nature. The board of guardians had the matter under consideration at the following meeting and one of the guardians stated he believed the mental equilibrium of Dr. Montgomery's assailant was not all that could be desired.

Jan. 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Procedure at Examinations for Hospital Appointments.

THE Commission chosen to draw up new regulations for the competitive examinations for those seeking appointments as hospital medical officers has recently come to a very grave decision. For some time past the candidates have requested that at this examination the scientific value of works published by them should be taken into account and that marks should be given in this subject in addition to those given in the others because the latter merely deal with proficiency in *vivâ-voce* answers and special feats of memory. The Commission, after having adopted sundry unimportant modifications as to the mode of estimating the value of the different marks assigned by the examiners, was divided upon this particular point into two groups. It was finally decided by a majority that no account should be taken of scientific work done previously. The candidates were, however, allowed to send copies to the examiners, which, however, is the custom in any case. At present, therefore, there is this dilemma; if this work according to the ruling of the Commission does not count it is useless to send it in; if the examiners are influenced by it they are acting unfairly. Complaints have been made in connexion with each of the two examinations which are at present being held—one to nominate professors in the Faculty of Medicine and the other to assign the gold medal to the best of the ex-house surgeons. It is stated that in each of these examinations the majority of the candidates withdrew after the first stage, so that there were only left before the examiners those candidates whose prospects of success were absolutely assured on account of their friendly relations with those gentlemen and also on account of the very high marks which they had consequently obtained. These allegations having been published in the newspapers the president of both examining bodies wrote a letter saying that as the examiners were chosen by lot it was a guarantee that no such injustice could occur and that, besides, the candidates who were supposed to be specially favoured had not been the only ones left before the examiners, but that others had been there too. Among the candidates there appears to be no mystery made in the matter at all, and it is said that as soon as the names of the examiners are known the names of the successful candidates are in everybody's mouth even before the examination begins. The voluntary withdrawal of the other candidates tends of show their belief that it would be quite useless for them to undergo the trouble of the examination. There is certain to be at the end of the examination a protest entered against the nominations made, as was the case ten years ago under similar circumstances. The Minister of Public Instruction has summoned a meeting of his predecessors in office and has decided that the present *concours* shall be the last. It is probable that for the future professors will be chosen by the Faculty on their merits.

The Bacillus of Acute Articular Rheumatism.

At the meeting of the Hospital Medical Society held on Christmas Eve MM. Triboulet and Coyon reported that they had made sundry researches in cases of acute rheumatism to see if they could find Achalme's bacillus in the blood. In every case they were able to isolate and cultivate a special kind of diplococcus completely different from the organism sought. Twice, however, they found this latter in association with the other and in each case the rheumatism was very severe and complicated. These observers also found this diplococcus in cultures made from a body which had upon post-mortem examination yielded Achalme's bacillus. It is an oblong coccus always occurring in pairs, about 2μ in diameter, to some extent anærobic and is not decolourised by Gram's method. Achalme's bacillus seems to accompany the graver forms of rheumatism and to be the special cause of complications. It is possible that this new diplococcus of Triboulet is the real microbe of rheumatism, always assuming that these interesting observations are not contradicted by subsequent research.

Medical Men at Rodez and Gratuitous Medical Relief.

The new regulations as to gratuitous medical relief in the country meet day by day with more resistance and the medical men of Rodez have ceased to coöperate in this service since Jan. 1st. A joint letter addressed by them to the Prefect of Aveyron explains their attitude. With the view of avoiding the giving of trouble to the administration they say they accepted merely provisionally, and that alone for the year 1897, the regulations passed for gratuitous medical relief in the country despite its imperfections. They hoped that during the course of the year the local authority would carry into effect the just demands of the Medical Society of Aveyron. Their petition, however, was rejected.

A Case of Parasitism.

M. Laboulbène reported a case to the Academy of Medicine at their meeting on Jan. 4th which had occurred in the practice of M. Dubois. The patient, a man, suffered from incessant vomiting which resisted all treatment for fifteen days. He threw up curious little animals, a sort of amphipod crustacean, the Gammarus pulex. Three of these animals collected from the vomit and placed upon a piece of paper jumped about. The patient was seized with violent colic and after an emetic he brought up still more crustaceans. He was in the habit of drinking well water and also that of the Seine. He is now in good health. No similar case has been reported hitherto save one doubtful one recorded by van Beneden.

Jan. 11th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Recent Researches on Immunisation.

DR. WASSERMANN, assistant to Professor Koch, and Dr. Takaki, of Japan, have published an interesting article on immunisation in the *Berliner Klinische Wochenscrift* of Jan. 3rd. In an essay on diphtheria antitoxin Professor Ehrlich has suggested that infective diseases are due to the affinity of certain cells for the specific virus, tetanus, for instance, being the result of the tetanic virus entering into combination with the cells of the spinal cord. According to the same theory the substance of these cells, which he terms "toxofore Seitenketten" (toxoforic cells), is rendered soluble in the process of immunisation and enters into the circulation so that the antitoxin of tetanus consists only of the medullary cells in a soluble form. Dr. Wassermann concluded that if this theory of Professor Ehrlich were true the normal spinal cord must contain antitoxic substances and that it might therefore be possible to immunise an animal against tetanus by injections of spinal substance. Dr. Wasserman and Dr. Takaki having accordingly made an emulsion of the cerebral and spinal substance of healthy animals with the aid of a solution of sodium chloride, injected it together with tetanus toxin into white mice and succeeded in ascertaining the remarkable fact that the spinal and especially the cerebral substance both of the human subject and of guinea-pigs, rabbits, horses, &c., has a strong antitoxic action against the tetanus toxin. It neutralises the virus and will even save the life of an animal if injected several hours after inoculation with infective matter. Dr. Wassermann and Dr. Takaki are of opinion that the spinal and cerebral cells of the injected substance by their affinity for the tetanus toxin prevent it from invading the central nervous system. They propose to designate this new method of immunisation as "Seitenketten Immunität" and they point out that their researches, although of theoretical interest, do not seem to be available for practical use. The paper is accompanied by a detailed description of the experiments.

Mentally Defective School Children.

By special permission of the Berlin Municipal School Board four medical men, Dr. Kalischer, Dr. Moll, Dr. Neumann, and Dr. Teichmann, have examined a number of children who, although attending municipal schools, were incapable of following the usual course of instruction. Their report, published in the *Deutsche Medicinische Wochenschrift*, states that they visited ten selected schools and examined such children of the three lowest classes as had remained more than two years in the same class without passing to a higher one. Of 10 132 boys and girls attending the ten schools only 255 (= 2·5 per cent.) were examined. Prior to the examination the teachers filled up printed schedules containing the ages of the children, the time they had spent in each class, their diligence in school-work, their general behaviour and the social condition of their parents. The report states that the determination of the mental condition of the children was very difficult and in many cases involved a good deal of inquiry. Sometimes a condition of mental defect was indicated by the physiognomy and the demeanour of the children, but in other instances they had to be questioned on religion, natural phenomena, family affairs, school-life, &c., in order to ascertain their psychical state. Three degrees of mental deficiency could be distinguished—viz., backward children, weak-minded children, and complete idiots. The first category contained those whose mental functions were slow, their intelligence or memory being weaker than those of average children, but in whom a development by proper education might be expected. The second class contained those whose mental defects were obvious even to persons without medical training, the third class being reserved for those who were incapable of appreciating ordinary instruction and for whom no improvement was possible except perhaps by the methods followed in special asylums. In the result it was found that 116 children were mentally defective—viz , 1·5 per cent. of the whole number; 68 (= 0·7 per cent.) belonged to the first, 40 (= 0·3 per cent.) to the second, and 8 (= 0·08) to the third category; 5 idiots of thirteen and fourteen years of age were in the most elementary of the school classes, the average age of the pupils in this class being seven years. In a good many of these children organic bodily affections were present. Among 125 boys and 132 girls diseases of internal organs were detected in 76 per cent., affections of the nervous system in 10 per cent., difficulty of nasal respiration in 64 per cent., defects of speech in 5 per cent., defects of hearing in 35 per cent., and defects of sight in 19 per cent. The report states that many of the less intelligent pupils in whom neither mental nor bodily troubles were present would probably have answered the requirements of the school if the social condition of their parents had been better, but overwork at home made them incapable of learning much at school. The report recommends that idiots should be removed from the ordinary schools and placed in special asylums and that children who are the subject of moral perversions should be kept apart in order to protect others from their bad example. Backward or weak-minded children might continue to attend the ordinary schools, but special classes ought to be provided for them and the instruction adapted to their intellectual capacity.

Berlin University.

Berlin University has now more students than at any time since its foundation. The number was 5515 in the winter of 1896-97 and 4955 in the summer of 1897, but it has now risen to 5921. The distribution of the students in the various Faculties is as follows: theology, 448; law, 2000; medicine, 1291; and philosophy, 2182. To the number of medical students there must be added 268 pupils of the army medical school who have the same curriculum as the other students but are reckoned as military men and not as civilians.

Jan. 10th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Founder of Legal Medicine.

THE professor of medical jurisprudence in the Istituto di Studi Superiori of Florence, Professor Angiolo Filippi, has just completed the thirtieth anniversary of his election to the chair which he has made one of the most popular as well as scientific in Italy. In celebration of the event his pupils, past and present, have conceived the happy thought of making it coincident with the publication of a monograph on Dr. Paolo Zacchia who, in the words of the latest and perhaps (since Hirsch) the most accomplished of medical historians, Dr. Julius Pagel of Berlin, "hat die Bedeutung dass er als der eigentliche Begründer der gerichtlichen Medizin anzusehen ist" (has the distinction of being regarded as the true founder of legal medicine). The treatise itself, entitled "Quaestiones Medico-Legales in quibus omnes eae Materiae Medicae quae ad Legales Facultates videntur pertinere, proponuntur, pertractantur, resolvuntur" (Medico-Legal Inquiries, in which all those medical matters seemingly within the province of the Faculty of Law are set forth, handled, and resolved), consists of seven books and saw the light first in Rome in 1621 and last in Venice in 1737, though between those dates it ran through many editions in Germany, France and Holland. Besides his "Bahn-brechend" work in medical jurisprudence Dr. Zacchia has other claims to commemoration. As Dr. Pagel says, he was skilled in all the science of his time; was a man of letters, a poet, "ein geschickter Maler" (a clever painter), and "ein tüchtiger Kenner der Musik" (dexterous, proficient in music). Body physician to Pope Innocent X., his historical position and importance more than entitled him to the honour he now receives at the conjoint hands of Dr. A. Severi, Professor of Legal Medicine at Genoa, and Dr. A. Montalti, Dr. L. Borri, Dr. G. G. Perrando. and Dr. C. Biondi, lecturers on the same subject in the Palermitan, Florentine, Genoese, and Neapolitan schools respectively. The monograph on its own account is so interesting that it ought to inspire others on similar lines—it should form, indeed, the first of a series on "the leaders of Italian medicine" in which such teachers as Acquapendente and Cesalpino, such consultants as Baglivi and Scarpa, and such investigators as Morgagni would receive their long postponed meed of honour. As to Professor Filippi himself, whether as lecturer in the academic chair or as expert in the witness-box or as the author of some seventy treatises and minor essays in legal medicine, he well deserves the jubilee celebration just accorded him, having for thirty years fulfilled as a teacher the *rôle* he never lost sight of even in his undergraduate days when he fought for his country's unity and independence under Garibaldi in 1859–60, when again in 1865 he did philanthropic work in the cholera epidemic, and when finally, just before settling down to the business of his life, he distinguished himself under Victor Emanuel in 1866 on the field of Custoza.

Influenza in the Curia.

As we near the close of winter and advent of spring influenza ceases to be sporadic and tends to assume epidemic proportions. Within the last few days there has been an ominous increase of cases—notably in the Trastevere and among the members of the Sacred College. Of these venerable ecclesiastics now in Rome very few have escaped the disease; in some it has declared itself with a gravity which is really alarming. Much uneasiness is felt as to the condition of at least four "Eminentissimi"—to wit, Cardinal Parocchi (the vicar of Rome), Cardinal Agliardi (sometime Nuncio at Vienna), Cardinal Oreglia (dean of the Sacred College), and Cardinal Mertel, who is dean by seniority, being now in his ninety-fourth year. As to the Pontiff himself he has so far escaped the malady, but that, in view of its prevalence in the Apostolic College, his physicians are watching him from day to day, or even from hour to hour, with unrelaxed vigilance goes without saying.

The "Istituto Sieroterapico" of Milan.

Like its elder sister "the Istituto Antirabico" this institute has a yearly growing record of prosperity. At the last sitting of its directors it was announced that for 1897 the sale of anti-diphtheritic serum was double that for the year preceding, having realised a sum of 80,000 lire (£3200). The "vaccino anti-carbonchioso" was also in greatly increased demand, as many as 100,000 doses of it having been dispensed for the smaller cattle. The "Istituto," moreover, has developed a new and much-needed branch of activity—producing in any quantity "vaccino animale anti-vaioloso" (anti-variolous animal vaccine) and thereby contributing to the gratifying result that for a series of months Milan has not witnessed a single case of small-pox, a disease formerly endemic in the city.

Jan. 9th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Imperial School of Military Medicine.

LAST Sunday the ceremony of distribution of diplomas to the students of the Imperial School of Medicine who finished their course of study this year took place. Amongst the high officials present was Marshal Zéki Pacha, Grand Master of the Artillery and General Director of the Military Schools. All the members of the Faculty attended the ceremony. Marshal Zéki Pacha delivered an address suited to the occasion. Before receiving their diplomas students were asked to take the oath of faithfulness to the Throne and the Government. After the ceremony these young doctors, wearing the uniform of captain, were conducted to the Ministry of War. The number of students who received their diplomas last Sunday was sixty-six, of whom fifty-six were Mussulmans, seven Israelites, and three Greeks. It may be noted that Armenian students have always figured prominently on similar occasions in the years gone by, whereas no names of Armenian graduates are to be seen in the present list: the explanation will be clear to the readers of the lay press.

Botany.

Mr. Aznavour, a young Armenian, has lately sent a valuable communication to the Botanical Society of France part of which has been published in its *Bulletin*. The same work has also been published in a separate little volume which is worthy of perusal by all lovers of botany. It deals with the plant life in and about Constantinople. Botanists may look forward with anticipation to the larger volume which the same author, I understand, is about to bring out soon. So far as I know this is the first attempt of systematic study of the plant life of this neighbourhood and the young author is to be congratulated on the results of his laborious task.

Calculi in the Urethra.

At the last meeting of the Imperial Society of Medicine, Dr. Zartarian, surgeon to the Armenian National Hospital, read an interesting paper on a case in which urethrotomy was performed. Dr. Zartarian said that calculi were often found in the urethra after the operation of lithotomy or to other local causes. The patient, a boy, aged fourteen years, had an unfortunate fall, and the wound he had thus received was badly cicatrised, a state of things which had favoured the formation of the calculi in the urethra. An operation of urethrotomy was thought to be necessary. The operation had been quite successful. Dr. Zartarian extracted two enormous calculi, one of which was no less than six centimetres and the other three centimetres long, and the two had a thickness of about two centimetres. The two together weighed twenty-five grammes.

Dec. 24th, 1897.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Charities of Victoria.

ALMOST all the charitable institutions in Victoria are involved in debt and their system of management and maintenance is anything but satisfactory. Some years ago a Royal Commission was appointed to report on the condition of the charities of the colony and the best methods of making them more efficient. The inquiries of this body brought to light the facts that there is an excess of institutions with no systematised relations between them, so that while some are half empty others are overfilled, and that the main burden of maintenance falls on the central Government, which provides £100,000 per annum, while a comparatively small number of private individuals voluntarily contribute, with some help from municipal corporations, about £38,000. Neither the Government nor the municipalities are represented in the management. The Charities Commission made a number of recommendations which have been for the most part incorporated in a Bill now being discussed in the Legislative assembly. Briefly the proposals are to divide the colony into five districts, each with a local charities board of nine members, elected by the municipalities, and a central charities board consisting of a delegate from each local board and of four members nominated by the Government. The central board is to receive the funds and apportion them among the local boards, who would distribute them among the charities of each district. Funds are to be raised by the municipalities who can levy a charities rate or otherwise not exceeding 1½*d*. in the £, the amount that can be so raised being estimated at £70,000 per annum. In addition it is proposed to put a tax of 5 per cent. on all prizes and gate-money at races and sports and to give to the board the yearly surplus of the fees derived from publicans' licences—about £9000. The accumulated surplus of the licensing fund (about £40,000) is to be applied to liquidating the existing liabilities of the charities. The Bill also gives power to compel an inmate in any charitable institution to pay 10*s.* a week for maintenance if able to do so and if not power to recover that amount from the father, mother, husband, wife, brother, sister, or child of any inmate. The Bill has already met with much criticism and opposition. The municipalities object to what is practically a Poor-law system and to further imposition of taxes; the present governing bodies of charitable institutions also object to the multiplication of boards and are afraid that the provisions of the Bill will destroy the present system of voluntary contributions, while a large number of the general public objects to the tax on sports.

Tuberculosis in New South Wales.

The New South Wales Board of Health is evidently determined to do all it can to stamp out tuberculosis in the colony. A case of tuberculosis in a dairy recently came under notice and the President of the board (Dr. Ashburton Thompson) availed himself of the opportunity of making a report on the whole subject. The veterinary inspector of the board informed Dr. Thompson of a glaring case of tuberculosis in a dairy herd. Dr. Thompson inspected the cow and condemned it and after death it was found to be riddled with tubercle. As it must have long been ill it was thought probable that the other cows had become infected. They were injected with tuberculin and six reacted. These were condemned, slaughtered, and proved to be tuberculous. The dairyman's licence was cancelled and his premises were disinfected. The dairyman said he would send the condemned carcass to be boiled down. It turned out, however, that the carcass was sent to a poultry farmer who used it to feed his poultry. In his report Dr. Thompson observes that "the prevention of that part of the incidence of consumption in mankind which is due to eating meat and milk produced by consumptive beasts is inextricably bound up with the prevention of this disease among herds. All dairymen, butchers, and breeders must be able to buy under a guarantee of freedom from tuberculosis," as shown by the tuberculin test applied under fixed conditions.

Medical Advertising.

Dr. J. R. Wolfe, of Melbourne, on whose proceedings THE LANCET commented some time ago, has again been bringing his name before the public in unprofessional ways, and not only so, but writing to the public press to justify his conduct. He says, "The conventional rule of reporting medical cases, in the first instance at any rate, in medical journals, followed up by discussion of medical men, is a wise arrangement, as it is intended to protect the public against false and exaggerated reports by pretenders. This, however, presupposes that the guardians of the public interests are themselves honest and fair—honourable gentlemen, whose only aim is truth and who have no shop interest to serve. But what if the custodians themselves be influenced by jealousy fierce as Hades, are they then more likely to give truer information to the public than the editors of lay journals who have no private interests to serve? ...... Medical men are subject to the domination of a kind of secret police—are treated as babies whom they wish to keep all their lives in swaddling-clothes."

The Perth Water-supply.

Typhoid fever has been, and is, excessively prevalent in Perth, West Australia. Samples of the drinking water supplied to the town have been forwarded to the Pathological Laboratory, Melbourne University, for bacteriological examination, and the results of Dr. Cherry's investigations show that the water is positively contaminated with sewage and probably with typhoid bacilli. That is to say, he found colonies of an organism resembling the typhoid bacillus in every respect but in its growth on potato, and a series of control experiments with genuine typhoid bacilli kept for a long time in water showed a gradation between the "invisible growth" of fresh typhoid and the slightly creamy growth of the organisms in the Perth water. Dr. Cherry concludes that the evidence in favour of the identity of this organism with the typhoid bacillus is practically conclusive.

Action against a Dentist.

On Nov. 23rd a Sydney dentist was sued for £300 for unskilful treatment. It was alleged that during the extraction of teeth under an anæsthetic matter from a tooth had been allowed to escape into the air passages, setting up an abscess in the lung which eventually ended fatally. Medical evidence was called for the defence and the witnesses said there was nothing in the treatment described showing any negligence whatever. The jury found for the defendant.

Inter-colonial Medical Congress.

The next meeting of the Inter-colonial Medical Congress of Australasia will be held in Brisbane in 1899. Several preliminary meetings have been held in Brisbane to make necessary arrangements. Dr. John Thomson is the president-elect. A general committee has been appointed and also an executive committee consisting of the president, treasurer, two general secretaries, and fifteen members, five elected by the Medical Society of Queensland and five by the Queensland branch of the British Medical Association and five to be chosen from the profession of the colony. The Hon. Dr. W. F. Taylor, M.L.C., has been elected honorary treasurer and Dr. David Hardie and Dr. Wilton Love general secretaries.

Unproved Charge of Perjury against a Medical Man.

On November 19th Mr. T. H. Strangman, of Seymour, Victoria, was tried at the Criminal Court on a charge of perjury and was acquitted. The case arose out of a police prosecution at Seymour when Mr. Strangman was summoned for riding a bicycle on the footpath and in his evidence on oath stated that previous evidence given by the police was "distinctly and decidedly false." This statement the police alleged to be perjury and hence the criminal charge which the police failed to prove to the satisfaction of the jury.

Alleged Improper Appointment at Prince Alfred Hospital, Sydney.

The appointment of Mr. Charles MacLaurin, M.B. Edin. to the position of honorary assistant surgeon at the Prince Alfred Hospital, Sydney, has given rise to questions in the Legislative Assembly and members stated that there was a feeling of dissatisfaction with reference to the appointment which was looked upon as a job and that the best man had not been appointed. Dr. Charles MacLaurin is the son of the Chancellor of the University and the appointment was made by the directors of the hospital and the University Senate, and it was said that it was the first time the Senate had exercised its prerogative of jointly making such appointments. It was stated by Dr. Graham, who is a member of the Assembly and a director of the hospital, that applications were called for in the usual way and that Dr. MacLaurin's qualifications were the highest and consequently he was appointed.

Formation of New Medical Societies.

A branch of the British Medical Association has been formed at Launceston, Tasmania, and a new association, the Western Districts Medical Association, has been formed at Bathurst, New South Wales.

Nov. 23rd, 1897.

THE CHEMICAL NUISANCE AT CRUMPSALL.—A deputation from the Manchester and the Prestwich Boards of Guardians waited on the Sanitary Committee of the Manchester Corporation on the 22nd ult. to ask that "something should be done" to put a stop to or abate the nuisance said to be caused "by the emission of noxious fumes from chemical works in the Crumpsall district." It was stated that the health of the inmates of both the Crumpsall and Prestwich workhouses is very seriously affected by the nuisance. This is an old and sore subject. Mr. Alderman Walton Smith promised that the representations of the deputation should be "carefully considered." At the meeting of the Manchester Guardians on the 29th ult. Mr. Harrop, one of the deputation, said that he believed the committee would stop the nuisance if they could. The deputation were asked if they would take the initiative, which they declined to do as the law was in the hands of the corporation. But this body had the disagreeable experience of being beaten in 1892, when they prosecuted the firm believed to provide the nuisance, and are naturally somewhat diffident in taking action now unless there are more substantial hopes of success.

Obituary.

ERNEST HART, M.R.C.S. ENG., D.C.L. DUNELM.,

EDITOR OF THE "BRITISH MEDICAL JOURNAL."

WE are much indebted to a member of the staff of the *British Medical Journal* for the following sympathetic memoir of his late chief.

Mr. Ernest Hart, Editor of the *British Medical Journal*, died on Jan. 7th in Brighton, whither he had gone a few months ago for the benefit of his health. It had long been known to his friends that he was the subject of glycosuria, but it was not until within the last two or three years that his health began seriously to fail. A voyage to the West Indies early in 1897 failed to produce the improvement in his general health which he had usually derived from the sea, of which he was passionately fond. In the early summer he had a recurrence of herpes, from which he had previously suffered. On this occasion the foot was the part attacked and a local sphacelus formed. Early in September, on the advice of Mr. Bryant and Dr. Mitchell Bruce, he submitted to amputation of the leg. The operation, which was performed by Mr. Lockwood, was immediately successful, but the wound was slow in healing and the sudden deprivation of activity acted injuriously on Mr. Hart's spirits. It was however hoped that he was gaining ground at Brighton, whither he travelled as soon as he was able to move after the operation. On Jan. 6th his general condition became somewhat suddenly worse and he died in the early hours of Jan. 7th, retaining his consciousness and courage to the last.

Ernest Hart was born in London in 1835. His father was a dentist in practice in the West of London and gave his son a good education. He went first to the City of London School, then under the headmastership of the Rev. Dr. Mortimer who did so much to raise its reputation. He looked upon Ernest Hart as one of his most brilliant pupils. Legend relates that two cabs were once required to carry away all the prizes that Hart gained, and it is certain that he matched himself with success against no less a person than the boy who was afterwards famous as Sir John Seeley. He might have gone up to Cambridge with a scholarship, but the disabilities under which Jews then laboured in the older universities stood in his way and he determined to enter the medical profession. He joined Lane's School attached to St. George's Hospital and in due course became a Member of the Royal College of Surgeons of England in 1856. It may be mentioned here that he never sought any other diploma nor any academic distinction though in 1893 he received the honorary degree of D.C.L. from the University of Durham.

During his student career Mr. Hart showed the natural bent of his genius and perhaps discovered his own powers as an organiser by taking an active part in the formation of a students' society to seek the redress of serious grievances under which the medical department of the Royal Navy then laboured. The popularity of the service had reached the lowest ebb when a society of medical students was formed with Mr. Timothy Holmes as chairman and Mr. Ernest Hart as secretary. The movement was quickly successful, the ear of Parliament was gained, and the Naval Medical Service was re-organised on a new basis which conceded many reforms.

Ernest Hart's first appointment was that of resident medical officer to St. Mary's Hospital to which he was nominated in 1856. In 1861 he was appointed ophthalmic surgeon to St. Mary's Hospital and lecturer on ophthalmology. He engaged in the practice of general surgery with a special leaning to diseases of the eye, and was for a time associated with the late Mr. Walter Coulson (senior) in his city practice, though he at the same time practised independently as a consulting surgeon. In 1863 he became dean of St. Mary's Hospital Medical School, and in 1865 the duties of aural surgeon were added to the others which he already discharged at that hospital. He resigned his surgical offices in 1868, and that of dean in 1869.

From a very early stage of his career, however, he had shown a strong bent towards journalism, and in 1858, when he was only twenty-three years of age, he joined the staff of THE LANCET. In 1866 when Dr. Markham, the then editor of the *British Medical Journal*, was appointed a Medical Inspector under the Local Government Board Mr. Hart became editor in his room and at once threw himself with immense energy into the work of rendering that journal a more efficient and influential exponent of medical science and opinion. His own personal interest lay mainly from an early period in matters connected with Public Health, and his power of usefulness was very greatly enhanced by his appointment in 1872 to be chairman of the Parliamentary Bills Committee of the British Medical Association, a position which he retained down to a few months ago, continuing to discharge its duties after his resignation of the office last spring until the election of his successor, Dr. R. Farquharson, M.P. To give a complete history of the work he did as chairman of the committee would be impossible, for it is safe to say that no question affecting the public health or the interests of the medical profession escaped investigation during the quarter of a century for which he held office.

By a coincidence one of the first matters which this committee after its re-constitution in 1871 had to undertake was an investigation of the grievances which still existed in the Naval Medical Service. A report on the questions involved was drawn up by Mr. Ernest Hart and served as the basis of the representations made by a deputation which waited on the First Lord of the Admiralty. As a result a Royal Warrant was issued in 1875 granting many concessions relating to rank, pay, and retirement. Other matters which still required improvement remained under consideration and further representations resulted in the issue of another Royal Warrant in 1881. Contemporaneously with these efforts on behalf of the Naval Medical Department was the commencement of the long struggle for improvement in the terms of service and status of officers of the Army Medical Department. Lord Camperdown's Committee sat in 1889 and Mr. Hart had a large share in the marshalling of the facts to be laid before it. As a result of the report of this Committee the Royal Warrant of 1891 was issued admitting the substantive rank of army medical officers and granting compound titles in indication thereof. These titles have not in practice been found satisfactory, but it is hoped that before long the efforts which have been made on behalf of the Army Medical Staff may be crowned with success.

Another subject to which Mr. Hart gave much attention was that of baby farming. He took great pains to collect evidence and was the first witness called before a Select Committee appointed by Government; as a consequence of its report the Infant Life Protection Act of 1872 was passed. Experience of the working of this Act, which from the first appeared to Mr. Hart and those who had been most actively engaged in its promotion to be defective, proved that their prognostications were correct. He again drew attention to the matter through the Parliamentary Bills Committee and in other directions and finally the Act which came into force on the first day of this year was enacted.

The Public Health Act of 1875 recognised the importance of the notification of infectious disease, but left it to local corporations in applying for private bills to state in what manner they proposed to carry out notification. There was a risk that the whole onus should be placed upon the medical attendant. Mr. Hart directed special attention to this point and in the Infectious Diseases Notification Act, 1889, the important principle of the concurrent responsibility of the head of a family in which infectious disease occurred was fully recognised.

The subject, however, which most deeply interested Mr. Hart was that of the part which drinking water played in the dissemination of certain diseases, especially cholera and typhoid fever. As early as 1865 he had taken part in an investigation for THE LANCET of the limited outbreak of cholera at Theydon Bois in Essex, and in the following year he was much impressed by the results of an investigation of an outbreak of cholera in East London which was traced to the distribution of water from the River Lea which had become specifically polluted. Throughout the rest of his life he was a careful student of all outbreaks and epidemics of cholera and typhoid fever which have occurred in this country in connexion with public water-supplies. He was one of the first to become impressed with the fact that milk might under certain circumstances become the vehicle for the distribution of the infection of typhoid fever, and he read a paper before the International Medical Congress in London (1881) on the Influence of Milk in Spreading Zymotic Disease. This paper contained an account of seventy-three outbreaks of typhoid fever, scarlet fever, diphtheria, and sore-throat which he attributed to the agency of milk. He continued to maintain an interest in the subject, and in 1897 published a further report containing an account of forty-eight further outbreaks which had occurred in the interval since 1881. In the same way he continued to maintain an interest in the question of the dissemination of typhoid fever by water-supplies and not long ago prepared a report for the Parliamentary Bills Committee of the British Medical Association on Water-Borne Typhoid. This, which was published in 1897, contained a historic summary of local outbreaks in Great Britain and Ireland from 1858 to 1893, together with a tabular analysis of 205 epidemics. The very strong views which he held as to the frequency and importance of the specific contamination of water-supplies as the cause of epidemics of cholera and typhoid fever led him to take a deep interest in questions connected with Indian sanitation, and he gave forcible expression to these views during the visit to India to which reference is made below.

He was chairman of the National Health Society from 1877 to 1896 and sought, not without success, to reach through it classes of the public not readily amenable to the influence of medical opinion. The society organised lectures on public health addressed to lay audiences, arranged courses of lectures addressed especially to the working classes on personal and domestic hygiene, and undertook the duty of training teachers to work under the county councils. The Smoke Abatement Institute grew out of the work of this society. He took a large part in organising the Smoke Abatement Exhibition and was chairman of the Smoke Abatement Committee which in 1883 presented a report on Appliances for the Prevention of Contamination of the Air by Smoke. The report sufficiently showed that the nuisance might be removed or at least very greatly diminished could the public be induced to make use of good appliances. That a greater effect upon the atmosphere of London and great cities has not been produced was in his opinion in large measure due to the fact that the chief offenders are the small domestic kitchen ranges.

Mr. Hart was an ardent defender of vaccination and in 1880 he published an essay entitled "The Truth about Vaccination," which dealt with all the serious objections brought against the practice. In 1879 he promoted a conference in London to which he presented a report on the results of vaccination from the calf in various countries. The conference was attended by Dr. Warlomont, of Brussels, and Mr. Hart remained a strong advocate of calf-vaccination. It has long been in use in London at certain stations, and it is probable that its employment will shortly be greatly extended.

With regard to Mr. Ernest Hart's personal character and the aims and motives by which he was actuated we cannot do better perhaps than quote the words spoken by a close and sympathetic friend, the Rev. Canon Barnett, at the memorial service held on Jan. 11th at Marylebone Parish Church. In the course of his address Canon Barnett said: "Each of us is thinking of some aspect of Ernest Hart's character which drew our admiration or affection. One remembers the ardent intellect which burnt up difficulties, another the masterly ordering of facts; for some he is the keen fighter who fought for his side with sharpest weapons; one will think of the strong critical power which dissected and tossed to ridicule worn-out traditions; another will think of the love of beauty which so enriched his home, his garden, and his talk, and made him so anxious to increase the open spaces of London. He is known to the world as a leader, but he is known to many unknown as a sympathiser with misfortune, as a generous helper of the fallen, as a friend who put his best at a friend's service ...... But there was one side of Ernest Hart's character known to all. He was a man of public spirit; from the beginning of his career he took up causes. His ambition was to leave the world cleaner, happier, and better than he found it, and in the pursuit of that ambition he never hesitated to face the prejudices of his peers. He made some enemies and some mistakes, but they were made because he conceived that his first duty was not to his class but to the public. Men of public spirit are the salvation of our country—there are many in England but there are far too few."

Though a Londoner he always had a great love for the country and in his best days was fond of exploring the home counties on horseback in company with his wife or a congenial friend. He had a curious knowledge of many little known picturesque districts within easy reach of London and took much pleasure in recounting his expeditions and urging others to follow in his footsteps. Later, foreign travel to some extent took the place of this recreation. He visited Italy, Tangier, Spain, and then, taking a longer flight, he travelled round the world and gratified his love of Japanese art by visiting that country. He returned by Canada, where he took part in the formation of several Branches of the British Medical Association and stirred up an interest the outcome of which was seen in the recent annual meeting in Montreal; at which he was, owing to failing health, to his great disappointment, unable to be present. Another journey, in 1894, was made to India and Burmah. While in India he attended the meeting of the first Indian Medical Congress and delivered an address on Indian Sanitation which hit a good many nails on the head and raised a storm of mingled praise and blame. Some of his expressions were interpreted as casting reflections on the Indian medical service, but his intention was undoubtedly to show that that splendid service was undermanned and was trammelled by obsolete regulations and by the traditional policy of the Indian Government. He visited Hyderabad and there delivered an address to a large meeting of Mahomedans, appealing to them to take steps to minimise the risk which the followers of Mahomed incur during the Mecca Pilgrimage. His crusade in India undoubtedly had a great influence in arousing the Government of India to the necessity of taking greater advantage of the improved methods of preventing and checking epidemic diseases with which medicine has recently been endowed by the advance of pathology and bacteriology. Of his tour in Burmah, Mrs. Ernest Hart, his companion on all these journeyings, has recently given some account in her book on Picturesque Burmah.

The memorial service was attended by Sir William MacCormac, Bart., President of the Royal College of Surgeons of England, Dr. Holman, Vice-President of the British Medical Association, representing Dr. Saundby, President of Council, who was unavoidably absent, Dr. Parsons, Treasurer, and Dr. Cleveland, Mr. George Eastes, and Brigade-Surgeon-Lieutenant-Colonel Drake-Brockman, members of the Council of the British Medical Association; the Medical Sickness, Annuity, and Life Assurance Society, of which Mr. Hart was the founder, was represented by Dr. de Havilland Hall. Among the chief mourners were Mrs. Hart, Mrs. Barnett, Mr. Kiesh representing Miss Hart.

The pall-bearers were Sir Henry Thompson, Sir Ernest Clarke, Mr. George Smith, Dr. Stephen Mackenzie, Mr. Francis Fowke (General Secretary of the British Medical Association), Dr. Dawson Williams (Assistant Editor of the *British Medical Journal*), and Mr. Stephen Hyam and Mr. Sydney Rowland (nephews).

To this able account of the career of Mr. Ernest Hart we desire to add a few words concerning his connexion with THE LANCET. He was introduced to the late Mr. Thomas Wakley, the founder of THE LANCET, by a Dr. Wright whose failing health in 1856 compelled him to resign his position as a member of the staff. Dr. Wright brought Ernest Hart to the office as his possible successor, and discounted all objection that might be raised on the score of his young friend's age by saying boldly: "He's the cleverest youngster in London," and bidding Hart show his testimonials. Among these testimonials was one from the headmaster of the City of London School stating that Ernest Hart was the most capable lad whom he had ever educated and was captain of the school at an age two years junior to that of any previous captain. Ernest Hart had also a great record as a prize-winner at his medical school and was at once given a place upon our staff. His duties as defined by the agreement which lies before us were threefold: (1) to write leading articles to order; (2) to write in the editorial style on topics selected by himself, but subject to the Editor's approval; and (3) to take charge of the columns devoted to the reporting and discussion of medico-Parliamentary affairs. In every department he acquitted himself to the satisfaction of the Editor. In 1863 Mr. Ernest Hart was employed by Dr. James Wakley, who had succeeded his father as Editor of THE LANCET, in the "reading and correcting of proofs" and in "assisting in the literary departments of the journal"—to quote the words of the second agreement which also lies before us; and we have always supposed that it was some imperfect recollection of the terms of this document that originated the rumour which we have so often found it necessary to contradict, that Mr. Ernest Hart was once "co-editor" of THE LANCET. His duties were the usual duties of the literary assistant, and he discharged them with alacrity and ability. In December, 1864, and early in 1865, two tragedies occurring in the infirmaries of certain London workhouses, the Editor of THE LANCET held an inquiry into the management of these institutions. His able commissioners included Dr. Francis Edmund Anstie, afterwards editor of the *Practitioner*, Dr. Carr, of Greenwich, and Mr. Ernest Hart, who were aided in their labours by Dr. Joseph Rogers; and their investigations when published in THE LANCET produced a profound impression upon the public and eventually resulted through the medium of the Workhouse Infirmaries Association (of which Ernest Hart was honorary secretary) in a revolution of the existing law. In 1866, for reasons of a purely private nature, Mr. Ernest Hart's connexion with THE LANCET was suddenly severed, and it would be idle to pretend that relations for some time afterwards between him and the proprietors of THE LANCET were otherwise than hostile. But time has obliterated these feelings, and we should not have referred to the matter at all if certain of our contemporaries had not dwelt a little unduly upon it. Mr. Ernest Hart was a good friend, a bitter foe, and a brilliant journalist. He was not "co-editor" of THE LANCET for the excellent reason that Dr. James Wakley was quite competent to look after the journal by himself, but he was an admirable coadjutor. The world has lost in him a man of energy, enterprise, and public spirit, and we desire to record our unmistakeable sense of the loss.

AUGUSTIN PRICHARD, M.D. BERL., F.R.C.S. ENG., L S.A.

BY the death of Mr. Augustin Prichard which occurred at his residence in Chesterfield-place, Clifton, on Jan. 5th, Bristol loses one of its oldest, most respected, and distinguished members of the medical profession. Mr. Prichard was born in Bristol, being the second son of the late Dr. James Cowles Prichard, the famous ethnologist. In 1834, when sixteen years of age, the deceased was apprenticed for five years to his uncle, Mr. J. B. Estlin, the surgeon, and founder of the Bristol Eye Dispensary. After serving this apprenticeship and studying at Bristol Medical School and Infirmary, he went to St. Bartholomew's Hospital, London, where he was dresser to Sir William Lawrence. He took the M.R.C.S. Eng. and L.S.A. in 1840, passing the examination for the F.R.C.S. Eng. in 1849. In 1841 Mr. Prichard went to Berlin, where he graduated as M.D., and also studied at Vienna and Paris. In 1842 he commenced practice in Bristol, and soon became connected with the medical school as lecturer on surgery and anatomy, in 1849 he was elected surgeon to the infirmary, and there his clinical teaching attracted a large number of students. He was compelled by a regulation now abolished to resign this post after twenty years' service. After this he was busily occupied in private practice and especially in ophthalmic work and was frequently called in for consultation in all parts of the west of England. Mr. Prichard was an active member of the council of the local branch of the British Medical Association and at two of the annual meetings of this association he read the address in surgery. The deceased was one of the founders of the Bristol Medico-Chirurgical Society and was surgeon to Clifton College from the time of its foundation. In 1893 he retired from practice and the remaining years he spent in congenial pursuits, although he never lost his interest in medical matters. Mr. Prichard was the author of several surgical papers and recently had written a book of medical and surgical reminiscences. On Dec. 20th Mr. Prichard developed symptoms of intestinal obstruction which necessitated an operation and although this was attended with great temporary relief he sank on Jan. 5th from exhaustion. The deceased, who was in his eightieth year at the time of his death, leaves four sons and three daughters. Two of his sons are medical men, one being senior surgeon to the Bristol Infirmary. Mr. Prichard will be much missed in Bristol not only amongst members of the profession but by all his fellow citizens, to whom he had endeared himself by his interest in every good work.

ARTHUR GEORGE BLOMFIELD, M.D. ABERD., M.R.C.S. ENG., L.S A.

DR. A G. BLOMFIELD died from the effects of an overdose of morphia at his residence, West Southernhay, Exeter, on Jan. 8th. Deceased, who was forty-three years of age, received his medical education at Aberdeen University and King's College, London, graduating M.D. of Aberdeen in 1884, having previously taken the M.R.C.S. Eng. and L.S.A. in 1878 and 1877 respectively. He was for three years house surgeon to the West Norfolk and Lynn Hospital and for six and a half years held a similar post at the Devon and Exeter Hospital, which he resigned in 1887 and since then had been engaged in active practice in Exeter. Dr. Blomfield was physician to the Devon and Exeter Hospital, the Exeter Dispensary, West of England Institute for the Deaf and Dumb, and to the Exeter Lying-in Charity. The deceased was highly esteemed in the city and much sorrow is felt at his early death.

At the inquest held on Jan. 10th medical evidence showed that Dr. Blomfield had lately suffered from influenza with depression and insomnia and that death was due to an overdose of morphia or laudanum. The coroner said that the case was a sad one as the deceased was greatly respected and was rising rapidly in his profession. A verdict of "Death from misadventure" was returned.

PROFESSOR GREGORY ANTONOVITCH ZAKHARIN.

UNTIL quite recently few names were better known in the medical profession in Russia than that of Professor Gregory Antonovitch Zakharin, whose death which occurred on the evening of Dec. 23rd (Jan. 4th) we announced in our last issue. For thirty-five years he occupied the chair of Clinical Medicine in the University of Moscow and during the greater part of that period he had probably the largest and certainly the most lucrative consulting practice not only in Moscow but in the whole Russian empire. Report (always to be accepted with reserve) attributed to him the making of a colossal fortune. He certainly commanded exceptionally large fees and numbered among his *clientèle* some of the wealthiest families in Russia. But his reputation will rest on much more solid grounds than this. He had unusually keen powers of diagnosis and was wonderfully successful in treatment. As a teacher he will long be remembered. During his extended professional career he counted among his pupils an uncommonly large number of men destined to attain high distinction in the medical world of Russia. He has, moreover, left a permanent memorial of his labours in a large and valuable series of clinical lectures, the first two volumes of which were published in 1894 and the remaining two in the following year. Outside his own country he will best be remembered as the physician who attended the late Czar, Alexander III., in his last illness. The Imperial patient, it will be recalled, contracted influenza in the early part of 1894 and shortly afterwards developed symptoms of Bright's disease. Professor Zakharin attended him until his removal to Spala in the late summer months, when, the symptoms becoming more pronounced, he summoned Professor Leyden, of Berlin, in consultation. The further course of the illness and the rapid decline and death of the patient at Livadia in the Crimea will be fresh in many minds. The post-mortem examination, it may be added, confirmed in every detail the diagnosis formed by Professor Zakharin and Professor Leyden. Rumour, however, began to be busy about this time and on very slender grounds, or more probably on no grounds at all, charged the late Professor with having failed to diagnose in time the renal complications which were popularly supposed to have supervened immediately on the attack of influenza. From that time his reputation certainly declined somewhat and he shortly after resigned his chair in the University of Moscow. But on this part of his career we do not choose now to dwell nor on the unfortunate series of incidents which made the "Zakharin question" one of the burning questions of the day in the inner life of that University. The late Professor was in his sixty-ninth year at the time of his death. He was born in the south of Russia in 1829 and was educated at the Saratof Gymnasium. In 1854 he obtained his doctor's degree in the University of Moscow in which he had spent his curriculum and of which he was destined to be for many years one of the most brilliant and successful of professors. His fatal illness was of very short duration. He was seized with cerebral apoplexy on Dec. 19th (31st) and never rallied, succumbing four days later.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. G. Allexianu, Professor of Medical Pathology in Bucharest.—Dr. Harrison Allen, Emeritus Professor of Physiology in the University of Pennsylvania, Philadelphia.—The Count Motta Maia, Professor of Anatomy and of Operative Medicine in the University of Rio de Janeiro.—Dr. Giacomo Sangalli, Professor of Pathological Anatomy in the University of Pavia.—Dr. Karl Ritter von Rgehazek, formerly Professor of Surgery in the University of Graz He died on Christmas Day and was in his eighty-first year.—Dr. Brissez, Honorary Surgeon to the Lille Hospitals.—Dr. Gaston Le Mercier, Medical Officer of the Havre Hospitals.—Dr. Filippo Lussana, Emeritus Professor of Physiology in the University of Padua.—Dr. Multanovski, *privat-docent* in Surgery in the St. Petersburg Medico-Chirurgical Academy.—Dr. Kirkpatrick, Lecturer on Surgery in the McGill University, Montreal.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates at the Primary Examination have passed in the subjects indicated:—

PART I.

Biology.—G. M. Crockett, K. A. Dawson, A. Kellgren, M. E. Martin, F. Murray, and L. G. Simpson, Royal Free Hospital; and H. O. Sutcliffe, Cambridge.

Chemistry.—J. B. Bradley, Birmingham; and A. M. Dodd and F. D. D. Ledgard, Royal Free Hospital.

Materia Medica and Pharmacy.—M. A. Alabone, Guy's Hospital; A. H. Bell, Cork and Guy's Hospital; W. M. McLoughlin, University College Hospital; J. Notley, Birmingham; and G. E. Saltau, Royal Free Hospital.

PART II.

Anatomy.—A. J. Beardmore, Sheffield and Middlesex Hospital; J. H. Beasley, Birmingham; A. A. F. Clarke, St. Thomas's Hospital; W. A. C. Cox, St. Mary's Hospital; M. Foley, Royal Free Hospital; A. W. H. Grant, Charing Cross Hospital; G. H. L. Hammerton, Sheffield; H. L. Hands, Madras; D. T. Cadvan Jones, University College Hospital; E. MacD. Judge, Guy's Hospital; A. J. Kennedy, Edinburgh; W. L. Norwood, Royal College of Surgeons, Ireland; and C. V. Smith, University College Hospital.

Physiology.—W. P. Allen, Birmingham; A. J. Beardmore, Sheffield and Middlesex Hospital; J. H. Beasley, Birmingham; A. A. F. Clarke, St. Thomas's Hospital; W. A. C. Cox, St. Mary's Hospital; M. Foley. Royal Free Hospital; H. L. Hands, Madras; D. T. Cadvan Jones, University College Hospital; E. MacD. Judge, Guy's Hospital; A. J. Kennedy, Edinburgh; C. J. Marsh, University College Hospital; W. L. Norwood, Royal College of Surgeons, Ireland; and L. Sells, St. Thomas's Hospital.

UNIVERSITY OF LONDON.—At the B.S. Examination for Honours the following candidates have been successful:—

Surgery.—First Class: *Brennan Dyball, St. Thomas's Hospital; *Charles Herbert Fagge, Guy's Hospital; and †Edwin Josiah Toye, B.Sc., St. Bartholomew's Hospital. *Second Class:* Arthur Henry Evans, Westminster Hospital; Alfred Lucette Home, St. Thomas's Hospital; and John Dill Russell, University College and London Hospital. *Third Class:* Cuthbert Henry Jones Lockyer, Charing-cross Hospital; Hugh Percy Noble, Middlesex Hospital; and Alfred Walter Sikes, B.Sc., St. Thomas's Hospital.

* Gold medal and moiety of scholarship.

† Obtained the number of marks qualifying for a gold medal.

FOREIGN UNIVERSITY INTELLIGENCE. — *Berlin:* Dr. Bernhard Fränkel has been promoted to an Honorary Professorship of Laryngology and Rhinology, Dr. Benno Baginsky has been granted the title of Professor of Oto-Rhinology, Dr. L. Jacobson that of Professor of Otology, Dr. Heinrich Bonhoff that of Professor of Hygiene, and Dr. Carl Günther that of Professor of Bacteriology.—*Breslau:* Dr. Richard Stern has been granted the title of Professor of Internal Medicine.—*Catania:* Dr. Raimondo Feletti has been promoted to the Ordinary Professorship of Medical Pathology.—*Cracow:* Dr. Charles Zulawski has been promoted to an Extraordinary Professorship of Psychiatry.

DINNER TO THE MAYOR OF CHELTENHAM.—A complimentary dinner was given on Jan. 1st at Cheltenham to Mr. Richard Rogers, L.D.S. Irel., to commemorate his recent election as mayor of that town for the third time. Baron de Ferrières presided.

TYPHOID FEVER AT CAMBORNE.—The number of cases of typhoid fever in Camborne and the district is stated to be about 150 and up to the present four deaths have occurred, but fortunately several of the cases are of a mild character. The Local Government Board Inspector (Dr. Bruce) has arrived and will investigate the cause of the outbreak.

A MEDICAL OFFICER OF HEALTH FOR SOMERSETSHIRE.—At a meeting of the Somersetshire County Council held on Jan. 4th a member asked for a committee to be appointed to consider the desirability of the appointment of a medical officer of health for the county. It was eventually decided that the matter should be referred to a special committee of seven members.

A CHEQUE for £10,000 was recently presented to the Leicester Infirmary as a Jubilee endowment to the institution. The amount was raised by Jubilee subscriptions at the instance of Mr. Marshall who is ex-mayor of the borough and has been largely increased by the proceeds of a bazaar promoted by the Duchess of Rutland, the Countess of Warwick, Mrs. de Lisle, and other ladies, as well as by increased subscriptions.

ROYAL INSTITUTION. — On Tuesday next (Jan. 18th) Professor E. Ray Lankester, F.R.S., will begin a course of eleven lectures on the Simplest Living Things; on Thursday (Jan. 20th) Professor Dewar, F.R.S., will deliver the first of a course of three lectures on the Halogen Group of Elements; and on Saturday (Jan. 22nd) Professor Patrick Geddes will begin a course of three lectures on Cyprus. The Friday evening meetings of the members will be resumed on Jan. 21st when Sir John Lubbock, Bart., M.P., will deliver a discourse on Buds and Stipules. At a meeting of the managers held on Jan. 6th Professor E. Ray Lankester, F.R.S., was elected Fullerian Professor of Physiology.

BRISTOL HEALTH COMMITTEE.—At the meeting of the Bristol Health Committee held on Jan. 5th a report was presented by Dr. D. S. Davies on the administration of the extended city and alluding to the appointment of an assistant medical officer of health. The chairman stated that in 1897 £492 was paid for medical attendance beyond that which their medical officer of health could furnish and added that it would be worth while for the committee to consider whether part of the duties of the assistant medical officer should not be to take over the attendance on all patients in their isolation hospitals. In the result Dr. Davies was instructed to prepare a further report upon the appointment.

FREEMASONRY.—*Rahere Lodge, No. 2546.*—A meeting of the Rahere Lodge was held at Frascati's Restaurant on Jan. 11th, 1898. Bro. A. R. Kay, B.A. Oxon, was elected a joining member. Dr. James Morrison was initiated into Freemasonry by W. Bro. W. J. Walsham, F.R.C.S. Eng., the W.M. Bros. Auden, Bill, Cripps-Lawrence, John Adams, Westbrook, and Trechmann were admitted to the third degree. A grant of £21 from the lodge funds was made to the British Medical Benevolent Fund.—*Sancta Maria Lodge.*—At a meeting of the Sancta Maria Lodge held at Mark Mason's Hall on Jan. 10th, W. Bro. Edmund Owen being in the chair, the following brethren were admitted to the second degree: J. P. B. Wills, M.B. Durh.; W. J. Harris, M.D. Camb.; H. S. Collier, F.R.C.S. Eng.; G. Murray; A. Thorne, M.B. Lond.; H. A. Kidd, M.B.; W. G. Ridewood, D.Sc.; R. P. Smallwood, M.B. Camb.; and W. R. Powers. The following gentlemen were initiated into Freemasonry: C. A. Morgan, M.B. Edin.; F. E. Easton; H. G. Lawrence; and R. J. E. Hanson.

The London Temperance Hospital, Hampstead-road, N.W.—A new aseptic ward was opened by the Right Hon. the Lady Battersea on Tuesday, Jan. 11th last.

Medical Golf Tournament.—In reference to the golf handicap open to qualified medical men which we announced in our last issue as about to be arranged the following are the conditions. The local rules of green to hold good, the competitors to be notified of result of each draw. The first draw will take place on Monday, the 24th inst. Each couple must arrange the time and place of their match (providing green be within thirty miles of London if one party so wish); about a fortnight to be allowed for completion of each round. Intending competitors to send name, address, and lowest handicap with entrance fee (5*s*) to the honorary secretary, Rosedene, Windlesham, Surrey, on or before the 22nd inst. Committee: Mr. Ernest Clarke, Dr. W. R. Dakin, Mr. C. T. Dent, Mr. Howard Marsh, Dr. Laidlaw Purves, Sir Thomas Smith, Bart., Mr. F. C. Wallis, and Mr. Rolf Creasy, honorary secretary.

A Sussex Sanatorium.—A new sanatorium at High Grove (East Grinstead Urban District) was publicly opened on Thursday, Jan. 6th, and on Monday last patients were transferred from the fever ward at the workhouse to the new buildings. The sanatorium consists of two ward blocks, an administrative block, laundry—with which is connected a Thresh's disinfector—and coach and ambulance houses. The wards are plainly built with stock bricks and red brick facings and have slate roofs. The windows are carried up to within six inches of the ceiling, thus permitting of an abundance of air. Nurses' duty rooms separate the patients' quarters and the floors throughout are of wood blocks. There are twelve available beds, but arrangement is made for an increase in this number should an epidemic necessitate augmentation of accommodation. The administrative building is so constructed as to provide accommodation for extra nurses. The administrative expenses are shared by the urban and rural authorities and the latter authority is erecting a sanatorium on land contiguous to the urban buildings. The urban wards are named "Victoria" and "Alexandra." Mr. James Harrison, M.R.C.S. Eng., L.R.C.P. Edin., has been appointed the medical superintendent. The many sanitary authorities in Sussex would be wise to follow the excellent example set by the East Grinstead Urban District Council.

Diphtheria in London.—The amount of diphtheria recorded in London during the December four-weekly period ended on Jan. 1st was less than that for the November period of similar length ended on Dec. 4th. In the November period the notified cases of the disease amounted to 1119, with successive weekly totals of 279, 301, 287, and 252, yielding a weekly average of 280, whereas in the December period the aggregate was 1064, with weekly figures of 294, 277, 212 and 281, and a weekly average of 266. But it will be seen that no sustained weekly decline has been recorded in the later period, the Christmas week alone showing any notable decrease in certified cases. In both periods all save one of the sanitary areas of London were invaded. In November and December alike eight districts had respectively 50 attacks or upwards, amounting in November to 513 and in December to 515 cases. In the former period 8 other districts had only 31 cases among them and in the later period a similar number of areas had only 30 attacks notified in all. The 198 registered deaths of November, yielding a weekly average of 49, gave a case mortality rate of 17·7 per cent. But December witnessed the registration of 230 deaths, a weekly average of 57 and a case mortality of 21·6 per cent. The weekly totals of the December period were 58, 63, 56, and 53 respectively. In the Outer Ring the registered deaths in the successive weeks of the two periods have been 26, 11, 14, and 15 in November, in all 66; and in December, 20, 16, 17 and 13, amounting to 66 also. Last week, being the first week of the current registration year, there were registered in London 50 deaths from diphtheria, a number 3 in excess of the corrected decennial average for the particular week. Islington is credited with 6 of these deaths, Paddington and Hackney each with 4, and Bethnal Green, Stoke Newington, and St. George Southwark respectively with 3 deaths. In the Outer Ring the registered deaths from the disease numbered 15, of which 5 were in West Ham district, and 4 in Bexley sub-district.

Presentation to a Medical Man.—Mr. Edward Picton Phillips, M.R.C.S. Eng., L.S.A., Surgeon-Lieutenant-Colonel of the Pembrokeshire Volunteers, was entertained at dinner on Dec. 29th and presented with his portrait in oils, a barograph, and an illuminated address to commemorate the fiftieth year of his practice in Haverfordwest.

A General Hospital for Barry.—The Hospital Committee of the Barry District Council have resolved that a site of not less than five acres shall be obtained for the purposes of a general hospital for Barry and that an accident ward, with accommodation for twenty-four beds, shall be provided forthwith, this building to be in accordance with a block plan capable of enlargement at any time. Mr. G. Neale, L.R.C.P. and S. Edin., J.P., Mr. J. Powell, L.R.C.P. and S. Edin., and Mr. J. Livingstone, M.D., C.M. Glasg., were appointed a sub-committee to visit several towns and report upon their hospitals.

Bristol Workhouse.—Mr. R. H. Norgate, L.R.C.P. Lond., M.R.C.S. Eng., the resident medical officer of the Bristol Workhouse, in his annual report presented to the Bristol Board of Guardians states that 110 deaths had occurred in the institution during 1897, as against 102 in 1896. Of these 77 per cent. were in persons over fifty years of age and 2 were in children under one year. Seven cases of typhoid fever and 3 of diphtheria had been nursed in the infirmary wards and in the fever hospital 25 cases of erysipelas, 41 of scarlet fever, 1 of influenza, 2 of chicken-pox, and 11 of measles had been treated. Of these 90 cases 3 of erysipelas and 1 each of scarlet fever and typhoid fever had ended fatally.

Lunacy in Somersetshire.—At the meeting of the Somerset County Council held last week it was reported that £154,000 had been spent on the Cotford Asylum up to the present and it was estimated that the total cost would be about £170,000. The number of patients at Wells Asylum was stated to be 293 males and 505 females; total, 798. Cotford Asylum has 188 males and 122 females; total, 310. It was reported to the council that the sub-committee were not prepared to discontinue the use of margarine, as at the present prices of margarine and butter the difference of cost in the year's consumption would be over £800 and there was no evidence to show that the use of margarine was in any way injurious to the patients.

North of England Gynæcological and Obstetrical Society.—A meeting of this society was held at Owens College, Manchester, on Dec. 12th, 1897, Dr. Briggs (Liverpool), the President, being in the chair.—Dr. Arnold Lea (Manchester) read the notes of a case of Strangulated Parovarian Cyst causing Intestinal Obstruction and showed the specimen together with microscopic sections. The patient, a multipara, aged forty-two years, was seized whilst stooping with intense pain in the left side of the abdomen. The pain continued for several days and in spite of treatment the bowels did not act. Abdominal section was performed five days after the onset of symptoms. The tumour was found to be a parovarian cyst occupying the right broad ligament. This had rotated through a quarter of a circle on the uterine attachment of the broad ligament as an axis and lay in front of the uterus, sigmoid flexure and first part of the rectum, to which it was attached by numerous recent adhesions. The cyst was dark coloured but not gangrenous. It was rapidly removed. The patient progressed very favourably for twenty-four hours, passing flatus twelve hours after operation. She then began to have very profuse alvine evacuations and died in an hour. The necropsy revealed no hæmorrhage or signs of general peritonitis. The cause of death appeared to be collapse following the rapid emptying of the intestines.—Dr. Fothergill (Manchester) read a paper on the Pathology of Certain Uterine Flexions and Versions which he considered should not be treated by any direct attempt to straighten or replace the organ. When the symptoms dated from one or other of the accidents incident to reproduction the flexions or versions discovered on examination were secondary results of a primary cause which should be discovered and removed. Thus the common condition of anteflexion with retroversion due to old utero-sacral cellulitis should not be diagnosed as "displaced uterus" but as "old cellulitis" and treated accordingly.

Worthing Water-supply.—At a meeting of the Worthing town council on the 5th inst. the chairman of the Highways Committee (Councillor Walter) moved that application be made to the Local Government Board for sanction to borrow the sum of £2750, the estimated cost of covering in the new reservoir at the waterworks. After some discussion the proposition was agreed to. At the same meeting the Mayor read a letter from the Mayor of Maidstone who in acknowledging the fact that Worthing had contributed nearly £420 to the Maidstone Relief Fund added, that for their generous and sympathetic contributions they had evoked the grateful thanks of himself and the whole of the burgesses of Maidstone.

Fees for Re-vaccination at Cirencester.—At a meeting of the Cirencester Board of Guardians, held on Jan. 3rd, a letter was read from the Local Government Board stating that as re-vaccination had been performed by the guardians on children under ten years of age for which there was no provision out of the public funds the amount paid for the operation should be refunded to the guardians. The guardians being unwilling to ask the surgeons, who acted under their instructions, to refund the money decided to write to the Local Government Board and explain that the re-vaccinations were performed during the time of the Gloucester epidemic and the precautions of the guardians were so successful that only two imported cases of small-pox occurred in the district.

Newport Medical Society.—A meeting was held at the Newport Infirmary on Jan. 5th, the President, Mr. O. E. B. Marsh, being in the chair.—Mr. W. Basset showed an interesting case of Tumour of the Spleen.—A discussion afterwards took place on the question of Hospital Reform, with special reference to the recent unpleasantness at the Newport Infirmary, when the following resolution was unanimously carried:—"That this meeting of the Newport Medical Society, having heard particulars of the disagreement between the directors of the Newport Infirmary and Mr. Ensor, considers that his original action was taken in the interests of the institution as well as of the general medical profession and that he has been harshly dealt with by the directors in their not having invited him to explain his actions before summarily dismissing him from his appointment."

The Prince of Wales's Hospital Fund.—Donations from this Fund have been awarded to the following hospitals—namely: The Middlesex Hospital has received £2925, of which £1925 is a special donation in honour of Her Majesty's Diamond Jubilee and £1000 as a subscription.—The New Hospital for Women, Euston-road, £192 10*s*.—The National Hospital for the Paralysed and Epileptic (Albany Memorial), Bloomsbury, £752 10*s*. in honour of Her Majesty's Diamond Jubilee and a subscription of £750 towards the financial deficiency. The Hospital for Sick Children, Great Ormond-street, £1200, of which £700 is a special donation for the year and £500 towards opening a whooping-cough ward.—The Royal Sea-Bathing Infirmary, Margate, £297 10*s*., a special donation for the year.—The Charing-cross Hospital, £2006 5*s*., of which £1006 5*s*. is a special donation and £1000 to the General Fund.—The Royal London Ophthalmic Hospital, Moorfields, £490.—The Dental Hospital of London, Leicester-square, £109 7*s*. 6*d*.—The University College Hospital, Gower-street, £2581 5*s*., of which £1400 is allocated towards keeping open at least 25 out of the 50 beds recently closed.—The North-Eastern Hospital for Children, Hackney-road, Shoreditch, £262 10*s*.—The Queen Charlotte's Lying-in Hospital, Marylebone-road, £201 5*s*.—The Chelsea Hospital for Women, Fulham-road, £306 5*s*.—The Royal Hospital for Diseases of the Chest, City-road, £350.—The Seaman's Hospital Society (*Dreadnought*), £918 15*s*.—The City of London Hospital for Diseases of the Chest, Victoria-park, £927 10*s*.—The Royal Orthopædic Hospital, Oxford-street, £61 5*s*.—The North London Consumption Hospital, Fitzroy-square, and Mount Vernon, Hampstead, 250 guineas.—The Hampstead Hospital, Parliament Hill, 125 guineas.—The London Hospital, £8937 10*s*., of which £3937 10*s*. is a special donation.—The St. Mary's Hospital, Paddington, £2706 5*s*., of which £1706 5*s*. is a special donation for the year.—The Great Northern Central Hospital, Holloway-road, £481 5*s*. as a special donation.

Dorsetshire County Nurses' Home.—At a meeting of the Provisional Committee held recently at Dorchester it was unanimously resolved that the proposed county home for trained nurses should be founded with headquarters at Dorchester and a branch at Blandford. Lord Ilchester was elected president and Sir R. Glyn chairman.

BOOKS, ETC., RECEIVED.

Baillière, Tindall and Cox., King William-street, Strand, London.
  The Diagnosis of Disease. By J. P. Parkinson, M.D. Lond. 1898. Price 4*s*. net.
  Premature Burial: Fact or Fiction? By David Walsh, M.D. Edin. 1897. Price 1*s*. 6*d*. net.
  Lectures on the Theory and Practice of Vaccination. By Robert Cory, M.A., M.D. Cantab, F.R.C.P. Lond. 1898.

Biggs and Co., Salisbury-court, Fleet-street, London.
  Sewer Gas and its Influence upon Health. Treatise by H. Alfred Roechling, C.E. 1898. Price 5*s*.

Black, A. & C., Soho-square, London.
  Cairo of To-day: A Practical Guide to Cairo and its Environs. By E. A. Reynolds-Ball, B.A., F.R.G.S. With Maps and Plan of Cairo. 1898. Price 2*s*. 6*d*.

Cassell and Co., London.
  The Practitioner. Edited by Malcolm Morris. Old Series, Vol. LIX., New Series, Vol. VI.; July to December, 1897.

Digby, Long and Co., Bouverie-street, Fleet-street, London.
  The Latest Fruit is the Ripest. The Sequel to "Perfect Womanhood." By Fred J. Gant, F.R.C.S.

Hodder and Stoughton, Paternoster-row, London.
  A Doctor of the Old School. By Ian Maclaren. Illustrated. 1897. Price 2*s*. 6*d*.

Jenkins, Wm. R., New York.
  Practical Toxicology. By Dr. R. Kobert. Translated and edited by L. H. Friedburg, Ph.D. Authorised edition.

Lewin, Thos., and Co., Castle-street, Berners-street, London.
  International Clinics. Edited by Dr. J. Daland, Dr. Bruce, and Dr. Finlay. Seventh Series. 1897–98. Vol. II. 1897. Price 12*s*. 6*d*. net.

Longmans, Green, and Co., Paternoster-row, London.
  An Elementary Course of Practical Organic Chemistry. By F. C. Garrett, M.Sc., and A. Harden, M.Sc. 1897. Price 2*s*.
  The Essentials of Experimental Physiology. By T. G. Brodie, M.D. 1898. Price 6*s*. 6*d*.

Office of the Superintendent of Government Printing, Calcutta, India.
  Archæological Survey of India. New Imperial Series. Vol. XXII. The Bower Manuscript. Edited by A. F. R. Hoernle, Ph.D. Parts 3 to 7. 1897.

The Rebman Publishing Company, Adam-street, Strand, London.
  A Text-book of the Practice of Medicine. By James M. Anders, M.D. Ph.D., LL.D. Illustrated. Two vols. 1898. Price 36*s*.

The Johns Hopkins Hospital Press, Baltimore.
  The Johns Hopkins Hospital Reports. Vol. VI. 1897.

Wood, Wm., and Co., New York.
  Insanity. By G. Fielding Blandford. Reprint. 1897.

Transactions of the American Surgical Association. Vol. XV. Edited by De F. Willard, A.M., M.D., Ph.D. (Wm. J. Dornan, Philadelphia, 1897.)—Transactions of the American Climatological Association for the year 1897. Vol. XIII. (Printed for the Association, Philadelphia, 1897.)—Supplement to the Queensland Government Gazette of the Registrar-General's Report on the Vital Statistics of the Registry District at Brisbane for the month of October, 1897.—The Cyclist's Pocket-book. (Archibald Constable and Co., Whitehall-gardens, Westminster, 1898.)—Health and Beauty. (Published by S. F. Goss, Oxford-street, London.)

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Ballance, H. A., M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Norfolk and Norwich Hospital.

Bennett, H. P., M.B., C.M. Edin., has been appointed Assistant Surgeon to the Northumberland, Durham, and Newcastle Infirmary for Diseases of the Eye.

Burton, S. H., M.B. Lond., B.S., F.R.C.S., has been appointed an Honorary Surgeon to the Norfolk and Norwich Hospital.

Bush, James Paul, M.R.C.S., L.S.A., has been appointed Senior Surgeon to the Bristol Police.

Cormick, Fred. B., M.B., C.M. Glasg., has been appointed Visiting Assistant Medical Officer to the Newcastle-on-Tyne Dispensary.

Dickson, T. G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Hay Urban District Council.

Edwards, C. W., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer to the East Grinstead Cottage Hospital.

Edwards, H. N., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Flamsted Sanitary District of the Hemel Hempstead Union.

Hardiker, W. A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Prior's Marston District by the Southam Board of Guardians.

Harker, W. E., M.D. Durh., B.S., has been re-appointed Medical Officer for the River Tyne Port Sanitary Authority.

Johnson, Charles Henry, M.R.C.S., L.S.A., has been re-appointed Medical Officer for the No. 4 District of the Basingstoke Union.

Jones, Hugh T., L.R.C.P. Irel., M.R.C.S., has been re-appointed Medical Officer of Health by the Hucknall-Torkard Urban District Council.

Jones, R. Llewelyn, M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer to the Durham County Asylum.

Mackenzie, W. M., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for Raunds, Thrapston.

Matheson, J. Colin, M.B., C.M. Glasg., has been appointed Resident Medical Officer to the Westminster General Dispensary, Gerrard-street, Soho, W., vice Lionel Smith, resigned.

Mirza, Ahmed, M.B., C.M. Edin., has been appointed Medical Officer of Health to the Chaderghat and City of Hyderabad Municipalities.

Richmond, J. R. M., L.S.A., has been appointed Medical Officer of Health by the Overton Rural District Council.

Robertshaw, W. M., M.B., C.M. Edin., has been re-appointed Medical Officer of Health by the Stocksbridge Urban District Council.

Scott, H. A., M.B., Ch.B. Vict., L.R.C.P., M.R.C.S., has been appointed Third Assistant Medical Officer to the Mounsall Fever Hospital, Manchester.

Thomson, H. Campbell, M.D., M.R.C.P. Lond., has been appointed Physician to Out-patients at the Hospital for Epilepsy and Paralysis, Regent's-park, London.

Wallis, Charles Edward, M.R.C.S., L.R.C.P., L.D.S., has been appointed Dental Surgeon to the Victoria Hospital, Chelsea.

Ward, W. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Blyth Sanitary District of the Worksop Union.

Way, Montague H., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant House Surgeon to Guy's Hospital, London.

Whitaker, E. T., M.B., C.M. Edin., has been appointed Medical Officer of Health by the Blymhill Rural District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Ancoats Hospital, Manchester.—Resident Junior House Surgeon. Salary £50, with board and washing.

Brixton Dispensary.—Resident Medical Officer for two years, unmarried. Salary £150, with furnished apartments, attendance, coal, and gas. Applications to the Secretary, Water-lane, Brixton, S.W.

Children's Hospital, Nottingham.—House Surgeon (non-resident) for six months. Salary at the rate of £100 per annum.

Dorset County Hospital, Dorchester.—House Surgeon for twelve months, unmarried. Salary £70. To reside and board in the hospital. Applications to Mr. W. E. Groves, Valetta, Icenway, Dorchester.

Dumfries and Galloway Royal Infirmary, Dumfries.—Assistant House Surgeon. Board and washing provided.

Finsbury Dispensary, Brewer-street, Goswell-road, London.—Resident Medical Officer. Annual appointment. Salary £100 per annum, and a furnished residence provided in the institution, with attendance, coals, and gas.

Flintshire Dispensary.—Resident House Surgeon. Salary £120 a year, with furnished house, rent and taxes free; also coal, light, water, and cleaning, or in lieu thereof £20 per annum. Applications to the Secretary, Board-room, Bagillt-street, Holywell, North Wales.

Hertford Union.—Medical Officer and Public Vaccinator for the Second and Third Districts. Salary, Second District, £29 16s. and £50 for Third District, exclusive of the remuneration fixed by the central authority for all extra cases. Applications to Mr. T. J. Sworder, Clerk, Hertford.

Hospital for Women, Soho-square, London.—Clinical Assistants.

London County Asylum, Hanwell.—Junior Assistant Medical Officer. Salary £150 per annum, with board, furnished apartments, and washing. Applications to the Clerk of the Asylums Committee, 21, Whitehall-place, S.W.

Manchester Hospital for Consumption and Diseases of the Throat and Chest.—Resident Medical Officer at Bowdon, Cheshire. Salary £80 per annum, with board, apartments, and washing.

Mercer's Hospital, Dublin.—A vacancy on the Surgical Staff.

Royal Hospital for Children and Women, Waterloo-bridge-road, London, S.E.—Anæsthetist and Registrar, non-resident. Salary £45 per annum.

Sheffield Royal Hospital.—Senior Assistant House Surgeon, unmarried. Salary 70 guineas per annum, with board (exclusive of wine and beer) and lodging.

Sunderland and North Durham Eye Infirmary, Sunderland.—House Surgeon. Salary £100 per annum, out-door.

Wolverhampton and Staffordshire General Hospital, Wolverhampton.—Assistant House Surgeon for six months. A small honorarium given, with board and washing.

Births, Marriages, and Deaths.

BIRTHS.

Chambers.—On Jan. 9th, at The Priory, Roehampton, S.W., the wife of James Chambers, M.D., of a son.

Douglas.—On Jan. 5th, at Central-hill, Norwood, S.E., the wife of John J. Douglas, M.D., of a son.

Ferguson.—On Jan. 6th, at Woodland-road, New Southgate, the wife of R. Bruce Ferguson, M.A., M.D. Cantab., &c., of a son.

Goard.—On Jan. 8th, at Elm-grove-road, Exeter, the wife of T. Arthur Goard, L.R.C.P., M.R.C.S., L.D.S., of a son.

March.—On Jan. 6th, at St. John's House, Lechlade, Glos., the wife of J. Ogdin March, M.R.C.S., L.R.C.P., of a daughter.

Robertson.—On Jan. 10th, at Alton-road, Roehampton, S.W., the wife of A. Milne Robertson, M.D., of a son.

Robinson.—On Jan. 2nd, at The Villa, Harleston, Norfolk, the wife of J. C. Reynolds Robinson, M.R.C.S., L.R.C.P., of a daughter.

Smyth.—On Jan. 3rd, at Castle-acre, Adelaide-road, Brockley, S.E., the wife of F. Sydney Smyth, F.R.C.S., of a son.

Watson.—On Jan. 11th, at Hendre, Overton-park, Cheltenham, the wife of Deputy Surgeon-General George Alder Watson, Bengal Army (retired), of a son.

Williams.—On Jan. 5th, at Tayside, Broughty Ferry, N.B., the wife of Surgeon-Captain C. E. Williams, I.M.S., of a daughter.

MARRIAGES.

Brereton—Lamb.—On Jan. 5th, at St. James's, Birkdale, Frederick Sadleir Brereton, Army Medical Staff, youngest son of F. S Brereton, Esq., of Catford, Kent, to Ethel Mary Lamb, only daughter of W. J. Lamb, Esq., of Birkdale.

Dickson—Farrar.—On Jan 12th, at St. Mary's Church, Crumpsall, Manchester, by the Rev. R. Catterall, Rector, Thomas Graeme Dickson, L.R.C.P. and L.R.C.S. Edin., of Hay, Breconshire, eldest son of F. K. Dickson, J.P., F.R.C.P. Edin., of Buxton, to Elizabeth Lister Farrar (Bessie), eldest daughter of T. Lister Farrar, of Manchester, solicitor.

King—Bond.—On Jan. 4th, at Christ Church, Bath, Preston King, M.D., son of W. Norman King, Esq., J.P., of Bury St. Edmunds, to Margaretta Baring (Greta), daughter of the late Rev. F. H. Bond, of Barry-hill, Bilton.

Wiles—Miles.—On Jan. 5th, at St. Mary Abbott's, Kensington, Julius Wiles, Deputy Surgeon-General, to Katharine Hamilton, daughter of the late Frederick Miles, formerly of Upper Hamilton-terrace.

DEATHS.

Bradburn.—On Jan. 4th, at Fair Home, Leamington, James Denham Bradburn, M.R.C.S., F.R.C.P. Edin., eldest son of the late James Bradburn, of Monk's Hall, Eccles, aged 46 years.

Hentsch.—On Jan. 5th, at Coldharbour-lane, Brixton, S.W., John Page Hentsch, M.R.C.S., L.S.A., aged 55 years.

Hunt.—On Jan. 8th, at 16, Francis-road, Birmingham, Joseph Hunt, M.R.C.S., aged 49 years, late of 29, Temple-row, Birmingham.

Jackson.—On Jan. 11th, at Park Lodge, Ivor Heath, Robert Jackson, M.D.

Pare.—On Dec. 28th, 1897, at 25, Buckland-crescent, N.W., of influenza and pneumonia, Margaret Edmonson Pare, the dearly loved wife of John William Pare, M.D., C.M. Edin., L.D.S.

Prichard.—On Jan. 6th, at Chesterfield-place, Clifton, Augustin Prichard, M.D., F.R.C.S., aged 79 years.

Selby.—On Jan. 2nd, at Poona, India, of heart disease, Henry Covernton Selby, B.A., M.B. Cantab., younger son of Thomas M. Selby, of Stanton Bury, Bucks, aged 30 years.

Stanley-Adams.—On Jan. 10th, at "The Elms," Spring-grove, William Stanley Stanley-Adams, M.D., C.M.

Tighe.—On Jan. 10th, John Joseph Mark Tighe, physician and surgeon, eldest son of John Malachi Tighe, 8, Belvidere-place, Dublin, at his residence, 37, Shaftesbury-street, London, N.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (19th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.). Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (20th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (22nd).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.) St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (18th).—Pathological Society of London.—8.30 P.M. Dr. Voelcker: Ulceration of a Caseous Gland into the Bronchus, Death from Asphyxia.—Dr. H. B. Robinson: A Papilliferous Cyst of a Sudoriparous Gland from the Axilla.—Dr. Drysdale: The Blood from a Case of Pemphigus.—Mr. C. B. Lockwood: Stricture of the Small Intestine causing Intestinal Obstruction and Perforation.—Mr. F. C. Wallis: (1) A piece of Intestine removed by Enterectomy; (2 A Case of Appendicitis.—Mr. A. W. Addinsell: A Case of Appendicitis with Suppuration of the Right Suprarenal Capsule.—Dr. Freyberger: An anomalous Truncus Brachi-cephalicus associated with Aortic Disease and Symptoms Simulating Aneurysm.—Mr. Furnivall: An unusual Cyst of the Tongue.—Mr. A. G. R. Foulerton: Cystic Dilatation of the Vermiform Appendix.

WEDNESDAY (19th).—Royal Meteorological Society (Institution of Civil Engineers, Gt. George-street, Westminster, S.W.).—7.30 P.M. Ordinary Meeting. 7.45 P.M. Election of Officers and Council. Mr. E. Morley (President): Weather Influences on Farm and Garden Crops.

North-West London Clinical Society (North-West London Hospital).—8.30 P.M. Monthly Demonstration of Clinical Cases.

Royal Microscopical Society (20, Hanover-square, W.).—8 P.M. The President will read his Annual Address.

THURSDAY (20th).—Society of Anæsthetists (20, Hanover-square, W.).—Discussion on Resuscitation in Emergencies under Anæsthetics (opened by Dr. Wilson).

Harveian Society.—8.30 P.M. Annual Meeting. 9.30 P.M. Conversazione.

FRIDAY (21st).—Epidemiological Society of London (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Dr. C. Childs: The History of Typhoid Fever in Munich.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

TUESDAY (18th).—West-end Hospital for Diseases of the Nervous System (73, Welbeck-street).—4.30 P.M. Dr. D. Grant: Cases of Ménière's Disease and other Forms of Vertigo.

National Hospital for the Paralysed and Epileptic (Bloomsbury).—3.30 P.M. Dr. R. Russell: A Pathological Demonstration of Cerebral Tumours.

City Orthopædic Hospital.—5.30 P.M. Mr. J. Poland: Deformities of Bones after Injury.

Gresham College (Basinghall-street, E.C.)—6 P.M. Dr. E. Symes Thompson: Climate and Diseases of Greater Britain.

Society of Arts.—4.30 P.M. Mr. F. Villiers: My Recent Journey from the Nile to Souakim.

Royal Institution.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

WEDNESDAY (19th).—West London Post-Graduate Course (West London Hospital, W.).—5 P.M. Mr. J. B Ball: Cases in the Throat Department.

Gresham College (Basinghall-street, E.C.).—6 P.M. Dr. E. Symes Thompson: Tropical Fevers.

Society of Arts.—8 P.M. Mr. E. S. Bruce: The Projection of Luminous objects in Space.

Clinical Museum (Park-crescent, Regent's-park).—4 P.M. Mr. Hutchinson: New Year's Address, being a Summary of the Year's Work at the Museum. Demonstration of Cases.

THURSDAY (20th).—Charing-cross Hospital.—4 P.M. Mr. Stanley Boyd: Surgical Cases in the Wards.

Society of Arts (Imperial Institute, South Kensington).—4.30 P.M. Right Hon. Sir M. E. G. Duff, Recreations of an Indian Official.

Gresham College (Basinghall-street, E.C.).—6 P.M. Dr. E. Symes Thompson: Malaria and its Microbes (illustrated by microscopic lantern demonstration).

Royal Institution.—3 P.M. Prof. Dewar: The Halogen Group of Elements.

FRIDAY (21st).—Royal Institution.—9 P.M. Right Hon. Sir John Lubbock: Buds and Stipules.

Gresham College (Basinghall-street, E.C.).—6 P.M. Dr. E. Symes Thompson: Rare Diseases of the Tropics.

SATURDAY (22nd).—Royal Institution.—3 P.M. Prof. P. Geddes: Cyprus.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

The Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume, were given in The Lancet of Jan. 1st.

VOLUMES AND CASES.

Volumes for the second half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

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"SUPPOSED CONVULSIONS."

The following extract from a local paper has been sent to us by a correspondent who vouches for its accuracy and wishes for our opinion as to the wisdom of dispensing with an inquest:—

> "The infant child of Mr. William Curtis, of Church-street, died in bed on Tuesday evening of supposed convulsions. The mother put the child in bed at evening time and about six o'clock found the child in a dying state. Death shortly followed. The police-sergeant examined the body and found no marks of violence, and having reported the case to the coroner that officer deemed an inquest unnecessary."

We think the story of "supposed convulsions" ought to have been inquired into, and do not see how this could be done satisfactorily without the aid of a medical man. If the question of overlaying only was present in the coroner's mind he might be right to hold no inquest where the circumstances had nothing especially suspicious about them. At 6 P.M. the child could not have been overlaid, at 6 A.M. it might have been, and the extract does not define the hour.

OBSTETRIC FEES AND OBSTETRIC ENGAGEMENTS.

To the Editors of The Lancet.

Sirs,—I venture to submit the enclosed newspaper extract to you as bearing on the general interest of the profession, and to ask your opinion whether the judge's ruling expresses the law correctly. According to his decision an engagement to attend a woman in her confinement is binding neither upon her nor upon the practitioner. Is this in reality the case? I am, Sirs, yours faithfully,

Jan. 9th, 1898. M.D.

[Enclosure.]

"An important decision affecting the retaining and feeing of medical men was delivered at Greenwich County Court by Judge Addison yesterday. The case was one in which a doctor named Scott, of Evelyn-street, Deptford, sued a labourer named Pascoe, also of Evelyn-street, Deptford, for the recovery of a sum of 15s., being a fee in lieu of attendance upon the defendant's wife during her confinement. Mr. Scard, who appeared for the plaintiff, said the defendant's wife engaged him to attend her professionally during her confinement. Instead she engaged someone else and plaintiff now sued for the recovery of the fee in respect of his engagement.

"Defendant said he never engaged the plaintiff and never gave his wife permission to pledge his credit.

"The Judge held that even if the husband had himself engaged the plaintiff and subsequently saw fit to engage someone else the doctor had no remedy. How could he charge for work he never did? Lawyers, and even those of the higher branch of that profession, would be only too glad to recover fees in similar cases; but they could not and neither could a doctor. There might be the argument that the plaintiff had "booked" the engagement, but that would not support his claim as the booking of it would be merely for the purpose of jogging his memory. Notwithstanding an engagement the plaintiff would have been free on the date of its fulfilment not to have done so had he chose and the defendant would have had no claim against him. The point was an important one and he was bound to hold, in his interpretation of the law, that in such cases no claim could be made. Plaintiff would, therefore, be non-suited and there would be costs for the defendant."

⁂ We have dealt with this matter in a leading article.—Ed. L.

THE HEALTH OF PRINCE BISMARCK.

In connexion with the recently and widely reported death of Prince Bismarck we have received a letter from Mr. John Carter, of 6a, New Cavendish-street, W., in which he says that he has just forwarded a specially constructed Bath-chair to the illustrious statesman. We note with pleasure that when Germany wants to buy a really good thing in invalid furniture she has to come to England.

"MR. HALL HAINS'S DEFENCE FUND."

To the Editors of The Lancet.

Sirs,—The following additional subscriptions have been received. I shall be glad to receive others.

I am, Sirs, yours faithfully,
Herbert Carre-Smith,
Hon. Secretary and Treasurer to the Fund.

3, Turnham-green-terrace, Chiswick, W., Jan. 11th, 1898.

	£	s.	d.		£	s.	d.
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THE PAYMENT OF MEDICAL MEN AT CORONERS' INQUESTS: A NICE POINT.

To the Editors of The Lancet.

Sirs,—I should like an opinion from you on the following case which is only one phase of the old subject concerning medical men and their fees at coroners' inquests. I am the assistant medical officer at an asylum. Some two or three months ago the dispenser (resident on the premises) died under circumstances which necessitated an inquest. At the coroner's order I made a post-mortem examination and gave evidence. The coroner, who was most courteous and agreeable, stated that he could not, of course, allow me any fee for the post mortem, but as the deceased was not a patient in the institution he thought he could allow me my fee for giving evidence and paid me £1 1s. The auditor of the county council now disallows my claim to any fee and I have had to refund it. Now I believe the law reads to the effect that "in the case of a person dying in a lunatic asylum, hospital," &c. The original idea of the law, I believe, meant to refer to "patients," not "persons." But what (not having the law itself before me) I am not certain about is, Does this law which prohibits the "medical officer whose duty it was to attend upon the deceased" from receiving a fee for doing a post-mortem examination also say that he is not entitled to a fee for giving his evidence? I believe it is true that "every legally qualified medical practitioner who has attended at a coroner's inquest, in obedience to a coroner's summons, is entitled to a fee of £1 1s. for giving evidence." In the Abstract of Laws in the Medical Directory for 1898, on page 30, it says that it seems doubtful whether a fee can be claimed when the inquest was held on the body of a patient who had died in an institution. Ought it not to be much less doubtful when the deceased was not a patient in the proper sense of the word. And although as medical officer it is my duty (according to the rules of the committee) to attend on the attendants when ill it is not so by law and they are at liberty to seek medical advice elsewhere, which a patient would not be. I do not want to take up more of your time, but should be glad if you can give me an opinion on this point and also say in what volume, or where, I can get the best information on the laws relating to these matters.

I am, Sirs, your obedient servant,

Jan. 10th, 1898. A. M. O.

⁂ We do not know any better treatise on the laws affecting the medical profession than the little prefatory notes in the Medical Directory. They are very brief but they are very comprehensive. We certainly think the auditor of the county council might have taken the same view as the coroner seeing that the dispenser was not a patient although an inmate of the asylum.—Ed. L.

THE "GERTRUDE" SUIT.

To the Editors of The Lancet.

Sirs,—Can any of your readers tell me whether it is possible to obtain in England the "Gertrude" suit for infants, devised by Professor L. Grosvenor, of Chicago, or where a full description of it is to be found? I am, Sirs, yours faithfully,

Thirlmere, Watford, Jan. 5th, 1898. A. Lestock Reid

◆

Mr. Clement H. Sers.—The appointment of such a medical assessor to the coroners' courts has been suggested before. It would have its disadvantages as well as its advantages. The Lancet has always advocated medical coroners on purpose that the situations alluded to by our correspondent should be properly dealt with as they arise.

Emigration.—The address of the emigration office is 31, Broadway, S.W., where our correspondent would probably obtain all the information he requires.

Nem. Con.—If there is no doubt of the diagnosis there might still be use for the consultation. Questions of treatment are numerous.

R. J.—The paper appeared in The Lancet of Jan. 1st, 1898.

L. D. S.—It is usual.

Communications not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

The Lancet Office, Jan. 13th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb	Remarks at 8.30 a.m.
Jan. 7	29·93	NNW	...	69	50	49	49	50	Raining.
" 8	30·06	S.	...	56	48	39	39	40	Hazy
" 9	29·91	N.	...	47	44	40	42	43	Overcast
" 10	30·19	N.E.	...	51	45	39	39	41	Cloudy
" 11	30·42	W.	...	54	49	34	37	39	Foggy
" 12	30·54	S.W.	...	55	52	39	45	47	Overcast
" 13	30·62	SSW	...	50	50	47	48	49	Foggy

During the week marked copies of the following newspapers have been received: *Gloucestershire Echo, Eastern Daily Press, Norwich Mercury, East Anglian Daily Times, Western Morning News Norfolk Chronicle, Times of India, Birmingham Daily Gazette, East London Observer, Pioneer Mail, Guernsey Star, Herald of Wales, Builder, Peeblesshire Advertiser, Yorkshire Post, Leicester Post, Sussex Daily News, Architect, Somerset County Herald, Cheshire Chronicle, Scotsman, Leeds Mercury, Northampton Mercury, Midland Times, Hampshire Independent, Liverpool Daily Post, Worcester Chronicle, Ilfracombe Gazette, Bolton Evening News, Chatham News, Lichfield Mercury, Kidderminster Shuttle, Biggleswade Chronicle, Lincoln Gazette, Bristol Mercury, Halifax Guardian, Essex Telegraph, Brighton Gazette, Sheffield Telegraph, Darwen News, Newcastle Chronicle, Montreal Star, Cape Times, South Wales Daily News, Dundee Advertiser, Bradford Daily Telegraph, Manchester Guardian, Cambridge Daily Leader, Natal Mercury, Public Health, Blackburn Standard, Kirkintilloch Gazette, Holborn Guardian, Manchester Courier, Hull News, Sanitary Record, Hertfordshire Mercury, Mining Journal, City Press, Reading Mercury, Lincolnshire Chronicle, Herald (Melbourne), Local Government Chronicle, Surrey Advertiser, Local Government Journal, Weekly Free Press and Aberdeen Herald, Liverpool Mercury, Newcastle Daily Chronicle, Shields Daily Gazette, West Middlesex Herald, &c., &c.*

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An Address

ON

LEGISLATION AS A REMEDY FOR MEDICAL GRIEVANCES.

Delivered before the South-West London Medical Society on Jan. 12th, 1898,

BY R. BRUDENELL CARTER, F.R.C.S. ENG.,
MEMBER OF THE GENERAL MEDICAL COUNCIL.

MR. CHAIRMAN AND GENTLEMEN,—I trust that my volunteered appearance before you to-night as the reader of a paper on "Legislation as a Remedy for Medical Grievances" will not be regarded as presumptuous. I need not hesitate to say that my offer of the paper was called forth by one which was read to you on Dec. 8th last by Mr. Victor Horsley, and which, when I came to read such parts of it as have been published, appeared to me to call for refutation in relation to public questions, however it might be treated in relation to personalities, to which it is not my present intention to refer. As long as Mr. Horsley refrains from praising me, my equanimity is not likely to be disturbed by anything else that he can do. It will be necessary for me to mention him as the exponent of certain opinions, and also possibly with regard to his methods of stating and maintaining them, but, as far as I can foresee, in no other manner. My object will be to project his personality into space, and to leave it in that cold and unexplored region undisturbed. On the very threshold of my enterprise you are entitled, I think, to ask for my credentials. I am, I fear, a stranger to many of you, and you may justly seek to know on what basis of knowledge I venture to dispute statements which have been made by a person of Mr. Horsley's undoubted attainments in other directions. Well, the questions which we have to consider have reference for the most part to grievances or difficulties which beset the paths of general practitioners, and I was engaged in general practice long before Mr. Horsley was born. I continued to be engaged in it for many more years than he has been in the profession, and have had large practical experience of nearly all its forms and phases. When I relinquished it, now nearly thirty years ago, I soon, as surgeon to the Eye Department of St. George's Hospital, began to come into friendly relations, both personally and by correspondence, with general practitioners in all parts of the country, and these relations have ever since been maintained. In the early "fifties," when medical legislation was already in the air, although it was for a time laid aside in consequence of the Crimean War, I was associated in practice with the late Sir John Rose Cormack, the then editor of what is now called the *British Medical Journal*, and was a frequent leader writer in its columns, so that I not only had opportunities of looking behind the scenes of medical politics, but was compelled as a matter of duty to give attention to medico-political questions. On returning from the Crimea I renewed some of my journalistic intimacies and journalistic work, and became well acquainted with the history of the Act of 1858, with the provisions which medical reformers sought to obtain, and with the concessions which politicians were prepared to grant. Ten years later I became, and for several years remained, a constant leader writer on the staff of THE LANCET, and in 1887 I was appointed by the Society of Apothecaries to be its representative on the General Medical Council. With what I may call the inner history of the Act of 1886 I was as familiar as with that of 1858, from the accident that the Minister in charge of it was the late Mr. Mundella, whom I had known for many years, and who afforded me the privilege of discussing with him many of its provisions. I have at least enjoyed opportunities of becoming thoroughly acquainted, both practically and theoretically, with the subjects on which I desire to speak. Whether I have used these opportunities rightly it will be for you, when you have heard me, to decide.

I presume it will be generally conceded that the members of every calling or profession, in this imperfect state of existence, find something in the state of their relations with the public or with their more especial *clientèle* which might be amended with advantage; and it will also be conceded that as the wearer of the shoe knows best where it pinches, so the members of every profession are naturally more alive to their own grievances, and to the nature and extent of the evils which these grievances produce, than they are to the grievances of other people. In these circumstances I am disposed to look upon a consciousness of grievance on the part of the members of any profession somewhat as a sign of healthy vitality, and I should feel doubt as to the future of any society in which grievances and a determination to remove them did not exist. But the present grievances of the medical profession, in my humble judgment, much transcend what I may describe as the normal standard, and are becoming year by year more and more oppressive. If they do not arise from, they are at least intensified by, the fact that the members of the profession of late years have been increasing in number with a rapidity previously unexampled, while at the same time the demand for their services has in many directions been diminishing. At the election of Direct Representatives to the General Medical Council in 1886, 18,074 voting papers were required for England and Wales; at the election in 1891, 19,585; and at the election in 1896, 22,577. At the census of 1891, according to a return recently issued from the General Registry Office, there were in England and Wales, including physicians, surgeons, and general practitioners, 18 936 medical men. Since the census of 1881 the number had increased by 25 per cent., as compared with less than 3 per cent., which had been the rate of increase between 1871 and 1881. During the same period the general result of increased knowledge has been greatly to diminish the amount of occurring illness, and in many instances greatly to abbreviate the duration of the illnesses which occur. It is hardly worth while to dwell upon what must be familiar to all who hear me; but, just to take a single illustration, a woman with ovarian tumour would have been likely a comparatively short time ago to sink into the grave after some four or five years of lingering sickness, during which she would have been constantly dependent upon the ministrations of a general practitioner for the relief of suffering. At the present day, as soon as her condition is ascertained, she undergoes an operation and in a month is restored to health. Her gratitude, such as it is, goes out rather to the surgeon who operated upon her than to the general practitioner who first discovered the nature of her disease, and he who a few years since would have been indispensable to her, and would have derived an equivalent remuneration from her case, now obtains neither much credit nor much money. So far at least it is mainly the general practitioner who suffers, but in the meanwhile the operating surgeons have greatly increased in number, and they, too, unless I am misinformed, are feeling to the full extent the pinch of competition, and are compelled to operate for fees which not long ago would have been regarded as totally inadequate. I have lately seen it stated, I am not sure on what authority, that there are at this time 14,000 general practitioners in England and Wales. If this be all there must be more than 8000 physicians—surgeons in the strict sense—and specialists. Can we wonder that many of all classes find it difficult to keep the wolf from the door, or that a few should stoop to practices which they can only excuse even to themselves by saying "my poverty and not my will consents"? It is melancholy to add, on the authority of the Registrar-General, that "the tendency to the commission of suicide among medical men has notably increased." I think it will be seen that I have not the slightest inclination either to minimise or to explain away the evils under which the members of the medical profession are suffering, but the real questions which press for solution are—first, How are these evils brought about? and secondly, How may they be remedied?

A great many causes lie upon the surface and are obvious to the most superficial observer. Some of them, such as the abuse of medical aid societies and of hospitals, arise within our own ranks and are the not unnatural results of excessive competition, while others depend upon the competition of persons outside our ranks, upon quackery in all its forms. The illegal medical practice of unqualified persons other than druggists is not, in my judgment, the most important factor; but the so called "counter-practice" of druggists is

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a very considerable one, and is only second, if indeed it be second, to the sale of "patent" medicines, on which I have somewhere read the population of England and Wales expend not less than three millions sterling every year. If we are to consider how the abuse of societies and of hospitals, the counter-practice of druggists, the sale of patent medicines, and the practice of unqualified persons may be diminished or controlled, the very first aspect of these questions is, as it appears to me, Shall we trust in an invocation of Hercules, as represented by the law, or shall we put our own shoulders to the wheel? It is among the complaints made against the General Medical Council, that it has not hitherto set the law in action with sufficient frequency or with sufficient promptitude, and to this part of the subject I shall have to return by-and-by.

In the meanwhile, however, I may say that the supposed existence of grievances against the General Medical Council was unknown to me until I saw the reports of a meeting of the British Medical Association held, if I am not mistaken, at Carlisle. The reports were abbreviated, but I was privately told that three speakers, Dr. Lovell Drage, Mr. Victor Horsley, and Dr. Welsford, all signalised themselves by the energy of their attacks upon the Council, and that Mr. Horsley assailed the action of the President (Sir Richard Quain), in a manner which induced decent people to leave the room rather than remain to listen to him. What he said I do not know, because the two leading medical journals of London, both of which received a full report, both decided that this portion of the speech was unprintable; but from what I have heard I am inclined to believe that if they had printed it the good sense and the good feeling of the profession would have been too much outraged to permit of Mr. Horsley's return as a Direct Representative. As it befell, the outbreak was in great measure confined to the meeting-room and to the portion of the audience which remained there, but enough escaped to make some impression upon the external atmosphere, and I, as having been for ten years a humble member of the Council, wrote a letter to THE LANCET to defend my colleagues and myself against imputations which appeared to me to be destitute of foundation. Of the manner in which my letter was received by persons whose only conception of argument is abuse you are as well informed as I am. The ideas generally entertained in the profession of the General Medical Council and of its functions have been a good deal obscured, even from the period at which the Council was first instituted, by a quantity of fine writing which has not been guided by knowledge. The Council has been described as "the medical Parliament," in forgetfulness of the fact that while Parliament is a legislative the Council is only an administrative body, and that its powers of administration are strictly defined and limited by the Act which brought it into existence. Even lately I have seen it called "the ruling or the governing body of the profession," although it has scarcely more to do with ruling or with governing the profession than with ruling or governing the courses of the stars. These and other illustrations of what South called "the terrible imposture and force of words" have been responsible for many errors; and I shall perhaps best dispel them by passing from negatives to positives, and by attempting a plain and common-sense sketch of what the Council really is and of the purposes for which it was created. It is not, as has been too often erroneously believed, a body created for the purpose of watching over the interests of the medical profession, but it is a body created for the protection of the public, and charged to see, first, that no obviously incompetent person is permitted to become a registered medical practitioner; and, secondly, that no conspicuously unworthy person, when once his unworthiness is proved, shall be permitted to retain the status which registration confers.

The Medical Act of 1858 was not primarily a measure of medical reform at all. Its aim was primarily political, and was to place the three divisions of the kingdom upon a footing of equality as far as medical qualifications were concerned, so that the diploma granted in any division should be valid in the other two. It was urged in the profession that the privileges thus conferred upon Scottish and Irish licensing bodies should be fenced round by restrictions calculated to prevent any competitive lowering of the standards of examination, and it was to provide and maintain these restrictions that the General Medical Council was established. Its chief function, briefly stated, was to see that every examination by which a man could be placed upon the Medical Register was of a sufficiently searching character to afford reasonable security for the safety of the public, and that every such examination should be kept as nearly as possible at the same standard in whatever division of the kingdom it might be conducted. It would have been possible, perhaps, to secure the desired result by a Council which was independent of the examining bodies, and even to confer upon such an independent Council the power of disallowing any examination which fell short of its requirements. But this was not the course pursued by the Legislature, which preferred, wisely, as I think, to work with the materials at its command and to conciliate the licensing bodies rather than to offend them. The Council was composed of seventeen representatives chosen by the nineteen licensing bodies, the Universities of Aberdeen sharing their representative with the University of Edinburgh and the University of Glasgow sharing its representative with the University of St. Andrews. Six members, not necessarily medical men, although they have always been so, were nominated by the Crown; and the Council of twenty-three thus constituted was empowered to elect its president from outside its ranks. The Council was therefore composed, as far as its great majority was concerned, of the representatives of the licensing corporations, and these gentlemen were expected to arrive at agreement with regard to the standards of examination which were practicable and expedient, and to carry their agreement into action. No power of disallowing any examination was vested in them, but only a power of reporting "insufficiency" to the Privy Council, which then became sole judge of the course which should be pursued and was able to disallow or to confirm the impugned examination as it might see fit. All the Council could do in order to raise the standard of examination was to make "recommendations" to examining bodies, either collectively or individually; and, as was no doubt foreseen or expected by Parliament, these recommendations, being made with the sanction and consent of the representatives of the licensing bodies affected by them, have very generally been adopted. This, then, was and is the chief business of the Council—namely, to see that no man obtains entrance to the Register as a legally qualified medical practitioner until he has passed an examination of a sufficiently high standard to afford reasonable security to any sick person who may have occasion to seek his advice. It is hardly necessary to point out that, so far at least, the duties of the Council are absolutely and solely for the protection of the public and in no degree for the protection of the medical profession.

The next aim of the Legislature, still with a view to the protection of the public, was to make provision for divesting of his medical character any practitioner who had been proved to be unfit to retain it. It was felt that a man who had been convicted of dishonesty in some other relation of life was likely to be dishonest as a medical man, and to abuse his professional opportunities for the sake of gain; and it was also felt that a man might be guilty of conduct in the exercise of his profession which, although not bringing him within the meshes of the criminal law, might yet afford abundant evidence that he was not worthy of trust. The Council, being in charge of the door of entrance to the Register, was naturally entrusted with the door of exit also, and was empowered to erase the name of any person convicted of crime or misdemeanour, or who, on inquiry by the Council itself, was adjudged to have been guilty of "infamous conduct in any professional respect." I believe the intention of the Legislature in adopting this somewhat vague phrase was that it should be understood to apply only to misconduct of a very grave character, committed in the course of professional relations with a patient or patients, and I infer this mainly from the severity of the only penalty which the Council was empowered to inflict. If the phrase had been intended to apply to comparatively trivial misconduct think a power of suspension, of erasure for a limited time or of restoration under certain conditions, would have been given by the Act. It seems certain that such discretionary powers would have been given if there had been any intention on the part of the Legislature to create a body which should exercise a sort of disciplinary control over the general conduct of the profession, such, for example, as is exercised by the Royal College of Physicians of London over its Fellows and Members. The difficulties hence arising have been deeply felt by the Council, and have caused us, although without any statutory authority, to restore to the Register after a period names which had been erased for offences which did not seem to us to call for the infliction of a life-long penalty. I hope that whenever a new Medical Act is carried the position of the Council will be improved in this respect, and that definite powers of suspension or of the infliction of time sentences will be conferred upon it.

I hope I have succeeded in demonstrating that, so far as the main objects of its existence are concerned, the Council is not so much a medical body charged with duties towards the medical profession, as a sort of outlying or irregular department of the Privy Council, charged with the duty of securing that registered medical practitioners shall not only be persons of sufficient skill and knowledge in their calling, but also persons of moral worth and respectability. Both these conditions are to be secured in the interests and for the safety of the public, and on these grounds alone. The duty of compiling a national or imperial pharmacopœia to supersede the three which were formerly current in the three divisions of the kingdom is a subsidiary one, and is a natural corollary of the unification of the divisions in respect of medical licences. So far as this, gentlemen, there can be no dispute; but we now reach the confines of a profound difference of opinion.

The preamble of the Act of 1858 declared it to be expedient that persons requiring medical aid should be able to distinguish qualified from unqualified practitioners, and the Act established registration as a test for the satisfaction of this expediency. In order to render the test more sure it provided by Clause 40 that any person who was not registered, but who "wilfully and falsely" used any designation by which registration was implied, and by which, therefore, the public might be deceived, should be punishable on summary conviction by a fine not exceeding £20. The object was not to prohibit or to punish practice by unregistered persons or to protect the profession, but to prevent the public from being deceived. Even in the year in which the Act came into operation certain persons maintained that the duty of enforcing Clause 40 rested with the General Medical Council; and in 1859 a registered practitioner wrote to the Home Office to complain that the Council was not taking action in this respect. The letter was transmitted to the Council by the Government, with a request for any observations upon it which the Council might desire to make, and it was referred by the Council to a committee, which had the assistance of the then legal adviser, the late Mr. Ouvry, a solicitor of the highest eminence. The committee reported that no duty of prosecution was cast upon the Council by the Act; that in Scotland and Ireland any required prosecutions would be undertaken by a public officer; that, unfortunately, no similar provision existed in England, where many prosecutions which ought to be matters of public concern were left to private persons or associations; and that in this respect offences against the Medical Act were on the same footing as offences at large. The report was adopted by the Council and was forwarded to the Home Office as a reply to the letter which had been received. The reply was of course communicated to the law officers of the Crown and was received by the Government with perfect acquiescence. It left the question where it stands to-day—namely, in the position that the Council does not recognise any duty to prosecute under Clause 40, but that it retains full power to do so whenever it may be expedient. It does not appear on the report, but is known to me from private sources, that the clause, in the opinion of Mr. Ouvry, was so drawn as to place many serious difficulties in the way of enforcing it, and that he thought the prestige of the Council more likely to be damaged by failures than to be increased by successes. Certain prosecutions have since been undertaken by the Medical Defence Union, an eminently proper body for the purpose, but at least some of them have failed, and the failures have to some extent been due, in the opinion of the legal advisers of the Council, to an inadequate appreciation of the legal difficulties in the way. For this reason, and in order to establish precedents, the Council itself has prosecuted in a few carefully selected cases, and I believe I am right in saying that convictions have been obtained in all of them. The Council has shown the way, but I do not think it in the least likely that it will institute similar prosecutions in any large number of cases, or in any cases which do not offer points of special difficulty or interest.

In truth, gentlemen, the Council is not in the least adapted by the nature of its constitution to be a prosecuting body. It consists of thirty persons, it meets only twice a year for about seven or eight days on each occasion, and irrespectively of the hotel and travelling allowances of members not resident in London the meetings cost £37 10s. per hour. Prosecutions of the class in question ought to be undertaken by the police authorities, whose proper business it is to do moral scavenging of this kind; and I for one think it should be the aim of the profession to cast such prosecutions upon the shoulders of the police and not upon either public bodies or private associations connected with itself. The whole affair seems to me to be inexpressibly mean, dirty, and degrading; and, as I have already said, I think the injury done to the profession by quacks is probably far less than the injury done by the abuse of hospitals, the counter-prescribing of druggists, and the sale of advertised medicines. Quite lately, however, a practically interminable vista of prosecutions has been opened before us. Mr. Horsley contends, if I understand him, and I carefully insert this proviso because his words do not always fulfil Cobbett's ideal of being as "clear as a pebbled brook," that anything which can be called medical practice is an offence if done by an unregistered person, and that every such unregistered person can be made amenable to the law. Mr. Horsley is, I believe, possessed by the delusion that he himself is a great lawyer. I do not share this delusion, but can only hope that it adds to his happiness, as by the amusement which its manifestations sometimes afford me it unquestionably adds to mine. His law appears to me to be largely traceable to three sources — namely, to comic opera, to novels written by ladies who are not members of the legal profession, and to the light of his own unaided genius. I am sure he must be indebted to *The Mikado* for his evident belief that all who differ from him should be treated by "something lingering, with hot oil in it." Apart from this his law seems to me to consist of what our ancestors were wont to call "quirks"—little verbal stratagems, attempts to twist obvious meanings into totally different ones; the sort of thing, in fact, by which we can imagine a thieves' attorney endeavouring to bamboozle a country magistrate in order to prevent the committal of his client. Now the judges, for the last fifty years at least, have set their faces against all this; and have acted very much in the spirit of Lord Esher's celebrated saying that their chief duty was to find legal reasons for the support of common-sense conclusions. We had during the last session of the Council a droll illustration of the nature and extent of Mr. Horsley's legal attainments. We were sitting *in camerâ*, so that the incident did not fall under the observation of the reporters. He delivered a judgment, or treated us to a disquisition, nearly an hour long, to acquaint us with his view as to the state of the law on a particular question; and he ended by an appeal to our standing counsel, Mr. Muir Mackenzie: "Am I not right?" Mr. Mackenzie was content to confine his answer to the four words, "Not in my opinion"; on which Mr. Horsley triumphantly flourished a printed copy of the Act of Parliament on which he relied, and said, "But it must be so. Look at the position of this comma." He was absolutely ignorant of the fact known, I should suppose, to every Board School child in the fourth standard, that there are no stops in an Act of Parliament. He positively thought that the meaning of the law might be altered at the caprice of a printer's man. Well, our amateur lawyer, who will never, I trust, have any other client than himself, has now made the discovery that because the Medical Act of 1858 declares that registered persons shall possess certain privileges medical practice by any unregistered person is illegal. This is a very pretty mare's nest. The object of the Act is not either to prevent or to punish practice by unregistered persons, but solely to prevent the public from being deceived by them. It is expedient, in the words of the Act, that the public should be able to distinguish qualified from unqualified practitioners. The practice of the latter is not illegal, although, if I may modify an expression used by Professor Huxley, it is "non-legal"; but there is no penalty for it, either under the Medical Act or any other, unless it be the Apothecaries Act of 1815. Here, again, as it seems to me—and I wish to say that I am only expressing my own opinion, and not speaking at all as the representative of the Society or by its authority—here, again, the object of the Legislature was not to protect the medical profession but to protect a corporation in the conduct of a great work of public utility. The Society, at the request of the Government, incurred heavy expenses and took much trouble in order to organise and provide a system of examination for medical practitioners. The Society could only be recouped by the moderate fees which it was permitted to charge for its Licence, and therefore received the privilege of protecting itself and its Licentiates from the competition of unlicensed persons. As long as the Society was the only source of medical qualification for general practitioners in England it was worth its while to enforce the law in self defence, but the position was wholly altered by the Act of 1858, and by the institution of the Licence of the Royal College of Physicians of London. The Society became only one licensing body among many, and there is no apparent reason why it should stand in the gap for the defence of the Licentiates of other corporations. It does prosecute occasionally, often enough to maintain its powers in exercise and efficiency; but the prosecutions are very costly, and the revenues derived by the Society from the profession have diminished. If every general practitioner in England would take the Licence of the Society in addition to any other which he may possess, I have no doubt that the Society would respond to the altered position in which it would be placed, and would institute prosecutions whenever and wherever they might be required. But as long as a large proportion of the profession contributes nothing to its support, this proportion has not, as it seems to me, any valid claim to its assistance; and only the Society itself is able to put the penal clauses of its Acts into operation.

It is well known to all who are conversant with the history of the Act of 1858, and with the discussions then held in Parliament, that very strenuous endeavours were made by energetic medical reformers to obtain the insertion of clauses for the punishment of unqualified practitioners, and that these endeavours were unsuccessful. The Government would not support, the Parliament would not accept, any of the clauses for this purpose which were proposed to them; and the chief effect produced was to bring into prominence the great difficulty of putting together any form of words which would fulfil the intended purpose, and which yet would not admit of being warped into constructions improperly repressive of individual liberty, statutory words which would not cover too much. I do not say that the difficulty is insuperable, but I do say that very acute lawyers have hitherto found it so; and if Mr. Horsley will only suspend his labours in the cause of medical reform until he has succeeded in overcoming it, I do not think that, in the short period of life to which I can look forward, I shall again be called upon to consider his proposals. That the Council will attêmpt to institute prosecutions for alleged offences to which the law has attached no penalty I do not for a moment believe, but it is at least certain that we shall be guided by the opinions of our legal advisers. Mr. Horsley somewhere said or wrote that the legal business of the Council was too much in the hands of the legal advisers, and that in this way failures were brought about; as if he should say that unfortunate results in hospital treatment were due to the patients being too much under the control of the physicians or surgeons. I am glad to have an opportunity of saying that I think it would be impossible to exaggerate the debt which the Council owes to its legal advisers. The Act of 1858 conferred upon the Council a penal jurisdiction against which it provided no appeal, and persons who suffered under this jurisdiction turned naturally to the Court of Queen's Bench for redress. The judges were unanimous in thinking the powers of the Council excessive, and in regarding the exercise of those powers with apprehension or even with hostility. For some years the advocates of the Council had to fight an uphill battle in the courts; and more than one judge expressed surprise that such powers should have been conferred by the Legislature. Thanks to the admirable wisdom of our legal advisers, to the care with which the cases were selected, and to the skill with which they were conducted, the Council has had a practically unbroken record of success; and its decisions have for a long time been treated by the Bench with the utmost consideration. On one or two occasions, notably in refusing to appoint assistant examiners in surgery for the Apothecaries' Hall in Dublin, the Council has disregarded the advice of its law officers; and when it has done this it has been beaten. As I just now said, the Council, with the concurrence of its legal advisers, has lately instituted certain test prosecutions under Clause 40 of the Act of 1858 and it is very likely that it may institute one or two more of a somewhat different kind, in order to determine a question on which there has hitherto been no precise judicial decision—the question, namely, of the position before the law of a qualified person who has either never been registered, or whose name has been erased from the Register for infamous conduct, or in consequence of a conviction, and who nevertheless continues to practise on the strength of a qualification of which he cannot be deprived. Lord Justice Lopes, in his judgment in Allbutt's case, used these remarkable words: "The medical man whose name is erased is not disqualified from practising, and old patients and other medical men invited to meet him in consultation might reasonably desire to know the nature of the offence in respect of which the erasure was made, in order to determine whether they would still continue to employ or to meet him." Strong as this is, it was not a judgment on the particular point, but merely a remark made in illustration of the main argument, and it is highly desirable that a definite judgment should be obtained. It is certain, nevertheless, that nothing will be done in this direction until, in the opinion of our legal advisers, we have a case which will permit the main issue to be clearly raised and finally determined. Any such litigation would probably be carried by appeals to the highest court and we shall not spend money only to obtain a decision on a side issue, such as might not be presented in subsequent cases. One of our main difficulties in this matter arises from the shrieking and clamour of Mr. Horsley and his friends—shrieking and clamour to which we cannot publicly reply without disclosing to possible defendants what our lawyers regard as the weak points in the cases hitherto offered for our consideration. I have no doubt that on this question, as also with regard to Clause 40, we shall in due time obtain a decision which the Courts will accept as binding, and which will govern future proceedings on the same lines. I can hold out no expectation that when this has been done the Council itself will continue to act as a prosecuting body, either with regard to infringements of Clause 40 or with regard to the continued practice of unregistered medical persons or of persons whose names have been erased. We will endeavour to show the way; it will be for others to follow.

I have now referred incidentally to some of the main points dealt with by Mr. Horsley, and must hasten to a conclusion with a mere glance at the rest of his address. I do not know whether Mr. Horsley ever tries to make an accurate statement; it is certain if he does that he never—or hardly ever—succeeds. He says that "because the General Medical Council allowed the Apothecaries' Society to examine in the three subjects of medicine, surgery, and midwifery, then the L.S.A. became a triple qualification." He implies that the Council had some choice in the matter, whereas the decision of the Privy Council in the case of the Irish Hall shows that the appointment of surgical examiners was a mere administrative act which the Council could not have refused to perform, and that the value of the Licence of the Society of Apothecaries is strictly statutory and rests upon the law of the land. He goes on to say that the Society—or Mr. Upton on its behalf—has made a certain "claim," whereas, in fact, no "claim" has been made at all. In reply to a letter from the Council office asking whether the Society had any objection to the restoration of a particular name to the Register, the name having been erased on the ground of infamous conduct, and being that of a person whose Licence from the Society had been his sole qualification, Mr. Upton replied that the Society, on being informed of the original decision of the General Medical Council to erase the name from the Register, had erased it also from the list of Licentiates as permitted by the Act of 1874, but that as the Society had no power to demand the return of the Licence the person still retained it. Mr. Upton used the word "qualification" instead of "licence," but evidently to describe the document by which the qualification was authenticated, and he made no "claim" of any kind, but merely stated the facts and left it to the Council to consider whether the continued possession of the document was or was not important with regard to the question of restoration. It is certain that the qualification had enabled its owner to register in the first instance, and I think it is equally certain that although it was obtained prior to the Act of 1886 it would entitle him to register now if he had omitted to do so previously. The Act of 1886, while introducing as a condition of registration that an examination should be passed in the three subjects of medicine, surgery, and midwifery, and while repealing with a view to this requirement portions of the Act of 1858, expressly provides that such repeal "shall not affect anything done or suffered, *or any right or title acquired or accrued*, before such repeal takes effect, or any remedy, penalty, or proceeding in respect thereof." However, I will not press the point, because I have reason to believe that Mr. Upton himself will shortly deal with it in a public manner, and because it is one which neither Mr. Horsley nor I can determine. Mr. Horsley says that the representatives of the corporations in the Council "all" voted against Sir Christopher Nixon's motion for an inquiry as to whether the Council could not itself institute a preliminary examination. Mr. Horsley seconded the motion, and not only knew the facts at the time but has since received the official minutes of the meeting, which prove that his statement is not true. Before going into details I would say that until quite recently members of Council scarcely knew by what tenure any individual colleague held his seat; and there was never the smallest tendency to any distinction in the Council chamber between representatives of this and representatives of that. But as the corporation representatives are twenty in number, the Crown representatives five, and the direct representatives five, it follows that no motion can be carried if a large proportion of corporation representatives are opposed to it, or lost if a large proportion of corporation representatives are in favour of it. In the case referred to by Mr. Horsley seven voted for the motion, of whom the mover, Sir Christopher Nixon, and two others—Dr. Atthill and Mr. Tichborne—were corporation representatives, the other four being direct representatives. Two corporation representatives—namely, Sir William Turner, who was in the chair, and I myself—did not vote. Nineteen voted against the motion—namely, three Crown representatives, the other two being absent, one direct representative, and fifteen corporation representatives. I could not support the motion because, like every other old member, I knew the suggestion to be impracticable, and I did not vote against it because it was to some extent in accord with an opinion which I have always entertained and expressed that the preliminary examinations should be controlled by medical rather than by non-medical bodies. But the Council has no power in the matter and if it were to institute a preliminary examination it would not be able to enforce its adoption.

It must not be supposed that I have the slightest sympathy with Mr. Horsley's desire to check entrance into the profession by rendering examinations, whether preliminary or final, unduly severe. This would be a mere trades union device, and a very foolish and unworthy one. Medical students are in large proportion the sons of medical practitioners; and, while due provision should be made for raising the standards in a degree commensurate with the progress of science and with the national advance in general education, parents are entitled to bring their younger sons into the profession on about the same terms which were imposed upon their elder ones. A sudden demand for a much more costly or more extended education than is now required would inflict great hardship upon large numbers of practitioners. The reform in this direction which I think is needed, which I suggested two years ago to the Council, and which I hope the licensing bodies will some day see their way to adopt, is the absolute exclusion from the profession of the chronic failures among students. I should like to see an arrangement resembling that which obtains in the army, so that a student should have a certain number of chances and no more. As it is, our chronics generally struggle through somewhere at last, and they bring discredit and loss upon the profession as a whole.

Before I pass on to the consideration of what reforms would be effectual, and of how they might be produced, I must briefly refer to a complaint which has often cropped up in the course of recent discussions, and by which it is alleged that the profession pays a large amount of money to the Council and that it is entitled to some equivalent return. Well, gentlemen, this plea *in formâ pauperis* seems to me to be what Americans might call "playing rather low down." Every profession which has a legal status pays for it, and we pay less than any other. Prior to the Act of 1858 there was no medical profession recognised by law. There was a chaos of charters, under which different individuals had acquired different rights. The Act of 1858 organised the profession as a whole, and placed all its members in a definite position of statutory equality. For this, according to all precedent, the persons so recognised and organised were required to pay; and the proposal first made in Parliament was to institute a Stamp Duty of five guineas. In the course of the debates on the Bill it was conceded that the payment should bo £2 for men then in practice and £5 for men who entered subsequently, and it was also conceded that this money should be devoted to covering the cost of a Council, which should be charged with the duty of maintaining the standard of knowledge and the standard of conduct in the profession, and which should thus indirectly improve the position of every member of it. It is worth while to contrast with ours the position of the legal profession in this respect. The legal profession, including barristers and solicitors, was more numerous than the medical by almost exactly a thousand persons at the census of 1891. Every barrister pays £50 on his admission to practise. Every solicitor pays £80 on his articles, £25 on his admission, and annually £9 in London or £6 in the provinces for the certificate which entitles him to practise. If two brothers started in London at the age of twenty-five, one as a solicitor and the other as a medical man, and retired from work after forty years, the medical man would have paid £5 for his professional rights and privileges and the solicitor would have paid £465 for his. The whole of the medical man's money would have been spent, as I have said, upon a body which is at least intended to maintain the status of the profession and thus, indirectly at least, that of every member of it. The whole of the barrister's or of the solicitor's money goes into the national exchequer through the Excise, and not one single farthing of it is devoted to any purpose which, either directly or indirectly, benefits the practitioners of the law.

And now, gentlemen, Mr. Horsley and his followers cheerfully tell us that we "must" have certain alterations of the law which in their judgment would be helpful to us, and would diminish the difficulties against which we have to contend. "Must" is an excellent word, but leaving for the moment the question whether the proposed alterations would or would not have the effects which some profess to believe, let me ask you how these alterations are to be obtained. As a political force the profession is powerless. Say there are 20,000 of us distributed among 6,000,000 of Parliamentary voters, or one medical to every three hundred non-medical voters, a proportion sufficiently near the truth for practical purposes. There are not many constituencies in which such a proportion would turn the scale. Suppose there were a contested election at Norwich or at Great Yarmouth, places in which the so-called medical aid societies are very strong, and that one candidate were induced to promise that he would support in Parliament a Bill for increasing the power of medical men to control the operations of these societies, do you think that such a candidate would be helped or hindered in the constituency? Rely upon it, gentlemen, that Parliament will never take one step in the direction of repressing quackery, or of protecting the medical profession, in excess of what they, not themselves medical persons, see to be for the advantage, not of the profession, but of the public; and therefore the question in its present phase is not so much legislative as educational. Remember, too, the last attempt at legislation in the interests of the profession. The Duke of Richmond, then Lord President of the Council, if I remember rightly, early in the seventies, did his very best to carry a Bill which should be satisfactory to the medical profession; but the representations made to him on the subject were so conflicting, so contradictory, and the claims put forward by some of the spokesmen of the profession were so much in excess of anything that the Government felt able to advocate or that Parliament could be expected to grant, that he abandoned the project in despair. I do not myself believe that at the present time there is a shadow of a chance of inducing either the Government or Parliament to look seriously at any considerable measure of medical legislation; and I do believe that if we were now to go to Parliament the powers which we possess would be more likely to be curtailed than to be extended.

What, then, is to be done? My own conviction is that the corporations might do a good deal. As one illustration I may remind you that the Irish College of Surgeons requires its dental licentiates to sign an undertaking not to advertise and to surrender their Licences if they do. The General Medical Council, in accordance with the decisions of the courts, cannot erase the name of a practitioner merely for advertising, nor unless there be something in the character of the advertisements which can fairly be described as infamous; but the Council has already erased the name of a dentist, not for advertising, but for the offence of violating the engagement not to advertise into which he had entered with his College. Now what is to prevent the corporations, or at least many of them, from making it a condition of their Licences that the holders should not enter into any engagements by which non-medical persons, such as the members of aid societies, would derive pecuniary profit from their work. The Society of Apothecaries cannot now do this, because it is required by the Act of 1815 to examine all persons who come to it with evidence of having completed the necessary studies, and to license all of them who satisfy the examiners; but the conjoint boards and the universities would, I believe, be able to impose any reasonable conditions. Then, again, might not the other corporations or their licentiates come to the assistance of the Society of Apothecaries with reference to the cost of prosecutions against unqualified persons? I think they might; and I think that all members of the profession should take steps to press these views, in so far as they approve of them, upon the licensing bodies from which their qualifications are derived. Let the profession organise itself, preferably, I think, by the licentiates of each body combining to influence their own licensing authority, not with mere clamour and abuse and noise and incoherence, but with orderly steps, directed to the attainment of some near and practicable goal. Even when this is done there will remain what has for many years seemed to me to be the most urgent of all our wants—a systematic endeavour to educate public opinion on subjects with which we are familiar, but which our clients and our legislators do not understand. How many Members of Parliament, how many heads of households, have any conception of the amount of injury that is done to the public health by swallowing the quack medicines which are now consumed? Why should we not make systematic endeavours to enlighten them? The only persons, as far as I know, who have done any good work in this direction are Trousseau in Paris and Priestley Smith in Birmingham. Why should they be left to stand alone? Why should not practitioners organise the systematic delivery of lectures in schoolrooms and mechanics' institutes? Our enemies are not idle; why should we not learn from our enemies? Remember that every proprietor of quack medicine, every shareholder in Warner's Safe Cure or in Sequah, Limited, every organiser of an "anti" society, has a direct pecuniary interest in bringing the teaching of the medical profession into contempt and disrepute in exaggerating its uncertainties, in magnifying its failures. Our work in the direction of medical reform in my humble judgment should for some years to come be mainly educational and this phase of it has been so utterly neglected that there are long and heavy arrears for us to make up. As soon as we have made even a little progress we may seek to have that progress crystallised into legal enactments of a kind which would now be refused to us and which I think it would now be waste of time even to ask for. We have suffered the public to remain in ignorance; it is our interest as much as it is our duty to enlighten them. It must be thirty years ago that I urged this view of the case upon a meeting of the British Medical Association at Leamington and I have lately received gratifying proofs that men of light and leading in the profession are coming round to my opinion. In my humble way and in the use of my limited opportunities I have not been idle, and as a single specimen of my work in this direction I might mention the history of the progress of medicine and surgery between 1837 and 1887 which I contributed to Mr. Humphry Ward's "Reign of Victoria." If any of my assailants can show that he has done as much I will be the first to acknowledge him as a fellow worker. In the meanwhile I will venture upon a single word of caution. The public not unnaturally have come to look upon eminent physicians who after long lives of devotion to professional work have received honours at the hands of their sovereign, as men who represent all that is best in the profession which they adorn. Mr. Horsley to all appearance looks upon them merely as proper subjects for unstinted vituperation. His vituperation is, of course, harmless; but before you either endorse his views or accept his championship it might be wise to consider how his controversial methods are likely to affect the governing classes of the country, whose understandings must be convinced and whose goodwill must be secured before any improved laws on medical questions can be enacted. I believe these controversial methods to be highly dangerous. In a word, as far as I can judge of them, they are calculated to ruin any cause which may have the ill fortune to obtain Mr. Horsley's advocacy.

[*Note*.—Mr. Horsley's reply will be found on page 247 of our present issue.]

Opening Address

ON

THE INFLUENCE OF PATHOLOGY UPON THERAPEUTICS.

Delivered before the Pathological Society of Reading on Oct. 14th, 1897,

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MR. PRESIDENT AND GENTLEMEN,—It has been debated whether Medicine is a Science or an Art, but surely this, like many other controversies, is based on confusion of terms. Medicine (*ars medicina*, *ἡ ἰατρικὴ τέχνη*—*Arzneikunst*) is the *art* of healing and can never be anything else. For it is practised and its end is to preserve or restore health; it is not speculative, aiming at true conceptions, but active, aiming at increased skill.

It deals with the most diverse objects, the effect of mechanical causes like a broken rib or a hernia, the chemical effects of poisons, the results of insufficient supply of food or of a foreign body in the larynx, the bladder, or the ear, the complications of a physiological process like parturition, the natural decay of a living organism, or the disturbance produced by the invasion of a swarm of animal or vegetable parasites. But like other arts—navigation, agriculture, engineering—the art of medicine depends on science, sometimes, as in preventing outbreaks of cholera or enteric fever, in treatment of mineral poisons by antidotes and in correcting deformities of the limbs, it is very closely dependent on scientific knowledge. We may speak of physiology, pathology, and pharmacology as the medical sciences; so we may speak of the science of war; but preventive and curative medicine, like strategy and tactics, still remains an art, and medical science means only physiology in its widest term, including the physiology of disease and the effect of drugs and poisons.

Pathology as studied by this and kindred societies is not mere morbid anatomy but the inquiry into the natural history of disease, the relation of cause and effect in disordered bodily processes, the disturbing action of mechanical agents, of heat and cold, of poisons and of parasites on human physiology. The pathology of the ancients and that current in the revived learning of the sixteenth, seventeenth, and even the eighteenth centuries was fanciful and erroneous, for it was not based on the facts of morbid anatomy, whereas from Harvey onwards normal physiology has sought the secure basis of anatomy to go on. It is only in the present century that the anatomy and histology of disease have been studied for their own sake; it is only within our own memory that the indispensable instrument of experiment has been added to that of observation. The foundation of morbid anatomy was laid by Baillie, Laennec, Cruveilhier, and Rokitansky and has been completed by many still living. The science of morbid physiology was begun by Virchow and carried on by Cohnheim, by Koch and many others in Germany, by Pasteur and his disciples in France, and by a multitude of later investigators not only on the Continent but in England and America.

The old pathology had at least this merit—that it looked on diseases as processes. More recently it was too much the habit to regard the hepatised lung, the calculus in the kidney, or the tumour in the brain as alone "the disease," whereas the symptoms they cause have at least as good a claim to be part of it and the process by which the stone is formed or the lung solidified no less. The old physicians were wrong in ascribing cirrhosis of liver to the effect of ascites and albuminuria to the effect of anasarca; but while we now know that the obstructed portal circulation is the direct cause of the ascites we must also ask how the obstruction is produced. In other words we must regard disease as a process of which the origin as well as the results need investigation, and we cannot be satisfied till the *sedes et causas morborum* which Morgagni put before us as the objects of inquiry have both been discovered.

Diseases are processes, just as "natural" and necessary as health, and they exhibit disturbance not abolition of the processes of physiology. The heart is working under the control of the vagus and the sympathetic nerves with more or less irregular rhythm. In pyrexia the thermotaxic nerves are at work no less than in health, only their action is altered. Involution, degeneration, decay, and death are as much normal events as evolution, growth, and birth. And this is an encouraging view to take, for if disease is only perversion the perverted function may be restored; if we know what sets things wrong we may hope to set them right again. When we discover a parasite we may hope to poison it; when we isolate a toxin we may hope to find an antitoxin.

Within the memory of living men it was believed that scabies was caused not by the presence of the acarus but by a peculiar dyscrasia psorica and that the trichophyton was not the cause but an accident or a result of ringworm. When the pathology of these maladies was ascertained their treatment became at once rational and effectual. The establishment of the specific character of diphtheria, the identification of its bacillus, and the discovery of protective inoculation with the serum of an immunised animal have, as the result of purely scientific researches, led to the practical results with which we are all familiar. When the true pathology of the "cretinoid condition in adults" now known as myxœdema had been discovered to depend on absence of the thyroid body its successful treatment was at once indicated.

It has sometimes been said that if the labour and skill employed on pathology had been devoted to therapeutics the art of medicine would be more advanced than it is. I do not believe it for a moment. Now and then a great discovery like that of Jenner is made by observation and experience alone and it is not until long after that vaccination turns out to be only an example of the general method of combating disease by means of an attenuated virus. Now and then a remedy is hit upon by accident, like the salicylates in rheumatism, the bromides in epilepsy, or the iodides in actinomycosis. But think of the prevention of cholera and enteric fever by the discovery that their virus is conveyed in drinking water, of the prevention of trichiniasis by the discovery that it depends on a parasite which is killed by cooking meat, of the prevention of lardaceous disease by the discovery that it is due to prolonged suppuration, and, above all, of the prevention of pyæmia after operations and of puerperal fever by the discovery that they are due to septic microphytes. Think of how the discovery of the origin of scurvy and of rickets has led to their cure by proper diet and how the discovery of the cause of lead colic has led to its detection and cure.

The application of pathology to practice does not exclude the salutary check of experience. The same applies to the practice of engineering and other arts based on science. After the mathematical formula has been worked out for a bridge or a ship the result must be tested at last by trial weights and trial trips. Pathology indicates a probable line of treatment, clinical experimentation decides whether it is trustworthy. Who could have guessed that thyroid gland when digested would retain its efficacy? Why do salicyl compounds cure rheumatic synovitis and, as I believe, prevent pericarditis and yet have no influence on endocarditis? Why does mercury so seldom cure tabes even when preceded by syphilis? Why does not excision of a nerve cure neuralgia? Sometimes for better and sometimes for worse we find that many of the results of trial by the bedside differ from those of pathological forecast or of experiment on animals and it is by trial at the bedside that we must be guided. Nevertheless in the examples I have already quoted and in many others the clinical results of pathological research are brilliantly successful.

Again, a knowledge of pathology directs diagnosis and rational treatment by indicating what is the most common and therefore in a given case the most probable explanation of symptoms. The older pathologists, Rokitansky, for example, seem to have thought that every organ was liable to every disease. Malformation and senile decay, degeneration, hypertrophy, atrophy and inflammation were supposed to effect every organ alike. But we soon learn that it is not really so. There is no such disease as phrenitis or primary abscess of the lung and no such thing as active congestion except as a part of inflammation. The liver, the testes, and the kidney have each their own special forms of inflammation, of degeneration, and of new growth. Thus when we have ascertained the seat of a disease we have only a limited choice of probabilities as to its nature. For instance, if the symptoms point to tumour of the cerebellum and if the patient is a child, we know by experience that it is most likely to be tuberculous.

So the frequency of invagination above other forms of intestinal obstruction in children, the liability to gall-stones of middle-aged women, the excessive rarity of cancer on other than an epithelial surface, the frequency of empyema and rarity of chronic consolidation as a sequel of pneumonia,—all these pathological facts are of the utmost value in diagnosis and in treatment. How much has surgical practice gained by the belief which I for one hold that cancer is of local not of "constitutional" origin. The bold removal of the entire mamma before the glands are implicated would have been thought needless or unjustified once, but now it is practised on pathological grounds and with most encouraging results. As Mr. Hutchinson has forcibly argued, cancer of the tongue should be removed before it is diagnosed, not after enlarged glands and bleeding ulceration have made its diagnosis and unhappily its prognosis obvious to the least experienced student.

Let us now turn in contrast to the kind of practice which is not based upon pathology and we shall find it to be not only irrational but also futile. Such is any therapeutical system which depends on a universal theory of disease—a blunder in theory and ridiculous when applied to instances. The "depletory" and "corroborant" systems of medicine, those which depended on "sympathies" or on "signatures," the systems of "allopathy" or "homœopathy," are not wrong answers to a serious question but attempts to solve a meaningless problem. There is no such thing as "Disease in the abstract." Diseases are mutually related only by their effect upon us. A grain of arsenic, a leaden bullet, a predatory tapeworm, a concretion of calcium oxalate, a chemical change in fibrinogen, or a calcification of tissues — what have these in common and how can their effects be met by a single principle of treatment? The way of looking at disease as a single thing, as something foreign to human nature, which invades it from without, though true of some diseases (traumatic and parasitic for instance) is certainly untrue of most. Diseases are as natural as health, and the reaction of the living organism to injurious stimulants is the evidence of life not death.

If we fix our attention on symptoms and direct our treatment to them alone we may please the majority of our patients (who can always supply us with the seat and the cause of their disease and expect from us only the appropriate remedy), but we shall never satisfy our own conscience. For we know or ought to know that symptoms are only indications of the "seat and the causes of diseases," and that while these are undiscovered those can only be dealt with in the dark — uselessly or injuriously. If the common and utterly baseless belief were true—that there is a remedy for every malady if only we could discover it—then all we should have to do would be to draw up a complete list of diseases and write against each its remedy, and this plan might be elaborated into a mechanical contrivance by which every patient would come with his complaint, would put a penny in the particular slot and the "appropriate remedy" would roll out. How common is the belief that when a long course of intemperance or neglect of the ordinary rules of health has ended in grave structural changes all can be undone by a few doses of physic, or that any treatment can prevent the evil effects of habits which are still going on. How widespread this belief is, how it survives countless disappointments, and is not staggered by any absurdity is shown by the success of advertised remedies, vaunted by those who make them, for the most part forgotten in a twelvemonth but succeeded by fresh and no less wonderful nostrums made not to cure but to sell. The same habit of mind which believes in patent medicines believes in the marvellous effect of electricity and particularly of frictional or Franklinic electricity. Now electricity is no longer a mystery or not more so than magnetism and chemical affinity. There is no reason to ascribe to it any powers beyond those which may be demonstrated in the moist chamber on a nerve-muscle preparation. As a means of diagnosis the reaction of degeneration is most valuable. As an excitant to muscular contraction Faradaism or the interrupted galvanic current is the most convenient agent we possess and slowly interrupted galvanism by keeping a segment of nerve in a state of anelectrotonus becomes a useful anæsthetic. But is there any reason to go beyond this and to believe that an electrical current acts otherwise than by its strictly demonstrable physiological effects on muscle and nerve?

In like manner is it not reasonable to question the vast therapeutical importance ascribed to mineral baths and waters? That cold water is an excellent thing for people in health and that hot baths are useful for myalgia and hot douches for osteo-arthritis is perfectly true; but that it can make the slightest difference whether we use water that comes hot out of the earth or that which has been heated in a kitchen boiler is an assertion that only needs stating to be ridiculous. Now is it less absurd to believe that ascertained doses of well-known salts like magnesium and sodium sulphate, sodium chloride, and carbonate, or minute doses of lithium or iron or arsenic, have any different effect when taken ready dissolved in natural water from what they have when weighed out and dissolved on the druggist's counter? If it be answered that small doses frequently repeated are sometimes more useful than larger ones taken occasionally the answer is obvious; that the patient at home can do either one or the other as his physician deems best. If it be answered that the large amount of water is a good diuretic, laxative, and diaphoretic, again we admit it, but taken in reasonable amount and in suitable cases this is what we order our patients at home; and on this score one water is just as good as another. If it be answered that some patients will not take saline laxatives and alkalies from the druggist's shop but will take them after a long journey and while listening to a band, this also is true, but bears rather on the folly of human nature than on the therapeutics of salines.

Surely we must condemn not only the exploded systems of sympathies and signatures, the Brunonian and the homoeopathic, but all systems as systems and all attempts to base treatment on occult properties. The one touchstone for efficient treatment is experience, spread over many lands, prolonged for many years, attested by many competent witnesses. And the one safeguard that our Practice shall be rational and honest is that it follows the teaching of Pathology.

CONSERVATIVE SURGERY OF THE SPLEEN:

A BLOODLESS METHOD OF PARTIAL EXCISION PERFORMED ON TWENTY-TWO DOGS WITH TWENTY-ONE RECOVERIES.

WITH NOTES OF THE BLOOD EXAMINATIONS BEFORE AND AFTER OPERATION.

BY H. MARTYN JORDAN, F.R.C.S. ENG.,
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WHILST in India my attention was attracted by the great number of people suffering from enlargement of the spleen and by the frequency with which cases of death from rupture of this organ were reported in the newspapers. The violence needed to rupture the spleen was often very slight, a gentle blow with a walking-stick, a sharp push with the hand, a slight kick with the naked foot, a prod by the end of the shaft of a carriage going at a walking pace, &c., being sufficient in many cases. Palpation revealed a greatly varied condition of the organ. It was often tender and soft, in other cases painless, hard, and resistant. In size it varied considerably, and in speaking of the native of India one might almost say that it was normal for the spleen to extend from the eighth to the twelfth ribs, it being the exception to find the splenic dulness confined to our European limit, and in practice unless the edge could be felt below the margins of the ribs the patient was regarded as having a normal spleen. In some cases the organ extended across the abdomen and the edge could be felt in the right iliac region—as in one of my servants, a dog-boy, aged nine years—and it was not uncommon in these cases to see young boys and girls, and occasionally adults, walking about with the shoulders and head thrown back and the abdomen as prominent as in a six months pregnancy. Between this extreme and the other, in which the edge came just below the margins of the ribs, there was every gradation in size. The enlargement of the spleen interfered greatly with the person's occupation, the sufferers being markedly lethargic and indolent, anæmic, short-breathed, and often cyanosed, with but small power of endurance, and from the careful way in which they performed their work and walked through crowded streets, instinctively shrinking from any possibility of a contusion to the abdomen, it was obvious that they were always conscious of this enlargement.

In the majority of cases, and especially in the soft tender enlargements, the size of the spleen can be reduced very greatly and often brought back to nearly its original size by medicinal means—e.g., the administration of a mixture of the sulphates of quinine, soda, and magnesium in full doses, but some of the hard, painless, chronic forms resist all medical treatment and it is in these that surgery can be advantageously resorted to. These chronic hypertrophies are the cases where the total extirpation of the organ has been attended with most success and this is the operation which has been and still is advocated in these cases. But before an organ be excised a fairly extensive knowledge of its functions should exist or at least a knowledge of means by which the normal function may be artificially replaced, otherwise unfortunate results may accrue similar to those which obtained after the removal of the whole thyroid, results which were only checked by the observations and researches of Schiff, Reverdin, Kocher, Victor Horsley, and others as to the effect of the total extirpation of the organ and for the relief of which we owe so much to the brilliant discovery of Dr. George Murray. I venture here to express the opinion that in the reported cases of successful splenectomies sufficient time had not elapsed between the operation and the report to justify an assumption that no ill-effects would accrue and in connexion with this I would point out the singularly few cases in which the blood has been examined before and after operation.

The functions of the spleen are unfortunately but imperfectly known. It is stated that the whole organ can be excised without affecting the animal's economy beyond a subsequent increase in size of the lymphatic glands, but this statement I am inclined to doubt. In a litter of five healthy pups one month old the whole spleen was excised in one, the half spleen in three, and the other was kept unoperated upon for comparison (at the time I had no hæmocytometer, &c., for blood examinations); one of the partial excisions died from shock, the other two made excellent recoveries and speedily grew big and fat, growing, as it happened, somewhat faster than the untouched brother. The pup whose whole spleen had been removed remained fairly well for a short time, then gradually became emaciated and died from marasmus three weeks after operation, at which time its framework was distinctly smaller than that of the other three. In other cases where I excised the whole spleen (which, unfortunately, were operated upon only a short time before my departure from India and so did not permit of a sufficiently long supervision) the dogs suffered considerably from shock and were markedly quiet and apparently distressed for days afterwards and ate but little, conduct which was quite unlike that of the dogs upon whom other operations had been performed. Again, the following reports of splenectomies show that the condition of the blood is materially interfered with. Vulpius[1] states that in eleven observations after splenectomy there was a more or less rapid and pronounced increase in the number of leucocytes. In Malin's[2] case (extirpation for axial rotation on Jan. 2nd, 1894) the examinations on the second and fifteenth days after operation showed the blood to be normal and the patient left the hospital on Jan. 25th "in good general health." On April 28th there were 4,840,000 red and 30,000 white corpuscles per c.mm. (1 white to 161 red); 50 per cent.

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[1] Medical Annual, 1895. Reported by Mayo Robson.

[2] THE LANCET, Jan. 13th, Sept. 15th, 1894, and quoted by Mayo Robson in the Medical Annual, 1895.

hæmoglobin, and a fairly considerable number of large white nucleated corpuscles varying in diameter from 20 μ to 50 μ and in which were contained several red corpuscles—in some twenty or more — the red cells apparently undergoing disintegration. On May 23rd (nearly five months after operation) the red cells had decreased to 3,300,000, and the white increased to 50,000 (1 to 66), this being the last recorded note of the case.

That the spleen must have important functions is shown by (1) the intimate and unique way in which the blood is brought into contact with the spleen tissue; (2) the enlargement during digestion; (3) the large rhythmical contractions and expansions; (4) the large white cells in the pulp which contain more or less disintegrated red cells, or else are coloured with hæmoglobin; and (5) the differences between the blood brought to the spleen by the artery and that carried away by the vein, the proportion of white to red corpuscles being 1 to 2000 in the former and from 1 to 60 or 70 in the latter; the blood in the vein is also said to have a higher temperature and to contain smaller, brighter, less flattened red cells which do not form rouleaux and on which water has not the same destructive power that it has on the ordinary red cell, and it also contains an increased proportion of the products of oxidation or extractives as well as hæmoglobin or its derivatives free in the plasma. The spleen, therefore, must have a most important influence on the life-history of the red cell, probably being the crematorium of untold millions of the "used up" and the health resort of the invalids. Again from the great amount of lymphoid tissue in the organ, the great increase in the number of the white cells in the splenic vein, the increase of them in the general circulation in diseases of the spleen, the leucocytosis in fevers where the organ is also enlarged, and the increase following its irritation, as will be seen in the accompanying tabular statement, it may be considered certain that the spleen is a great manufactory of the white cell.

These considerations impressed me with the great importance of leaving a portion of the spleen to fulfil its functions and led me to devise a method of partial excision, by which means the organ can be reduced sufficiently in size to ensure its being under the protection of the costal arch. In addition I hoped that such an operation might throw light upon the functions of the spleen and possibly upon some points in the ætiology of malarial fever. It may be mentioned here that with the latter object in view in three cases the spleen was exposed and, to irritate the organ, Morton's fluid injected into its substance. This was done in conjunction with my friend Surgeon-Lieutenant-Colonel Lawrie, but beyond the fact that the dogs were very quiet with hot noses, accelerated pulse, and a possible slight increase of temperature for a couple of days, no result was obtained and the blood examinations were negative.

Anatomy.—The anatomy of the dog's spleen is very similar to that of the human being, the most marked difference being in its shape, which is more elongated, flatter, with a distinct depression or fissure running transversely from about midway along its anterior border. Its size varied considerably, chiefly with the size of the dog, but in a few cases it was fibroid; it was generally from 5 to 6 in. long, from 2 to 2½ in. broad, and nearly 1 in. thick. The splenic artery divides about 1½ to 2 in. from the spleen into branches (from four to eight in number) which spread out, like the ribs of a fan, to enter the hilus which extends lengthways along the inner surface of the spleen terminating a short distance from either end. The phrenic artery often gives off a branch which supplies the upper extremity of the spleen.

The operation.—Under chloroform the abdomen and thorax were well washed and the left side was shaved and rendered as aseptic as possible. An oblique incision three inches long was made an inch below, and parallel to, the margin of the ribs. The spleen was brought gently out of the wound, lower end foremost, only as far as was necessary, the upper end not being exposed except in those cases where this was the end removed. A pair of Spencer Wells' forceps was applied to the lowest arterial branch where it entered the hilus; another pair of forceps was applied to the same artery about a quarter of an inch farther from the spleen; the tissues between these forceps were then divided with scissors and two more forceps applied, as before, to the next vessel. In this way the gastro-splenic omentum was divided without loss of blood and without undue strain on the pedicle up to the level of the proposed division of the spleen (several arterial branches were left to supply the upper end which was to be retained). The forceps on the spleen-side of the divided gastro-splenic omentum were then laid along the inner surface of the lower end of the spleen and an assistant raised this end and the forceps so that both surfaces of the spleen were well in view. At the level where it was decided to divide the organ the blood-flow through it was arrested by a continuous ligature used in the following way: a long needle threaded with fairly coarse silk twist one and a half feet long[3] was inserted on the inner or "under" surface about half an inch from the edge or border and passed through the thickness of the spleen, emerging on the outer or "upper" surface about the same distance from the edge; the ligature was drawn through until the ends were equal; the free end was then brought up round the border of the spleen and a "double turn" made with the two ends and drawn as tightly as possible, this "turn" being kept over the exit of the needle. The needle was then passed back through the spleen on the occluded side of the organ as close to the line of ligature as possible and an eighth of an inch to the "edge or border side" of the turn; this was done in order that the next loop should include the spleen where the needle had previously passed through, so that any oozing along this track should be stopped when the loop was drawn tight. The needle was then re-passed through the spleen from the under to the upper surface half an inch further on and a double turn again taken and drawn tight. Continuing in this way the breadth of the spleen was traversed. A reef-knot was then tied and the ends were cut short. The needle may be passed from the upper to the under surface and the turns made on the under surface, but the way described is the more convenient. The occluded end of the spleen was then cut through close to the line of ligature. Separate ligatures were tied round each portion of the gastro-splenic omentum included in the forceps, any tension on the pedicle being relieved as these were tightened.[4] The peritoneum and the three muscular coats were severally united with continuous sutures, the skin incision not being closed. The whole operation was completed in from fifteen to twenty minutes.

The points in the operation which I wish to emphasise are: 1. Its great facility, especially when the double turn is made by twisting the needle round the free end and so getting this double turn on the needle before drawing tight. 2. The oozing which takes place during the passage of the needle is at once checked by the coarse silk and stopped altogether when the loop is drawn tight. 3. The section of the spleen was absolutely bloodless except in one case where a middle loop had not been tied tightly enough; here bright arterial blood oozed away gently, but a similar ligature at that point, tied tightly, at once stopped the bleeding which did not exceed one drachm. 4. In no case did the ligature cut through the spleen, a little of the pulp only being expressed as the loops were tightened. In the large majority of my cases coarse silk was used for the continuous ligature, but in two or three cases stout carbolised catgut was employed. 5. The very low mortality.

In cases of rupture of the spleen which are seen in time for surgical interference this continuous ligature may be employed to arrest the hæmorrhage, but the procedure to be adopted would depend upon the extent, and position of the rupture. If the injury be of small extent, surrounding the bleeding surfaces with the continuous ligature may be the best treatment; if of larger extent, it would probably save time and be better to excise the damaged portion in the way described. This ligature will also, I believe, be found to be of service in hepatectomy and in small ruptures of the liver. As will be seen in the tabular statement nineteen dogs had the lower half of the spleen excised without a death; three dogs had the upper half removed with one death. In this list a dog that was operated upon the day before my departure from Hyderabad, to demonstrate the operation is not included, as I have no notes of its subsequent progress; Surgeon-Lieutenant-Colonel Lawrie kindly consented to look after the dog and have the blood examined from time to time. None of the dogs in which the lower half was excised appeared to suffer the slightest inconvenience or shock after the operation, they at once ran about unfettered

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[3] The length of this will depend upon the breadth of the spleen to be ligatured. At the commencement of these operations a needle was threaded at each end of the silk, but this is unnecessary if the needle be passed in the way described, as the "double turn" brings the needle back into the right position for further use.

[4] In some of my cases these were applied before the spleen was ligatured across. The stage at which these vessels are tied is immaterial.

'A TABLE OF 22 CASES OF PARTIAL EXCISION OF THE SPLEEN PERFORMED ON DOGS, SHOWING THE CONDITION OF THE BLOOD, ETC, BEFORE AND AFTER OPERATION.

Case.	Date of operation.	Sex and condition.	Portion of spleen removed.	Temperature (deg. F.), weight, blood-corpuscles (per c.mm.).												Remarks.
				Before operation.						After operation.						
				Date.	Anal temperature.	Weight in pounds.	Red.	White.	Abnormal.	Date.	Anal temperature.	Weight in pounds.	Red.	White.	Abnormal.	
1	1896 April 15th	Female pup 1 month old	Lower half	1896 —	—	—	—	—	—	1896 May 2nd	—	—	2,740,000	12,000	—	On April 16th the dog was apparently quite well, playing with other pups and taking milk well. On May 2nd the red corpuscles were normal, a few being vacuolated. The white were of two kinds—(1) large, coarsely granular, mononucleated, exhibiting free amœboid movement; and (2) small, circular, finely granular, multinucleated, without movement.
										,, 7th	—	—	2,620,000	14,000	—	The blood was as described above.
										,, 13th	—	—	2,280,000	16,000	—	
										,, 28th	—	—	3,240,000	20,000	—	
										June 15th	102·4	—	3,620,000	30,000	—	
										,, 19th	102·6	—	4,080,000	40,000	—	
										July 1st	102·6	—	3,800,000	40,000	—	On July 1st blood was as last described; the pup was big and fat. Killed; post mortem the spleen was of a flattened globular shape; there was old inflammation of the capsule at the lower border. On section it was normal. The ligature was encapsuled.
2	April 16th	Male pup 1 month old	Lower half	—	—	—	—	—	—	May 2nd	—	—	2,800,000	16,000	—	Blood examined, stained and unstained, on each date. The red were normal; the white were of two kinds: (1) large, coarsely granular, mononucleated, with free movement; and (2) small, circular, finely granular, multinucleated, with no movement.
										,, 7th	—	—	2,600,000	14,000	—	
										,, 16th	—	—	2,700,000	20,000	—	
										June 8th	103·0	—	3,100,000	20,000	—	On June 8th the red were normal; the white were as described above, a few of the small circular being mononuclear.
										,, 11th	103·0	—	3,800,000	30,000	—	On the 11th the blood was as last described.
										July 4th	103·0	—	3,500,000	30,000	—	On July 4th the red were normal, a few being vacuolated; white as last described.
										,, 20th	103·0	—	4,200,000	30,000	—	On the 20th the blood was as last described.
3	April 18th	Healthy female	Lower half	April 18th	103·0	33	—	—	—	May 1st	103·0	33	4,700,000	60,000	—	Blood examined stained and unstained. Red were normal; the white were of two kinds as above described. Some eosinophiles and many neutrophiles. On June 11th it was killed. Post mortem the spleen was found to be of a flattened globular shape the size of a large orange. There was old inflammation of the lower border. On section it was normal; there was no sign of the ligature.
										,, 9th	103·0	33½	3,360,000	50,000	—	
										,, 13th	103·0	34	4,100,000	60,000	—	
										,, 26th	103·0	34½	4,000,000	50,000	—	
										June 10th	103·0	35	4,300,000	50,000	—	
4	April 20th	Female pup 1 month old	Upper half	—	—	—	—	—	—	—	—	—	—	—	—	Many vessels needed ligature including a branch from the phrenic which was nearly overlooked. The operation was more difficult than excision of the lower half. On the 21st the pup had been very quiet and took milk badly. The other pups were worrying it. It died 28 hours after operation. Post mortem the peritoneal cavity was found to be dry. There was no sign of peritonitis. The cut surface of the spleen was covered with a thin layer of lymph.
5	April 21st	Healthy female 18 months old	Lower half	April 21st	103·0	35	—	—	—	—	—	—	—	—	—	On April 21st the red were normal and the white were of two kinds—(1) small, circular, finely granular, multinucleated with no movement; and (2) large, coarsely granular, mononucleated with free movement,

										May 1st	103·0	34½	4,700,000	80,000	—	On May 1st the red were normal. White as above. Small variety more numerous than the large.
										„ 9th	103·0	34½	3,660,000	50,000	—	Blood as described above; but on the 9th and 25th white cells, four times the size of the ordinary large variety were seen, multinucleated, with fine and coarse granules in the same cell; free amœboid movement.
										„ 13th	103·0	34½	4,000,000	80,000	—	
										„ 25th	102·8	35	4,200,000	70,000	—	
										„ 28th	103·0	35½	3,880,000	100,000	—	On the 28th suture sinus was laid open and blood taken from wound. The majority of white cells were three times the size of the red and coarsely granular with one nucleus. In the smaller white cell the nuclei varied from 2 to 10 to a cell and took the stain readily, the body of the cell not staining well. Four mononucleated, finely granular cells were seen about the same size as the large coarsely granular. (This examination was hardly fair as the blood was probably mixed with lymph cells from the wound.)
										June 13th	103·0	36	4,050,000	70,000	Spherule with no nucleus and faintly pigmented	On June 13th white of two kinds as above; both stained readily with methylene blue and eosine. No intermediate cells were seen. One spherical body was found, faintly pigmented; there was no apparent nucleus; it stained with methylene blue.
										„ 14th	103·0	36	4,100,000	70,000	—	On the 14th nothing abnormal was seen.
										„ 16th	103·0	36	4,400,000	60,000	Rosettes	On the 16th red and white were as last described. Six rosettes were found in one slide and four in another.
										„ 17th	103·0	36	4,820,000	70,000	—	On the 17th there was nothing abnormal beyond three of the very large white cells.
										„ 18th	103·0	36	4,000,000	60,000	Rosettes	On the 18th five rosettes were found in one slide.
										„ 19th	103·0	36	4,620,000	60,000	Rosette and spherule	On the 9th one spheroidal body was found as on the 13th. A rosette was watched for half an hour and seen to change shape. One of the very large white cells was present in the same field with the rosette.
										„ 20th	103·0	36	4,210,000	70,000	—	On the 20th nothing abnormal was seen.
										„ 24th	103·0	36½	4,500,000	50,000	Rosette	On the 24th a rosette was seen to change shape and finally could hardly be distinguished from a large, coarsely granular white cell.
										„ 25th	103·0	36½	5,000,000	60,000	Rosette	On the 25th a rosette was seen to change shape.
										July 1st	103·0	36½	4,300,000	50,000	Rosettes	On July 1st there were two rosettes on one slide. One large eosinophile.
										„ 18th	103·0	36½	4,000,000	50,000	Rosettes	On the 18th there were several rosettes, one of which changed shape and finally became indistinguishable from a large, coarsely granular white cell.
										„ 22nd	103·0	36½	4,820,000	50,000	—	On the 22nd the dog was handed over to Surgeon-Lieutenant-Colonel Lawrie for further examination.
6	May 5th	Emaciated medium sized female	Lower half	May 4th	103·0	18	5,160,000	60,000	—	—	—	—	—	—	—	On May 4th the red were normal; the white were of two kinds as described, some of the large variety being multinucleated.
			—	„ 5th	103·0	18	5,200,000	50,000	—	—	—	—	—	—	—	—
										May 8th	103·0	17½	4,700,000	70,000	—	On the 8th there was an increase in white corpuscles, the small variety being more numerous; some of them contained only one nucleus.
										„ 13th	103·0	18½	5,400,000	80,000	—	—
										June 11th	103·0	21	5,600,000	80,000	—	On June 11th the blood was examined from time to time since the last note, but nothing abnormal was seen. The white cells were as described.
										July 1st	103·0	26	5,200,000	70,000	—	On July 1st the blood was as before. The dog was much fatter and healthier; there had been an increase of 8 lb. since May 4th.
										„ 18th	103·0	26½	5,400,000	60,000	Rosettes and spherule	On the 18th three rosettes and one spheroidal body very faintly pigmented were found in one slide.
										„ 19th	103·0	26½	—	—	—	On the 19th there was nothing abnormal.

A TABLE OF 22 CASES OF PARTIAL EXCISION OF THE SPLEEN PERFORMED ON DOGS, SHOWING THE CONDITION OF THE BLOOD, ETC., BEFORE AND AFTER OPERATION—*Continued.*

Case.	Date of operation.	Sex and condition.	Portion of spleen removed.	Temperature (deg. F.), weight, blood-corpuscles (per c.mm.).												Remarks.
				Before operation.						After operation.						
				Date.	Anal temperature.	Weight in pounds.	Red.	White.	Abnormal.	Date.	Anal temperature.	Weight in pounds.	Red.	White.	Abnormal.	
7	1896 May 6th	Healthy male	Lower half	1896 May 4th	102 6	24	5,240,000	40,000	—	1896 —	—	—	—	—	—	On May 4th there was nothing abnormal; the white cells were as described.
				,, 6th	103·0	24	5,100,000	40,000	—	—	—	—	—	—	—	—
										May 10th	103·0	23½	5,200,000	50,000	—	Blood was examined, stained and unstained, on each of these dates; nothing abnormal was found. The white cells were as usual.
										,, 16th	102·8	24	5,400,000	60,000	—	
										June 1st	103·0	25	5,150,000	60,000	—	
										July 3rd	103·0	26	5,210,000	30,000	—	
8	May 9th	Healthy female	Lower half	May 2nd	102·6	28½	5,200,000	37,000	—	—	—	—	—	—	—	On May 2nd the red cells were normal; the white were of two kinds as described, the large variety were more numerous.
				,, 3rd	102 4	29	4,900,000	30,000	—	—	—	—	—	—	—	On the 3rd the blood was as above.
				,, 9th	102 6	29	—	—	—	—	—	—	—	—	—	—
										May 10th	102·6	28½	5,000,000	60,000	—	The red were normal. The white were as described, the small kind stained well and had from 2 to 10 nuclei; the large stained with a cloudy appearance and had only one nucleus which was of various shapes (round, horse-shoe, serpentine, &c.), large eosinophiles.
										,, 13th	102·4	28½	5,840,000	80,000	—	
										June 11th	102·2	29½	5,000,000	60,000	—	
										,, 20th	102·4	29½	5,240,000	70,000	—	On the 20th the red were normal. Some of the large variety of the white were multinucleated.
										July 10th	102 2	30½	5,100,000	60,000	Rosette	On July 10th one rosette, underwent no change.
										,, 11th	102·4	30½	4,800,000	60,000	—	On the 11th there was nothing abnormal.
										,, 16th	102·4	30½	5,300,000	50,000	Rosettes	On the 16th two rosettes, underwent no change.
										,, 17th	102·4	30½	5,400,000	50,000	—	There was nothing abnormal.
										,, 19th	102·2	30½	5,160,000	40,000	—	
										,, 21st	102 2	31	5,300,000	40,000	—	
9	May 9th	Healthy female (resection of four inches of gut on Sept. 12th, 1895—Vide THE LANCET, Oct. 30th, 1897)	Lower half	May 2nd	103·0	28	5,800,000	30,000	—	—	—	—	—	—	—	On May 2nd the red cells were normal; the white were of two kinds as described, the large mononucleated being more numerous.
				,, 4th	103·0	28	4,900,000	30,000	—	—	—	—	—	—	—	—
				,, 9th	103·0	28	5,100,000	30,000	—	—	—	—	—	—	—	On the 9th the blood was normal. The old line of resection of gut was indistinguishable from the rest but for one thin adhesion. The spleen was somewhat enlarged and slightly fibroid.
										May 11th	103 0	27½	5,000,000	50,000	—	The red were normal. Some of the large white cells were multinucleated and some of the small mononucleated.
										,, 13th	103·0	27	5,640,000	40,000	—	
										June 4th	102·6	28	4,900,000	60,000	—	
										,, 10th	102·4	28	5,000,000	50,000	Spherule	On June 10th the red and white were as last described. There was one spheroidal body with no apparent nucleus and faintly pigmented.
										,, 11th	102 6	28	5,300,000	60,000	Spherule	On the 11th spheroidal body as above was seen with large, coarsely granular white cell in contact; after some time the white cell moved away.

										,, 12th	—	—	—	—	—	There was nothing abnormal.
										,, 13th	—	—	—		—	
										,, 15th	—	—	—	—	—	
										,, 16th	102 6	28	4,620,000	50,000	—	
										July 1st	102·4	28½	5,080,000	40,000	Rosette	On July 1st blood was examined from time to time since the last note; nothing abnormal was seen. To-day one rosette was found.
										,, 20th	102·4	28½	5,300,000	30,000	—	On the 20th blood was examined occasionally since the last note; there was nothing abnormal.
10	May 13th	Healthy male	Lower half	May 11th	102·6	25	5,400,000	50,000	—	—	—	—	—	—	—	On May 11th the red cells were normal; the white were of the usual two kinds, small variety more numerous.
				,, 13th	103·0	25	4,340,000	40,000	—	—	—	—	—	—	—	—
										May 16th	102·4	24½	3,920,000	80,000	—	Blood was examined each day; there was increase in the white, which were of the usual two kinds.
										,, 21st	103·0	—	3,980,000	70,000	—	
										,, 24th	103 0	25	4,100,000	80,000	—	
										June 11th	103·5	25	3,540,000	60,000	Filaria	On June 11th the small white cells were more numerous than the large and many of them had large granules. An interesting blood-worm was watched for nearly an hour attacking the red cells. See text.
										,, 20th	103·0	24	4,080,000	70,000	—	On the 20th blood was examined every day since the last note; no more filaria were seen. In every other respect the notes of the 11th applied. During this time the dog had been very quiet and apparently not well. The temperature varied between 102·6° and 103°; it had lost weight.
										July 15th	103·0	24½	3,800,000	50,000	—	On July 15th blood was examined frequently since the last note. Nothing abnormal was seen beyond large granules in the small variety of white cells, a certain paleness of the red cells, and what appeared to be a fragment of dead filaria.
11	May 15th	Small male	Lower half	May 14th	102·6	15	3,600,000	30,000	—	—	—	—	—	—	—	On May 14th the blood was normal.
				,, 15th	103 0	15	3,960,000	40,000	—	—	—	—	—	—	—	—
										May 17th	102 8	15	3,700,000	60,000	—	The red cells were normal. There was an increase of both kinds of white cells, some of the large being multinucleated and some of the small mononucleated.
										,, 20th	103·0	15	3,900,000	70,000	—	
										June 1st	103·0	16½	3,950,000	60,000	—	
										July 20th	103·0	22	4,600,000	50,000	—	On July 20th the blood was examined occasionally since the last note. The red were increasing and the white decreasing. There was nothing abnormal.
12	May 17th	Very small male	Lower half	May 16th	102·4	12	3,500,000	30,000	—	—	—	—	—	—	—	On May 16th the blood was normal.
				,, 17th	102·6	12	4,100,000	40,000	—	—	—	—	—	—	—	—
										May 25th	102 6	12½	3,750,000	70,000	—	On the 25th the blood was normal.
										June 6th	103 0	14	3,860,000	80,000	—	On June 6th the blood was examined occasionally since the last note; there was nothing abnormal. There was increase of both kinds of white cells; the small variety were more numerous.
										,, 16th	102 8	16	3,980,000	70,000	—	The temperature ranged from 102·6° to 103°.
										July 12th	103 0	17½	4,400,000	40,000	—	On July 12th there was nothing abnormal; the white were as usual.
13	May 18th	Healthy female	Lower half	May 17th	103·0	24	5,240,000	40,000	—	—	—	—	—	—	—	On May 17th the blood was normal.
				,, 18th	103 0	24	4,800,000	40,000	—	—	—	—	—	—	—	—
										May 20th	103·0	23½	5,000,000	60,000	—	The blood was normal.
										,, 25th	103 0	24	4,800,000	70,000	—	
										June 1st	103·0	25	5,100,000	60,000	—	
										July 13th	103·0	27	5,200,000	50,000	—	On July 13th the blood was examined repeatedly. Since June 1st there was nothing abnormal; the small white variety were more numerous. The temperature was always 103°. Weight was increasing. Large eosinophiles were seen occasionally.

A TABLE OF 22 CASES OF PARTIAL EXCISION OF THE SPLEEN PERFORMED ON DOGS, SHOWING THE CONDITION OF THE BLOOD, ETC., BEFORE AND AFTER OPERATION.—*Continued.*

Case.	Date of operation.	Sex and condition.	Portion of spleen removed.	Temperature (deg. F.), weight, blood-corpuscles (per c.mm.).												Remarks.
				Before operation.						After operation.						
				Date.	Anal temperature.	Weight in pounds.	Red.	White.	Abnormal.	Date.	Anal temperature.	Weight in pounds.	Red.	White.	Abnormal.	
14	1896 May 20th	Very large male	Lower half	1896 May 20th	103 0	40	5,520,000	50,000	—	1896 —	—	—	—	—	—	On May 20th the blood was normal.
										May 23rd	103·0	39	5,300,000	80,000	—	On the 23rd the large variety of white cells were more numerous, some of them being multinucleated.
										June 1st	103·0	40	5,600,000	70,000	—	Blood was examined occasionally between these dates. Notes of May 23rd always applied.
										July 10th	103 0	42	5,400,000	60,000	—	
15	May 22nd	Small female	Upper half	May 21st	103·0	14	4,480,000	40,000	—	—	—	—	—	—	—	On May 21st the blood was normal.
				,, 22nd	103·0	14	5,000,000	30,000	—	—	—	—	—	—	—	On the 22nd many vessels required ligaturing including branch from the phrenic.
										May 24th	103·0	14	4,500,000	60,000	—	On the 24th the dog had been and was very quiet, with a bad appetite.
										,, 27th	103 0	14	4,100,000	70,000	—	On the 27th the dog was still quiet; appetite better.
										June 11th	103·0	16	5,200,000	70,000	—	On June 11th the blood was examined occasionally; it was normal. The temperature was always 103°. Dog getting fatter and bigger.
										July 17th	103·0	17½	5,360,000	50,000	—	On July 17th the blood was examined occasionally; it was normal. Small variety of white cells more numerous.
16	May 29th	Healthy male	Lower half	May 27th	103·0	25	6,000,000	50,000	—	—	—	—	—	—	—	On May 27th the blood was normal.
				,, 29th	103·0	25	5,400,000	40,000	—	—	—	—	—	—	—	On the 29th the spleen was slightly enlarged and fibroid.
										June 1st	103·0	24½	5,250,000	60,000	—	The blood was normal; the usual two kinds of white cell. On the last date the large variety had bigger granules than usual.
										,, 15th	103·0	25	5,000,000	70,000	—	
										July 1st	103·0	26	5,400,000	70,000	—	
										,, 12th	103·0	26½	5,600,000	60,000	—	
17	June 2nd	Large healthy female	Lower half	June 2nd	103·0	37	5,700,000	50,000	—	—	—	—	—	—	—	On June 2nd the red cells were normal. Some of the large variety of white cells were multinucleated and some of the small variety mononucleated.
										June 5th	103·0	36½	5,200,000	80,090	—	The red were normal. There was a preponderance of the large variety of white which were chiefly mononucleated.
										,, 12th	103 0	37	5,800,000	90,000	—	
										July 2nd	102·8	38	5,100,000	80,000	—	
										,, 16th	103·0	38	5,400,000	70,000	—	
18	June 8th	Healthy female	Lower half	June 8th	102·8	23	4,600,000	40,000	—	—	—	—	—	—	—	On June 8th the blood was normal.
										June 10th	103 0	22½	4,100,000	70,000	—	The blood was normal; white as usual.
										,, 21st	103 0	23½	4,300,000	80,000	—	
										July 6th	103 0	25	4,000,000	70,000	—	
										,, 21st	103 0	26	4,400,000	60,000	—	
19	June 12th	Large healthy male	Lower half	June 12th	103 0	38	5,160,000	40,000	—	—	—	—	—	—	—	On June 12th the blood was normal.

										June 14th	103·0	37	4,820,000	60,000	—	The blood was normal; white as usual.
										,, 20th	103·0	38	5,200,000	70,000	—	
										July 1st	102·8	38	4,400,000	80,000	—	
										,, 18th	103·0	38½	5,300,000	70,000	—	
20	June 19th	Medium sized male	Upper half	June 19th	103·0	25	5,100,000	30,000		—	—	—	—	—	—	On June 19th the blood was normal.
										June 21st	103·0	24	5,400,000	50,000	—	On the 20th and 21st the dog was very quiet and refused food. The blood was normal.
										July 1st	103·0	25½	5,000,000	60,000	—	The blood was normal.
										,, 16th	103·0	26	5,200,000	50,000	—	
21	June 25th	Very small female	Lower half	June 25th	102·4	11	3,980,000	50,000	—	—	—	—	—	—	—	On June 25th the blood was normal; there was a large proportion of white cells of which the large variety preponderated.
										June 28th	102·6	11	4,100,000	70,000	—	The blood was normal. The two varieties of white cells were about equal in number.
										July 10th	102·8	13	4,300,000	80,000	—	
										July 22nd	102·6	14½	4,100,000	70,000	—	
22	July 1st	Healthy female	Lower half	July 1st	103·0	24	5,240,000	40,000	—	—	—	—	—	—	—	On July 1st the red were normal. The white were of two kinds, but many of the large coarsely granular variety had two or more nuclei and the small finely granular had only one nucleus.
										July 4th	103·0	23½	5,000,000	60,000	—	The blood was as in the last note, the two varieties being about equal in number.
										,, 7th	103·0	23½	5,400,000	70,000	—	
										,, 20th	103·0	25	5,350,000	70,000	—	

and ate voraciously anything they were given. The three dogs which had the upper half excised suffered greatly and one died from shock. It is the removal of the upper half of the spleen which is in my opinion so full of danger, so prolific of shock and often hæmorrhage from some small vessel which has either been overlooked or else has retracted before the ligatures were tied. The removal of the upper half is more difficult than that of the lower half; many more vessels need ligaturing, including, in some cases, the branch from the phrenic previously mentioned and which may easily be overlooked with fatal results. This artery was present in two of the three excisions of the upper half and in three of my six total excisions. In man it is also occasionally present. Mr. G. A. Wright, of Manchester, and Surgeon-Major Hatch,[5] of Bombay, report cases where hæmorrhage from this vessel caused the death of their patients and Mr. Wright knows of three other similar cases. Again, in removal of the upper half greater tension has to be applied to the pedicle which is, I believe, a distinct cause of shock. Whether the whole spleen or only its upper half be excised does not affect the present argument. In the six cases of total extirpation before referred to all the dogs suffered greatly from shock and there were three deaths, the one already mentioned from marasmus and two from shock. If to these six be added the three in which the upper half was excised with one death we have nine cases and three deaths from shock, a mortality of 33·3 per cent., the survivors also suffering greatly as compared with the nineteen cases of excision of the lower half with no shock or death. May not this great difference be explained by a consideration of the nerve-supply of the spleen and of the relative damage done to the sympathetic nervous system in each case? for on these sympathetic nerves depends the normal tone of all the abdominal vessels and viscera containing any muscular tissue, and all changes in the calibre of these vessels—paralysis or inhibition of their vaso-constrictor fibres causing an extreme fall of blood-pressure, the animal practically bleeding to death into his abdominal vessels—and sudden death has resulted from a slight blow in the epigastric region or from a draught of iced water interfering with the functions of these nerves. It may be well to briefly consider the blood-supply of the spleen first, as the arteries are surrounded or accompanied by the nerves.

The splenic artery, by its pancreatic branches, supplies the body and tail of the pancreas; the left gastro-epiploic running along the greater curvature supplies both surfaces of the stomach and sends branches to the omentum on the left side, some of which may run on to supply the spleen; other branches to the stomach, the vasa brevia, four to eight in number, are given off towards the termination of the splenic artery, some of these arising directly from the trunk and some from the upper two or three of the terminal or splenic branches. The artery then divides some little distance from the spleen into a varying number, from five to ten, terminal or splenic branches which enter at the hilus and ramify in the body of the spleen; some of the upper of these, as we have seen, give off short gastric branches. In addition to the above there is often the branch from the phrenic running to and supplying the spleen.

The nerves which accompany these arteries are derived from the solar plexus. This, the largest sympathetic plexus in the body, is built up by the semilunar ganglia, nerves from the lumbar portion of the gangliated cord of the sympathetic, the great splanchnics, and the vagi. Through its secondary plexuses it supplies the diaphragm (in part) and all the viscera and blood-vessels of the abdomen. Of these secondary plexuses the cœliac chiefly concerns the present argument. This plexus is of large size, derived from the fore-part of the solar plexus, is joined by the two small splanchnics, and on the left side is augmented by large, direct branches from the right vagus. It then furnishes the coronary, hepatic, and splenic plexuses; the latter, surrounding the splenic artery, is again joined by direct branches from the left semilunar ganglion and the right vagus. It supplies the pancreas and stomach through its pancreatic and left gastro-epiploic plexuses, some of the latter running on to the spleen; it again supplies the stomach by branches accompanying the arterial vasa brevia and then running with the terminal branches of the artery ends in the spleen. In addition to these nerves there are branches from the diaphragmatic plexus accompanying the branch from the phrenic artery when this is present. During an operation it is impossible, of course, to separate these nerves from the arteries, so that a ligature necessarily includes both. A comparison of the operations may be thus stated: (*a*) Removal of the whole spleen necessitates the ligaturing of—1. The splenic branches or, what is the same thing in effect, the splenic artery and nerves before they divide into their terminal branches. 2. The vasa brevia arising from the terminal or splenic branches. This must be done even if the trunk of the splenic artery itself be divided or else, with the free anastomoses that exist on the stomach, there will be hæmorrhage backwards along these branches; neglect to ligature these arteries is probably the cause of some of the deaths from hæmorrhage after the extirpation of the organ. 3. The branches from the left gastro-epiploic and phrenic when present. If these have been divided close to the spleen as many as from fifteen to twenty small vessels and their accompanying nerves may be included in the different ligatures on the pedicle. If the splenic artery itself be divided this number would be reduced by the five to ten terminal branches, but the effect on the nervous system would be the same, the "trunk" of the nerve being involved in place of its branches. (*b*) Removal of the upper half necessitates the ligaturing of the same arteries except the lower two or three terminal branches, as many as from twelve to eighteen vessels and nerves being included in the ligatures on the pedicle. (*c*) Removal of the lower half can be effected by ligaturing the lower two or three terminal branches only. In the two latter operations there is in addition the continuous ligature across the spleen.

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[5] Quoted by Jacobson in his Operations of Surgery, second edition, pp. 840, 841.

From this it will be seen that excision of either the whole or the upper half of the spleen involves great damage to the splenic plexus with its intimate—threefold, if I may so call it—connexion with the solar plexus and right vagus; entails direct interference with part of the nerve-supply of the stomach and omentum and severe indirect interference with the vagi and all the sympathetic nerve-supply of the abdomen; the diaphragmatic plexus is often involved and considerable tension has to be applied to the pedicle, and therefore on the cœliac and solar plexus and the vagi, thus augmenting the interference with these nerves. The excision of the lower half entails but slight damage to the splenic plexus and therefore but slight indirect interference with the solar plexus and vagi; the nerve-supply to the stomach, the omentum, and the diaphragmatic plexus is never involved and but slight tension has to be applied to the pedicle. As shock is due to severe inhibition and exhaustion of nerve function[6] and the grosser the lesion the greater is the shock that results, this great difference in the amount of interference with the nervous system in these operations is the explanation, I believe, of the great difference in the amount of shock following them; and in the excision of the whole spleen or of the upper half the resultant shock is due to inhibition and exhaustion of the vaso-constrictor fibres of the abdominal sympathetic and is probably intensified by great interference with the proper performance of the functions of the heart, lungs, stomach, &c., reflexly by means of the vagi. These considerations would induce me to advise in suitable cases in the human being—e.g., abscess, tumour, or cystic disease confined to the lower half or in hypertrophy which resists medicinal treatment—the excision of the lower half in preference to that of the whole spleen, as the same object would be attained—the removal of the disease or the enlargement—whilst a considerable portion of the spleen would be left to carry on its function, and further, there would be as a reasonable inference a considerable reduction in the death-rate.

It will be noticed that immediately after the operation there was as a rule a slight loss of weight; this was quickly recovered, and all the dogs, except Case 10, gained weight subsequently, the least gain being ½ lb. and the greatest 8½ lb. This increase in weight was in the majority of cases undoubtedly due to regular and liberal feeding which in their previous homeless lives the dogs had been unaccustomed to, but in Cases 11, 12, 15, and 21 in which the gain in weight was greatest the dogs were small and probably not full grown at the time of operation, so that part of the increase was most likely due to the normal growth of the dogs. The temperature (rectal) of these dogs was most constant; in nine of the twenty-one survivors it never varied from 103° F.; in three it never quite reached 103°, ranging from 102·2° (Case 8) to 102 8° (Case 21); in eight the highest was 103° and the lowest 102·4^{2} (Cases 9 and 12); in the other (Case 10) on one occasion it reached 103·5°. The greatest individual range of temperature, except Case 10, was 0·6. All these cases were operated upon with a daily atmosphere temperature of from 99° to 104° in the shade. Case 10 stands by itself; it had been accustomed to regular feeding prior to operation, having been a house-dog; it was the only one in which the temperature exceeded 103°, in which there was loss of weight and a marked or permanent alteration in the number of red corpuscles and the only one in which filaria were found in the blood, which probably is the explanation of all these differences. Two of the dogs were subsequently killed by an overdose of chloroform; the spleen had assumed a flattened globular shape and had increased slightly in size since the excision of the other part, but had not attained its original size. The capsule at the site of section showed signs of old inflammation and the omentum was adherent at this point. In one case the continuous ligature was found encapsuled, in the other it had been absorbed.

The blood.—The examinations of the blood and the enumeration[7] of the corpuscles were most interesting. The first five cases are excluded from the following remarks as the number of corpuscles could not be ascertained before operation, and the subsequent enumerations in Cases 1 and 2 showed only a steady increase in number of the red and white coincidently with the growth of the pups; Case 3 showed no marked change and Case 5 will be referred to later. Before operation the number of red corpuscles varied from 3,500,000 in Case 12 to 6,000 000 in Case 16, the average being 4,920,000 per c.mm. If Cases 11, 12, and 21 be excluded, for reasons to be shortly stated, the average would be 5,170,000 per c.mm. The white varied from 30,000 in several cases to 60,000 in Case 6, the average being 41,000 per c.mm.; the proportion of white to red being 1 to 120. After operation in the majority of cases there was no marked change in the number of red corpuscles; excluding Case 10 they averaged 4,900,000 per c.mm., as against 4,920,000 before operaion; excluding Cases 11, 12, and 21 the average would be 5,100,000 per c mm. as against 5,170,000 before operation. This small difference might well be due to errors of observations before or after operation, any one of which would necessarily be multiplied 10,000 times. The white corpuscles showed an immediate increase in number after operation, the smallest increase being 20,000, the greatest 40,000, and the average 30,000 per c.mm., the ratio of white to red being altered to from 1 to 70. This increase reached its maximum soon after the operation, began to diminish a fortnight to six weeks after, and in those cases that were under observation two months after operation the number of white and the proportion of white to red was normal again. This temporary increase was probably due to the irritation of the continuous ligature and the localised inflammation of the spleen and its capsule at the site of section. The Cases 11, 12, and 21 were small dogs which increased considerably in weight after operation; the red cells also increased in number and from a comparison of these cases with the pups (Cases 1 and 2) it is probable that they were not mature at the time the operation was performed and that the increase in weight and in the number of the red cells was consequent to the growth of the dogs.

In the ordinary microscopic examination, stained and unstained—and the following remarks apply to all twenty-one surviving cases—the red cells were normal, in a few cases they were vacuolated, and in Case 10 pale and deficient in hæmoglobin. The white were apparently of two kinds, small and large. The small variety was circular, usually finely granular, with two or more nuclei, but often contained only one nucleus and at times were coarsely granular; they were never seen to change shape. The large variety was usually coarsely granular with one nucleus, the latter being of various shapes, semilunar, round, serpentine, &c., often giving to the cell the appearance of being multinucleated; occasionally these large cells were multinucleated and rarely finely granular; they exhibited free amœboid movement. Sometimes the large and at other times the small variety was more numerous. Although these two kinds were the usual white cells seen at times other forms were found, intermediate in size, sometimes mononucleated, at others multinucleated, sometimes coarsely, at others finely granular and rarely having both fine and coarse granules in the same cell. The impression was thus given that the large and small varieties were only stages in the life of the same cell. In Case 5 there were seen occasionally very large multinucleated white cells with a diameter two or three times that of the ordinary large variety mentioned above; they exhibited free amœboid movement, had coarse and fine granules in the same cell and often large vacuoles. One of the most interesting points in the blood examinations was the appearance, in Cases 5, 6, 8, and 9, of bodies which were extremely like those Laveran discovered in malarial blood. So great indeed was the similitude that had these bodies been seen in the blood of a patient suffering from malarial fever I have no hesitation in stating that they would have been pointed out as fairly typical specimens of the "rosette" and spherical extra-corpuscular, or free stages, of the parasites. I hope in another paper to describe these bodies more fully. An interesting bloodworm was seen in Case 10 and watched for three-quarters of an hour. It was round in shape and in breadth nearly but not quite the diameter of a red cell. It was impossible to define its length on account of the free movements when alive and to its being coiled up when dead, but when nearly straight it reached across the field (Leitz eyepiece 3, objective 7), one or other end being out of sight. Its body was cylindrical, tapering rapidly near the tail. Its head was slightly smaller in diameter than the body and blunt-ended with a transverse "depression" rather nearer the under than the upper surface. When first seen the worm was gently waving its body in exactly the same way as an eel does when swimming; at short intervals it was seen to retract its head and then rapidly shoot it out. By careful watching it was seen that a red corpuscle was the object aimed at and that as the head shot forward a triangular-shaped "tongue" was protruded from the depression; this was at once withdrawn when the corpuscle was struck and after the first or second attack a minute, darkish speck was seen to leave the corpuscles at each attack and flow into the depression or "mouth" of the worm; after a few attacks the corpuscle was paler than before. Many red corpuscles were in turn attacked and once a large white cell was attacked in the same way, but after two or three blows the worm moved on and to follow it the field had to be changed and so the white cell was lost; when first attacked this cell was moving and my impression was that its movement ceased with the attack, but too short a time was allowed to be sure of this. In about half an hour the worm gradually ceased to attack the red cells and its movements became much more vigorous, swimming about so rapidly that it was difficult to change the field quickly enough to keep the worm in sight. Occasionally at this stage it coiled itself up like a watch-spring and suddenly straightened itself out, dashing the red cells about in all directions; these convulsive or lashing movements became more and more frequent until there was hardly any intermission. The worm then appeared to grow weaker, its movements became less in number and vigour, and at last it lay still, coiled up in two and a half convolutions. As this change of movement was taking place the blood was seen to be coagulating, this probably causing the death of the worm, which then appeared to be faintly striated both longitudinally and circularly.

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[6] Foster's Text-book of Physiology, fifth edition, Part III., p. 903.

[7] By Gowers's hæmacytometer.

In conclusion I desire to express my grateful acknowledgements to the medical department of H.H. the Nizam's Government and to Surgeon-Lieutenant-Colonel Lawrie, the residency surgeon and principal of the medical school, for the kindness and courtesy they extended to me during my residence in Hyderabad and for the facilities and resources they so willingly placed at my disposal for these and other investigations. My thanks are also due to Dr. Nelly Evans, Dr. Kalayan Rao, and Dr. Syed Mohammed for their assistance in the blood examinations. Dr. Evans also performed successfully several partial excisions of the spleen by the operation described.

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ROYAL METEOROLOGICAL SOCIETY.—The annual meeting of this society was held on Wednesday, the 19th inst., at the Institution of Civil Engineers, Mr. E. Mawley, F.R.H.S., president, being in the chair. The secretary read the report of the Council for the year 1897, showing that there had been an increase in the number of Fellows and that the finances were satisfactory.—Mr. F. C. Bayard, LL.M., was elected president for the year.—The President then gave an address on "Weather Influences on Farm and Garden Crops."

ON A

CASE OF SUPPOSED TRANSMISSION OF SYPHILIS TO THE THIRD GENERATION.

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THE possibility of the transmission of syphilis to the third generation—i.e., from grandparent to grandchildren—is a question of great theoretical interest rather than one of frequent practical importance. Even at the present day the possibility of such transmission rests on no sure or settled basis. Relying on the more than dubious interpretation of certain Biblical texts the lay public have for long accepted and believed in the undoubted and frequent occurrence of such a transmission. Needless to say this aspect of the question is without the pale of scientific scrutiny. Like the laity, a large majority of the profession would seem to have accepted the reality of this transmission. But to me it would appear that in this instance they have been more ready in declaring their belief than in adducing reasons or facts in substantiation of it. A small minority of the profession—including, however, I believe, a large percentage of those who have given special attention to the subject—have gravely doubted the possibility of this transmission to grandchildren, or at least have denied the publication of a single case of such as would bear the investigation of a stricter criticism. Dr. George Ogilvie has lately published an excellent and elaborate paper[1] in which he has carefully and trenchantly criticised every notable case where this transmission has been stated to have occurred. With all that Dr. Ogilvie writes concerning such cases I heartily agree—in fact, with possibly the exception of one published by Boeke[2] no single one of these cases will stand even the most superficial criticism. Boeke's case, moreover, is far from convincing. Recognising the futility of proving the presence of unmistakable syphilis in such cases, and being seemingly still desirous of tracing in the grandchildren some syphilitic heritage from the grandparents, certain writers have claimed a syphilitic origin for numerous maladies in such grandchildren which they have classed under the title of "parasyphilitic." These parasyphilitic maladies, too, they claim, are largely prevalent in the later children of syphilitic parents where the elder children have directly inherited the undoubted complaint. There is not one, however, of such so-called "parasyphilitic" complaints that may not occur in children in families where syphilis can with certainty be excluded. I would then strongly protest against the use of "parasyphilitic" and other like terms. The ills of syphilis are numerous and far-reaching enough without any extra fanciful additions being credited to them. If the case of the transmission of syphilis to the third generation has to rest on the presence of "parasyphilis" in the grandchildren then the proof of such transmission, I would claim, falls to the ground.[3]

The following is a fair example of the class of cases that have been put forward as a proof of the transmission of syphilis from grandparents to grandchildren. In my opinion it is entirely unconvincing on this point. It may perhaps merit publication on other grounds as an example of the singular and unsatisfactory class of progeny that may unaccountably be raised by reputedly healthy parents and of the curious coincidence of two first cousins exhibiting the first symptoms of syphilis in precisely the same form and situation, both of these last being an extremely unusual one. The particulars were furnished me by a distinguished member of the profession who has held high office at the Royal College of Surgeons of England. For reasons that are perfectly intelligible and sufficient he prefers not to publish the case himself, although he will allow me to furnish his name to anyone desiring any further information on the case. That I would controvert his own interpretation of the facts is also known to him and I do so freely with his stated permission.

A man of powerful physique lived to a good old age and enjoyed life and health. As far as can be known there was no neurotic or other taint in his family history. He married a healthy woman with an equally satisfactory family record. Of this marriage came five sons and two daughters who presented the following curious family history. A, the eldest son, who was peculiar in manner, died at about fifty years of age from obscure abdominal tumour. Of his two children both died young, one from epilepsy and the other from heart disease. B, the second son, had periosteal disease of long standing and his son at twenty-eight years of age had pronounced gummata of the sternum and three ribs. Neither father nor son had ever presented any signs of either primary or secondary syphilis. C, the third son, was healthy, but his son at twenty-five years of age developed gummata in precisely the same situations as his cousin, the son of B. There had never been any indication of syphilis in C and his son denied any primary or secondary manifestations. D, the fourth son, was deformed; he had constant epilepsy and died at forty-five years of age. E, the fifth son, was a deformed dwarf. F, the eldest daughter, was mentally defective. G, the second daughter, was mentally defective. The particulars of the above family history are thoroughly reliable, all the members being personally known to my informant. That the sons of B and C suffered from tertiary syphilis and that no primary or secondary symptoms had been noticed by either of them may also be accepted as undeniable, my informant being confirmed in his opinion on these points by another eminent authority. Arguing from the noted facts, my informant considers that they prove the case of transmission of syphilis to the third generation for the following reasons: that the rearing of a series of degenerates, deformed, epileptic, and weak-minded, by a healthy couple of far more than average mental calibre is a strong presumption of syphilis in the father, and that the presence of syphilis in the two first cousins and the total absence of any evidence of primary and secondary manifestations, either in them or their parents, is a proof that such syphilis was transmitted to the grandsons from their grandfather. "No other theory," he writes, "would account for all the facts of the case." To me I must confess such arguments are far from conclusive. In the first place, beyond rearing a race of degenerates there is a total absence of proof of syphilis in the grandfather. I do not gather, moreover, that although there was a negative history of both primary and secondary manifestations of syphilis that either grandson denied having placed himself in the position of possibly acquiring the direct complaint. Again, the occurrence of gummata at the ages of twenty-eight and twenty-five years as the first noticeable symptoms of an inherited syphilis must be taken as exceptionally rare in any view of the complaint. On the other hand, cases where both primary and secondary symptoms have been missed and tertiary ones first indicate the acquirement of the disease are not uncommon. Such an explanation of the syphilis in the two cousins as the last seems to me to be a much more likely one than the supposition that their complaint was a heritage from a grandparent. Beyond the fact of B having suffered from "periosteal disease of long standing," too, there is a total lack of evidence that either of the fathers of the young men had inherited the disease. This to me materially strengthens the case against the cousins having inherited from their grandfather, for the supposition that syphilis could skip the second generation to reappear in the third is inconsistent with all modern ideas of its nature and propagation.

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[1] The British Journal of Dermatology, October, and November, 1897.

[2] Annales de Dermatologie et Syphiligraphie, tome x., 1889, pp. 782–784.

[3] See note on pp. 28–29 in paper by George Ogilvie before referred to.

I have briefly given my reasons against the case being one if transmission of syphilis to the third generation. The fact of the two first cousins having suffered from gummata in precisely the same situations is a remarkable coincidence and an apt illustration of a feature of the disease that was first pointed out to me by Dr. John Thomson, of Edinburgh. This is the tendency there is in some families for the disease to direct its chief attack against one particular organ or tissue. Thus in the members of one family the skin may be the part chiefly affected; in those of another, the abdominal viscera; in those of a third, the bones or nervous system; and so on. Since Dr. Thomson first pointed out this family peculiarity my experience would tend to confirm his observation.

It would not be hard to give general reasons why syphilis could seldom or never descend to the third generation. In the present instance, as I am dealing only with a particular case, I feel it superfluous and unnecessary to do so. In writing of a disease like syphilis in which it is said "everything is possible" it is well not to be too dogmatic. Whilst, then, not absolutely denying the bare possibility of transmission to the third generation I would at least claim that as yet no case has been adduced that can in any true sense be regarded as a proof of such transmission.

Upper Berkeley-street, W.

ON THE CHROME-SILVER IMPREGNATION OF FORMALIN-HARDENED BRAIN.

By JOSEPH SHAW BOLTON, B.Sc., M.D., B.S. LOND.,
DEMONSTRATOR OF PHYSIOLOGY IN MASON UNIVERSITY COLLEGE, BIRMINGHAM.

AT the meeting of the British Medico-Psychological Association held at Newcastle last July my friend and former colleague, Dr. A. W. Campbell,[1] pathologist to the County Asylum, Rainhill, exhibited certain of my early results obtained by using the above method, but at my request withheld a description till its further elaboration. Beyond a general statement by Schäfer[2] that "previous hardening in formol does not interfere with Golgi's method" I have been unable to find any reference to the subject in recent neurological literature and I believe that the possibility of obtaining chrome-silver impregnation in human brains hardened long previously in formalin has not hitherto been demonstrated.

Several observers, however, including Strong,[3] Durig,[4] Kopsch,[5] and Fish,[6] have recommended the use of formaldehyde instead of, or in addition to, the osmic acid in the osmium-bichromate mixture, and Hill[7] has injected the washed-out blood-vessels with 4 per cent. formalin, afterwards hardening in bichromate of potassium and formalin, with satisfactory results.

Period of hardening.—I have obtained excellent results from the brains of cats and half-grown kittens placed whole in 5 per cent. formalin from five weeks to five months previously and from human brains, normal and pathological, hardened whole in 5 per cent. formalin for periods varying from two to twelve months. I have, however, failed even in kittens to obtain impregnation in brains hardened from three to seven days only, probably owing to the hardening in these cases, though apparently complete, being imperfect.

Size of blocks.—Sections of cortex, preferably across a convolution, and not more than an eighth of an inch in thickness, should be transferred to a dish of 5 per cent. formalin and there cut into wedges having a base of a quarter of an inch and including a little white matter. Larger pieces require a chrome bath of longer duration than usual and whilst the impregnation of individual cells is in many cases more perfect the process is less general and consequently of less value to the neuro-pathologist. If the pieces be smaller over-impregnation frequently occurs and even if this accident should not happen very few sections would be available.

Chrome bath.—The pieces of cortex prepared as described and with or without pia mater adhering to them according to circumstances should then be placed without previous washing in a bath containing 1 per cent. of ammonium bichromate. The chrome impregnation is complete after a period varying from a few hours to five days, after which the result deteriorates gradually for three or four weeks when an impregnation of a fern-leaf character alone is obtained. I shall refer at length to this subject in a paper in course of preparation on the nature of the chrome silver process. Chrome baths of strengths of $\frac{1}{2}$ and 2 per cent. give similar results after longer and shorter intervals respectively. If a 5 per cent. bath be used for four days chrome-silver impregnation fails. Müller's fluid and potassium bichromate give less perfect results in my hands. Potassium chromate gives a very diffuse and consequently valueless impregnation and chrome alum and chromic acid are useless.

Silver bath.—After the necessary period of immersion in the chrome bath the pieces of cortex should be rinsed in distilled water and in a 1 per cent. solution of silver nitrate and then placed in a bath of the latter composition for a period varying from sixteen to twenty-four hours. Considerably longer immersion in the silver bath usually causes no deterioration and a ½ or ¾ per cent. solution may be used, but I have obtained better results by means of the stronger bath.

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[1] Journal of Mental Science, October, 1897, New Series, No. 147.

[2] Practical Histology, second edition, p. 154.

[3] Anatomischer Anzeiger, Band x., p. 494.

[4] Ibid., Band x., p. 659.

[5] Ibid., Band xi., p. 727.

[6] Proceedings of the American Microscopical Society, vol. xvii., p. 319.

[7] Brain, Parts lxxvii. and lxxviii., p. 132.

Cutting and mounting.—The pieces of tissue are then to be hardened for a few hours in 60 per cent. alcohol, dried on blotting-paper, embedded, without soaking, in melted paraffin, and after this has cooled cut into sections on a piece of glass by means of Schäfer's triangular microtome, the block and razor during this process being kept wetted with 60 per cent. alcohol. The sections are then to be transferred in order into methylated spirit, absolute alcohol, chloroform, and xylol, and finally to be mounted in xylol balsam without a coverslip.

Development.—I have now for several months, at the suggestion of Professor F. J. Allen, of Mason College, passed my Golgi sections into water and developed and fixed them by the method of Kallius,[8] afterwards treating them as above and mounting under a cover-slip. After proper development, which can only be obtained by experience, the sections do not deteriorate and usually are histologically indistinguishable from those mounted without this treatment.

In conclusion I desire to express my indebtedness to Dr. Wiglesworth and Dr. Campbell, of the County Asylum, Rainhill, Lancashire; to Professor Whitcombe and Dr. Watson, of the City Asylum, Winson Green, Birmingham; and to Dr. Powell White, of the General Hospital, Birmingham, for their kindness in supplying me with the material used in this research.

Birmingham.

THE DETECTION AND ESTIMATION OF IRON IN A MEASURED DROP OF BLOOD.

By WILLIAM MACKIE, M.A., M.D. Aberd.

In the year 1885, while I was working as a student in the laboratory of the late Professor Carnelley in Dundee, a method was being worked out at his suggestion by Dr. A. Thomson,[1] now of the Academy, Perth, for the estimation by calorimetry of "minute quantities of iron in the presence of large quantities of other metals and more especially in alloys." I had long been of opinion that this method might prove applicable to the estimation of iron in relatively small quantities of blood, but it is only within the last few months that I have found opportunity to ascertain for certain that it is so applicable. The general method is described in the *Journal of the Chemical Society* for 1885, p. 493. By it, according to Thomson, "it is possible to detect and estimate so small a quantity as 1 part of iron in 50,000,000 parts of water," and from repeated trials I am inclined to think he has rather under- than over-rated the delicacy of the test. The method depends on the well-known blood-red colour which soluble thiocyanates strike with persalts of iron. As the original paper may not be accessible to all readers of The Lancet, and more particularly as the technique as applied to blood differs in several important respects from that detailed by Thomson, I had best describe the method in detail. The following reagents and special apparatus are required.

1. *A standard solution of a persalt of iron.*—This is best made by dissolving 0·1 gramme of pianoforte iron wire in a little iron-free hydrochloric acid, oxidising with a few drops of iron-free nitric acid, boiling for some time to drive off any great excess of acid, then diluting to 1 litre with distilled water; 1 c.c. of this solution contains 0·0001 gramme of iron. This is kept as stock solution, but for use it is still further diluted by making up 10 c.c. of this solution to 250 c.c., when 1 c.c. of the latter (or test solution) will contain 0·000004 gramme of iron. A little free acid in this solution is a desideratum rather than otherwise.

2. *Strong hydrochloric acid*, free from iron, arsenic, or other reducing substance. Thomson uses dilute acid (1 in 5), but considering the much smaller quantities of liquid operated on I find it more convenient to use a relatively smaller quantity of strong acid.

3. *A solution of potassium thiocyanate*, which need not be of any particular strength, but is conveniently made by dissolving 10 grains of the crystallised salt in 250 c.c. of distilled water.

4. *Two glass cylinders of the Nessler type* to hold about from 30 to 35 c.c. and graded at every 5 c.c.

5. *A shallow platinum dish.* The lid of a platinum crucible has been used in most of the analyses given below, but for convenience a dish of special pattern has been made for me by Hawksley, of Oxford-street.

6. *A platinum tipped forceps* to hold the platinum dish. If an iron forceps be used the greatest care must be exercised as an infinitesimally small flake of iron derived from the forceps may irretrievably vitiate the whole analysis.

7. *A special pipette graded to deliver 40 c.mm.* of blood. The particular number of c.mm. is immaterial if it be exactly known, but I have found that quantity very convenient to operate on and the strength of the test solution has been regulated accordingly.

8 In addition to the ordinary stock-in-trade of the chemical laboratory, such as curettes and measuring flasks, two special pipettes are necessary to deliver small but definite quantities of fluid. These may be conveniently made to deliver 0·5 c.c. and 1 c.c. respectively.

An analysis is made as follows: 40 c.mm. of blood are drawn up from a finger prick in the same way and subject to the same precautions as are laid down by Gowers for hæmocytometry or hæmoglobinometry. The blood is then delivered as evenly as possible over the bottom of the platinum dish, the last adhering portions of blood being carefully wiped from the end of the pipette against the vertical sides of the dish, which is then seized by its handle with the platinum-tipped forceps and held first at a distance above the Bunsen flame till the blood is quite dry. It is then gradually and carefully depressed into the flame and held there till every trace of organic matter is completely burned away and nothing but ash remains. From its viscidity blood shows little or no tendency to spurt, so that with care no loss need be anticipated from this source. This part of the process, however, does require some care, but proficiency is soon acquired, more particularly if one has had some previous experience in micro-chemical technique. The platinum dish is then allowed to cool, 0·5 c.c. of strong HCl is then delivered into it by the special pipette of that capacity, when it is again gently warmed to dissolve the iron in the ash. Special care must be taken at this stage to see that the acid reaches all portions of the ash. The contents are then washed into one of the cylinders, 1 c.c. of the thiocyanate solution added and the whole made up to about 15 c.c. with distilled water. The thiocyanate strikes a bright red colour with the iron and this colour is dark or faint according to the amount of iron present. We have now to ascertain the amount of iron which under like conditions will give a tint of equal intensity in an equal quantity of water in the other cylinder. To do this 5 c.c. of strong hydrochloric acid are added to it, 1 c.c. of thiocyanate solution, and the whole made up to 10 c.c. with distilled water. The standard iron solution is then run in from the burette till what is considered an equal tint is obtained, the tints being composed by looking down rather than through the cylinders. The quantities of liquid in the two cylinders are then equalised and any remaining deficiency of colour made up by the cautious addition of one or more drops of the standard solution. If the mark has been overstepped in matching the test solution a drop or two added to the iron solution will bring it up to the tint of the test solution and the quantity which has thus to be added to give equal tints subtracted from the quantity originally added to the test solution will give the quantity for equal tints. The strength of the solution and the quantity of blood taken have been so adjusted that the number of c.c. run in gives the amount of iron in grammes in 10,000 *measured* parts of blood; in other words the amount of iron that would be found to exist in 10 litres of the blood under examination. As an example, suppose that 6·1 c.c. have been required to give an equal tint with the iron in 40 c.mm. of blood. That is, 40 c.mm. contain 0·0000C4 × 6·1 grammes of iron; or 10 c.mm. contain 0·000001 × 6 1 grammes of iron; 1 c c. (1000 c.mm.) 0·00061 gramme; 1000 c.c. (1 litre) = 0·61 gramme; and

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[8] Zeitschrift für Wissenschaftliche Mikroskopie, Band ix., 1893, S. 477.

[1] I find Professor T. S. Humpidge had used the method some months before, Proceedings Royal Society, 1885, vol. xxxix., p. 3.

10 litres = 6·1 grammes. An estimation from the initial drawing of the blood to the final calculation of hæmoglobin can be accomplished with the greatest of ease in fifteen minutes.

A considerable number of specimens of blood have been examined by this method and in a certain proportion of these cases the results have been checked by and compared with the situations of hæmoglobin as determined by Gowers' hæmoglobinometer. This test, such as it is, gives results which on the whole have been found to vary *pari passu* with the iron determinations. In a number of cases duplicate analyses have been made by the method now described and where this has been done the results have always closely agreed, there being seldom a difference of more than 0 2 c.c., and in a certain proportion of cases the results have been entirely concordant. The subjoined table shows parallel in columns the results obtained by this method and the results obtained in the same specimens of blood by Gowers' hæmoglobinometer, while in another column is given the absolute percentage of hæmoglobin as calculated from the iron found according to the equation 100 hæmoglobin = 0·43 iron (Hoppe Seyler).

No. of specimen.	Iron in 10,000 measured parts of blood or iron in grammes in 10 litres of blood.	Percentage of hæmoglobin relating to normal blood as estimated by Gowers' hæmoglobinometer.	Amount of hæmoglobin as calculated from iron found in absolute percentage of blood. 100 hæmoglobin = 0·43 iron.
		(About)	
1	6·5	65·0	15·2
2	5·3	55·0	12·4
3	8·1	90·0	18·9
4	5·8	66·0	13·5
5	8·5	84·0	19·8
6	7·1	72·0	16·5
7*	8·6	88 0	20 0
8	7·5	80·0	17·5
9†	3·7	40·0	8·6
10	4·4	56·0	10·3
11	5·2	65·0	12·1
12	4·9	60·0	11·4
Averages ...	6·3	68·4	14·7

* Highest determination. † Lowest determination.

From which hæmoglobinometer determination = iron determination × 10·85.

From which hæmoglobin in absolute percentage = iron determination × 2¼ nearly.

From the average of these determinations it will be seen that the amount of iron found multiplied by about 11 (10·85) gives approximately the percentage of hæmoglobin as estimated by Gowers' hæmoglobinometer. It is natural to suppose, however, that the relation obtained here will be found to vary slightly for different observers, as hæmoglobinometry does not give results sufficiently precise to be free from the qualification of a decided personal equation. The average of all the determinations hitherto made on what may be regarded as specimens of healthy blood, amounting in all to 20, gives 6·1 for the iron. This would correspond to 14·2 per cent. of hæmoglobin. But this, it should be remembered, is subject to slight correction for the higher specific gravity of blood. Taking the average specific gravity as 1·055 we get 13·46 per cent. as the average percentage of hæmoglobin in blood weight for weight. Praeyer found 12·34 per cent., but at this distance I have been unable to ascertain either the method by which the iron was estimated or the number of analyses on which the average was taken. It is generally supposed that the total iron in the blood exists in combination as hæmoglobin. The following results seem to bear this out. A sample of the serum of horse blood as the average of four closely agreeing analyses, for each of which four times the quantity usually taken for a blood analysis was taken, gave 0·48 gramme of iron in 10,000 parts of serum. The same serum tested with the hæmoglobinometer required to be diluted 4·4 times—i.e., from the 20th to the 88th division line—to give the standard tint, from which it was inferred that the sample contained 4·4 per cent. of hæmoglobin—a result which conforms fairly closely to that given above as subsisting between the iron and the Gowers' determination.

I have as yet had no opportunity of applying the method to specimens of pathological blood, but here also I think we may reasonably hope that it will be found to bear out the results obtained by other methods and will prove of some clinical value. In addition to affording data for the direct estimation of hæmoglobin I am of opinion that with reliable reagents and where skilfully carried through it will give far more precise results than the methods of hæmoglobinometry now in use. It must be specially insisted on, however, that the reagents used are of the purest and the water distilled as for a Nessler determination. Contrary to the opinion expressed by Thomson as regards the effect of organic matter I find that some tap-waters and even the first collected portions of distilled water exercise a considerable reducing action and are found to discharge in greater or less degree the colour on which the reaction depends. This is, perhaps, more apparent when the method is applied for its present purpose, as the test solution is twenty-five times more dilute and the quantities of iron operated on much more minute than those contemplated in the original paper.

It must be evident that the method now described is equally applicable to the estimation of iron in other organic fluids, or starting gravimetrically that it may also be used to determine the amount of iron in the ash of minute portions of solid organic tissue. The special apparatus necessary for the process were made for me by Hawksley, of Oxford-street, W.

The application of the method to specimens of pathological blood gave the following results:—

(1) Case of Simple Anæmia.

	Iron.	Hæmoglobin by Gowers about	Hæmoglobin absolute.
May 31st ...	2·8	33 per cent.	6·5 per cent.
June 7th ...	3·2	38 ,, ...	7·5 ,,
June 14th ...	2 9	not estimated	6 8 ,,
June 29th ...	3·1	36 per cent.	7·2 ,,

The rather irregular increase of the iron is probably due to the fact that treatment had to be interrupted from time to time on account of irritability of stomach.

(2) Case of Chlorosis with Valvular Disease of the Heart.

	Iron.	Hæmoglobin of Gowers.	Hæmoglobin absolute.
May 30th ...	3·8	44 per cent.	8·9 per cent.
June 14th ...	3·4	50 ,, ...	7·9 ,,

This case was not under treatment at the time.

In addition to affording data for the direct estimation of hæmoglobin I am of opinion after six months' trial that with reliable reagents the method now described is likely to give far more precise and determinate results than the methods of hæmoglobinometry now in use. It must be specially insisted, however, that the reagents used must be of the purest and the water distilled as for a Nessler's determination of ammonia in potable waters; indeed, I have every reason to think that the method will prove as exact and determinate for the estimation of iron in blood as that process is for the estimation of ammonia in water. Since this method was worked out the description of a method by Dr. Jolles, of Vienna, for the estimation of iron in blood has come under my notice. The principle involved is the same but the mode of application is very different. His results, however, are very similar to those given above. From an average of ten determinations he finds the average percentage of hæmoglobin in blood after correcting each determination for specific gravity is 14·77 or considerably higher than the average given above. His highest individual determination is 17·14 per cent. after correction for specific gravity of blood. The highest of my results is 20 per cent., but this is uncorrected and would possibly be about 18·5 per cent. after correction. Jolles' lowest determination in anæmia is 4·33 iron, mine 2·8 in 10,000 parts. The results, however, are likely to prove of clinical value without correction for specific gravity.

It must be evident that the method above described is equally applicable—not so Jolles' as at present arranged—to the estimation of iron in other organic fluids, and starting gravimetrically that it may also be used to determine the amount of iron in the ash of minute portions of solid organic tissues.

The following among other results have been obtained in the case of organic fluids, from 100 c.mm. to 200 c.mm. being used for each determination:—(1) Serum (human) from blister and as average of six determinations gave 12·5 iron per 1,000,000 parts of serum; (2) milk (cow's) as average of three determinations, 14·6 per 1,000,000; (3) a sample of sherry wine, 14 per 1,000,000; and (4) a sample of claret highly recommended for anæmics, 32 parts iron per 1,000,000 parts of wine.

Elgin.

A CASE OF MALTA FEVER IN WHICH THE DIAGNOSIS WAS CONFIRMED BY AGGLUTINATION OF THE MICROCOCCUS MELITENSIS.[1]

BY DR. R. KRETZ,
PROSECTOR AT THE IMPERIAL AND ROYAL EMPEROR FRANCIS JOSEPH HOSPITAL, VIENNA.

THE clinical applications of the phenomena of agglutination undergo almost daily extension on account of the certainty and facility of the process, and whereas the serum reaction was originally regarded as a valuable means of distinguishing between different micro-organisms cultures of pathogenic bacteria are now employed as diagnostic tests which act by producing distinctive agglutinations with the blood serum obtained from patients. A case of this kind, in which the agglutination reaction was made use of for the diagnosis of an illness the clinical symptoms of which had entirely disappeared, will be briefly described in the following article. The patient was a young medical man in the Emperor Francis Joseph Hospital in Vienna; he had returned from the South in the beginning of the present year suffering severely from fever. The clinical history of the case, for my knowledge of which I am indebted to information kindly supplied by the patient and by Primarius-Docent Dr. Kovacs, presents a variety of characteristics and an abstract of it is accordingly given.

The medical man in question spent the winter of 1896–97 in Ajaccio as a travelling companion and about a week before his return to Austria he fell sick in the beginning of February, 1897, with high fever, headache, and debility. There were no shivering fits; the remissions of the fever and the highest points attained in the elevations of temperature, which took place almost every evening, were irregular. The bowels were for the most part confined. This feverish condition was occasionally attended with rheumatic symptoms and lasted till June. After several weeks' stay in the hospital a non-febrile period set in for the first time towards the end of June and was followed in July by a slight relapse, since which time the patient's health has remained good. Quinine, salicylic acid, and antipyrin had not any effect on the fever, but somewhat large doses of phenacetin seemed to produce subjective improvement and also to influence the course of the temperature. The illness was attended by emaciation and simple anæmia, symptoms which quickly disappeared after the cessation of the fever. The most remarkable feature of the case was the acute high fever, which lasted four months from the beginning of February with alternate remissions and somewhat prolonged exacerbations, but nevertheless was not attended by any positive clinical symptoms beyond enlargement of the spleen and a moderate amount of anæmia. There was a slight relapse which passed off without further incident and was followed by complete recovery. Typhus fever and malaria, which suggested themselves in the first stage of the illness, could be excluded without hesitation, neither could tuberculosis be admitted, for notwithstanding the long duration of the fever there was no clinical manifestation of this disease and as the case had terminated by complete recovery it seemed to remain undiagnosed.

Not long ago I had the opportunity of reading R. Bensaude's monograph on serum diagnosis, and his statements as to the possibility of recognising Malta fever by this method, as had in fact been done by Wright six months previously, induced me to try it in the present case. A sample of micrococcus Melitensis (Bruce), most kindly supplied from Kral's bacteriological laboratory, served as the test material.[2] This minute coccus, which Bruce in the year 1887 recognised as the cause of Malta fever and obtained in pure cultivation, produces a similar disease in the monkey; with the serum from a trial bleeding to which the convalescent had submitted some days before it now showed very distinct agglutination. The reaction not only took place quite promptly, but proved successful without much delay when the serum was diluted 300 times, all the micrococci being massed together in heaps; even when the blood was diluted 1000 times there was a formation of isolated heaps, a result which did not occur in a control experiment without the addition of serum. The micrococcus Melitensis did not agglutinate with samples of serum derived from other sources and the serum under examination gave next to no reaction with typhus bacilli and other pathogenic bacteria. Having regard to Wright's experiments, the very energetic action which the serum of the case now described exercised on the micrococcus Melitensis left no doubt that the illness had been Malta fever; moreover, the clinical symptoms, especially the course of the fever, agreed perfectly with the description which Bruce and other authors have given of this disease.

Malta fever is endemic not only in the island of Malta but in Gibraltar, Cyprus, Crete, and on the Mediterranean coasts; according to recent statements based principally on the application of serum diagnosis it is also endemic on the shores of the Indian Ocean. It likewise seems to occur on the coast of Dalmatia; at least, it happened four years ago that I made a post-mortem examination of a man who had arrived from the Brionian Islands, and although I did not at the time succeed in making a positive diagnosis the appearances nevertheless agreed perfectly with the descriptions of the post-mortem appearances in Malta fever, a disease, however, which is seldom fatal.[3] The agglutination phenomena obtained with the micrococcus Melitensis therefore constitute an accurate and easily applicable diagnostic means of identifying cases of Malta fever as well as of carefully studying the geographical distribution and epidemiological relations of this interesting infectious complaint.

Recent Literature of Malta Fever.

Bensaude, Le Sérodiagnostic (Les Phénomènes d'Agglutination des Microbes et ses applications à la Pathologie), Paris, 1897, Georges Carré et Naud. Bruce, Note on the Discovery of a Micro-organism in Malta Fever, The Practitioner, September, 1887. Bruce, Sur une nouvelle forme de Fièvre rencontrée sur les bords de la Mediterranée, Annales de l'Institut Pasteur, April, 1893. Hughes, Sur une forme de Fièvre fréquente sur les côtes de la Mediterranée, Annales de l'Institut Pasteur, August, 1893. Hughes, THE LANCET, July 25th, 1896. Scheube, Die Krankheiten der warmen Länder, Jena, 1896, G. Fischer. Wright and Semple, Employment of Dead Bacteria in Diagnosis of Typhoid and Malta Fever, Brit. Med. Jour., May 15th, 1897. Wright and Smith, On the Application of the Serum Test to the Differential Diagnosis of Typhoid and Malta Fever, THE LANCET, March 6th, 1897. Wright and Smith, On the Occurrence of Malta Fever in India, Brit. Med. Jour., April 10th, 1897.

Synonyms for Malta Fever, according to B. Scheube: Malta typhus, Mediterranean fever, Gibraltar fever, Rock fever, Neapolitan fever, Gastric remittent fever, Bilious remittent fever, Gastro-bilious fever.

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[1] Translated from the Wiener Klinische Wochenschrift, 1897, No. 49.

[2] Written information stated that it was derived from a culture sent to Kral by Professor A. E. Wright, of Netley, on May 18th, 1897.

[3] After drying a small portion of the spleen which had been preserved in alcohol I rubbed it up with bouillon; the fluid thus obtained, corresponding to a twenty-fold dilution, gave obvious although incomplete agglutination with the micrococcus Melitensis; a similarly hardened and treated spleen taken from quite a different class of case gave no reaction, but this reaction yields the best results only when combined with a control experiment. The spleen contained granular pigment of a colour varying from brown to brownish-black; there were no typhus bacilli or malaria parasites; it could not be precisely determined on section whether minute cocci were present or not.

HOSPITAL REFORM.—The first annual meeting of the Hospital Reform Association was held on Wednesday afternoon at the offices of the Medical Defence Union, King William-street, Dr. Ward Cousins presiding. Mr. Garrett Horder read the annual report which showed that the association had received but indifferent pecuniary support, but had been responsible for wide discussion of topics of the greatest professional interest. Mr. Garrett Horder submitted a scheme for the better administration of medical relief in the out-patient and casualty department of the hospitals, and after a brief discussion a committee was formed to inquire into the practicability of the scheme.

CREASOTE AND SOME OF ITS DERIVATIVES.

BY EDMOND CHAUMIER, M.D.

1. CREASOTE, which has long held a place among the most active medicaments, may justly be called a "marvellous" remedy in cases of pulmonary phthisis, yet in spite of this it must be admitted that side by side with many cures there is a certain number of failures on record. The importance which the condition of the atmosphere inhaled by the patient plays in the treatment of tuberculosis is only just beginning to be understood in France yet it is absolutely necessary to know that unless the tuberculous patient be submitted at the same time to an air cure, no creasote or other medicament will be efficacious. In hospitals pulmonary complications of a serious character, such as the spread of the pneumococci or staphylococci of phthisis, rapidly supervene, and more deaths are attributable to those complications than to the original disease. It follows that before giving the patient creasote he should be placed in conditions favourable to his recovery by submitting him to the air-cure. It is not only in Mediterranean health resorts, but also in northern towns that this necessity arises. Bouchard and Burlureaux have proved that for really successful treatment large doses of creasote are required, and that the greater the quantity of the medicament which the patient can sustain the more chance there is of recovery. Leaving aside all preparations containing insufficient doses we may confine our attention to the quantity of creasote to be given and the best means of causing its absorption into the system. As to the latter four different channels are available—viz, the mouth, the rectum, the trachea (by means of injection), and the skin.

The most convenient forms in which to administer creasote by the mouth are pills and solution in cod-liver oil, and in either of these forms the dose may be as much as 30 grains or even more per day. In many cases, however, doses of not more than 3 grains cause indigestion and, as every physician knows, a tuberculous patient should above all else be kept free from disturbance of his digestive functions. It has been proved by Hagem and Renaut that cases of dyspepsia and inflammation of the stomach occurring in phthisical patients were due only to the use of creasote and guaiacol. Patients who in the first stages of the treatment readily support doses of thirty grains of creasote gradually become unable to tolerate the medicament, and very few are able to continue the treatment until complete recovery is secured. It often happens that the patient has to abandon this course of treatment at the moment when a complete cure seems to be in sight.

Injection by the rectum would seem to be an improved method of administration, but, as a matter of fact, it is not; the rectum is less able to tolerate the remedy than the stomach, and after a very few days the patient loses control of the bowel and is frequently attacked by colic and diarrhœa. The injection of oil of creasote in the trachea does not appear to be practical; moreover, the larynx and the bronchial tubes would probably tolerate the medicament as little as the rectum and the stomach. Burlureaux has in some cases obtained excellent results with subcutaneous injections of oil of creasote, but few patients would willingly submit to daily punctures and incur the risk of abscesses or gangrene. As creasote is a poisonous substance, the injection of the large doses prescribed by Burlureaux (from 150 to 230 grains per day) may produce excessive perspiration, coma, or symptoms of meningitis and diuresis. Notwithstanding all these objections creasote was until the last few years the only remedy for which it could be claimed that it had effected a certain number of cures. We will pass over the injection of oil of creasote into the pulmonary tissue, but it should be mentioned that in other cases there are numerous instances on record where the creasote treatment has been successful, such as the application of oil of creasote in the form of compresses to tuberculous and other wounds; intra-uterine after curetting with creasoted glycerine; the treatment of certain skin diseases with creasote; and intra-urethral injections of creasote in blennorrhœa.

2. Guaiacol, which for some time received much praise no longer holds its own. It was thought to be the active principle of creasote, and it was believed that as such it could replace the latter, but its use, either by the mouth or as a hypodermic injection (in oily solution), has not been attended with satisfactory results. On the contrary, it has frequently caused local complaints, pain, indurations, boils, abscesses, &c. Guaiacol, while possessing all the disadvantages of creasote, is in no way superior to the latter, and at present it is more and more discarded, being now only applied as a remedy to rub into the skin as a fever alleviant and on a bandage on wounds to produce anæsthesia. It possesses no doubt antipyretic qualities, but the reduction of the temperature is of short duration and may be followed by excessive perspiration, collapse, or at least fainting, giddiness and nausea. Owing to these various drawbacks guaiacol does not rank among the more important antipyretics. As an analgesic, although inferior to cocaine, it may be found useful as it can be left without risk to be handled by the patient and it may also be found serviceable in skin diseases, particularly lupus, and as a dressing for wounds.

3. So recently as 1892 creasotal was still considered a curiosity of the laboratory. Its existence was communicated to me by one of my friends, an expert in chemistry, at a time when I was endeavouring to find a remedy for phthisis easily administered to children. Creasotal being a neutral carbonate of creasote, I assumed that it might be found useful, but I had great trouble in procuring it, and only after a long correspondence with Dr. Von Heyden, in whose laboratory it had been discovered, the latter agreed to have some creasotal made for my experiments. As soon as I had carried out my tests I made it known that creasotal was destined to supersede creasote and my prediction is now almost an accomplished fact. The result of my researches has been communicated to the Academy of Medicine, the Congress of Tuberculosis, the Association for the Advancement of Science and the International Medical Congress at Rome. In every country my experience has been put to the test and numerous observations by physicians have been published everywhere. They all agree that creasotal is a medicament as efficacious in the treatment of tuberculosis as creasote but without the latter's objectionable qualities. Like creasote it increases the appetite, diminishes the cough, facilitates nutrition, and stimulates the increase in weight. Its advantages over creasote are that it can be used indefinitely without causing any gastro-intestinal troubles.

Creasotal is a compound in the form of a carbonate of all the substances found in creasote. In the digestive organs, and particularly in the intestines, it splits up into creasote and carbonic acid. This process takes place slowly and the creasote set free is absorbed, as and when generated over the whole length of the intestinal canal. On account of this property creasotal should be given as an intestinal antiseptic in cases of typhoid and puerperal fevers. Creasotal is a viscous liquid, which, however, can be made fluid by means of a hot-water bath. It has a very slight tarry taste; its oiliness is too slight to form an objection. When weak doses are required it can be given in the form of capsules of seven and a half grains. I myself, however, prefer strong doses, and therefore use pure creasotal by teaspoonfuls. Most patients will take it readily in that form, but with some it has to be covered by means of jam or even given in wafers. It can also be given in the form of a solution with oil, in emulsion with the yelk of eggs or mucilage of acacia or mixed with a light claret or hot milk, but I prescribe it by preference in the pure state. With creasotal it is possible to proceed to a thorough course of creasote-therapy. The maximum doses of Burlureaux can be exceeded without risk and such doses can be taken by the mouth In exceptional cases creasotal can be injected subcutaneously. For this purpose I use pure creasotal previously warmed. Doses of 75 grains can thus be injected morning and night. The injections can also be administered by the rectum either as pure creasotal or as an emulsion made with the yelk of an egg. When the patient takes creasotal internally by the mouth which is the method to be preferred, I give a teaspoonful morning and night for adults or in some cases even three times a day. For children under ten years of age the maximum should be two teaspoonfuls per diem and under that age I give only half doses. The above doses have been found acceptable by practitioners generally. During the year 1897 I used creasotal and guaiacol carbonate as a pulmonary antiseptic in cases of ordinary bronchitis and intend to publish a treatise on this subject shortly. As a large proportion of the creasotal is eliminated in the urine (which is shown by the odour and the dark colour of the urine of many patients) I believe that it can with advantage be used, like salol, as an antiseptic of the urinary canal. I have used it in blennorrhœa, but further experiments are necessary in all cases of urinary infections. In two cases of incontinence of urine in children, the administration of creasotal has, within my knowledge, effected a cure but in other cases I have had no success. For dressing wounds and for treatment of tuberculous or osseous affections, or those of the nerve tissue, the use of creasotal can strongly be recommended as an injection around or into the diseased tissues in the place of the chloride of zinc recommended by Lannelongue. It must be admitted that the odour of creasote given off by the patient under treatment with creasotal is a disadvantage, but this, after all, is only very slight. As contra-indicated, I only know of fever and diarrhœa. Some practitioners recommend the use of creasote and creasotal in cases of fever, but I do not agree with them.

4. Guaiacol-carbonate is a dry, white, crystalline substance; it is used in the form of powder, sometimes as a wafer, sometimes in solution. The dose most generally adopted is 75 grains per day for adults, but this can be largely exceeded without risk. Like creasotal, guaiacol-carbonate dissolves in the digestive organs and is not more irritant than creasotal. It has given excellent results in medical practice, particularly abroad; I use it sometimes but much prefer creasotal. Still guaiacol-carbonate should not be discarded as a therapeutic agent. In a prolonged illness like tuberculosis the patient frequently objects to taking continually the same remedy and there will then be no objection to replacing for a time the creasotal by guaiacol-carbonate. In affections other than tuberculosis, guaiacol-carbonate has been strongly recommended for typhoid fever; and, according to Hölscher, even puerperal fever can be treated successfully with it. This medicament will also be found useful as a dressing and in many cases can replace iodoform for this purpose. I have tried other derivatives of creasote such as oleo-creasote, benzoate of creasote, and phosphate of guaiacol; but all these remedies are very rarely employed although some could be made to render certain services.

Tours, France.

DISTEMPER AS A CAUSE OF PUERPERAL FEVER.

BY OCTAVIUS BEVEN, M.D., B.S. DURH., M.R.C.S. ENG., L.R.C.P. LOND.

IN THE LANCET of July 31st, 1897, on page 296, there is a letter from Dr. F. W. Mann on the pathology of distemper. He thinks that "distemper in the dog is only a stage in the life history of the organisms of scarlet fever and diphtheria." That the virus of distemper may be directly contagious to human beings, provided there is a suitable nidus, is, I think, at least suggested by the following case.

On March 7th, 1897, I was summoned by a kennelman to attend his wife during her confinement. On driving to his cottage, which adjoins the kennels, he informed me that he had a number of dogs suffering from distemper. One or two of them were very ill, requiring his constant attention night and day, so that he had not been able to take off his clothes for some days. He described the discharge from their nostrils as "simply tremendous." Having to feed them on raw eggs, brandy, &c., he was necessarily brought into very intimate contact with them. Arriving at his cottage I proceeded upstairs to find that his wife had been delivered of a male child about a quarter of an hour before my arrival; the next pain expelled the placenta, there was very little bleeding and the perineum was intact, this being her eleventh child. On visiting her the following day she said she had passed a good night and felt quite comfortable. Seeing her again on March 9th (the third day) she was still very comfortable, the temperature and pulse were normal and the lochia were perfectly sweet. She was not seen again till March 11th (the fifth day) when her condition was found to be far from satisfactory. She was then very restless, her temperature, taken by the mouth, was 104·2° F., her pulse was 132, and her tongue was dry. The nurse said that she had apparently been perfectly well up to the preceding evening (the 10th) when she had a shivering fit and then passed a very restless night. The abdomen was perfectly flaccid and there was no tenderness on manipulating the uterus; there was no enlargement of the spleen and the lochia were of good colour and perfectly sweet. On vaginal examination the os uteri was found to be normal. There was slight constipation and the milk was flowing freely. Thorough syringing with Condy's fluid and water was performed, a saline purge administered, and a mixture containing five grains of sulphate of quinine and fifteen grains of bromide of potassium to the dose ordered every four hours. The syringing was directed to be repeated three times a day. On inquiring of the nurse it was ascertained that the husband came from the kennels contrary to instructions on the afternoon of the 9th to see his wife, sitting with her during the evening and sleeping on the bed by her side during the night. The patient was now seen every day, her temperature keeping about 104° for the first three days and then fluctuating in twenty-four hours between 100° and 102°, sometimes higher in the evening and sometimes in the morning. Her pulse dropped to 112, at about which rate it remained throughout. She was kept on the quinine mixture for twelve days, it having to be stopped on account of the difficulty of administration. Her tongue got very dry and glazed; the bowels acted regularly and the motions were good. Milk, beef-tea, eggs, brandy, &c., were taken well. She continued in much the same condition for sixteen days, being delirious at night; her delirium then took on a low muttering form, difficulty was experienced in getting her to take nourishment, and she gradually sank and died on the 26th, the twentieth day after her confinement. I very much regret that I was not allowed to make a post-mortem examination.

Remarks.—The patient had always been a very delicate and anæmic woman and since her last confinement she had been under treatment for two months for anæmia. She had in her previous confinements been attended by a midwife and had always had a prolonged convalescence. It will be noted that the pyrexia was the only reason for calling the condition puerperal fever, not one of the other symptoms being present. It was in fact a fever occurring during the puerperal state. On the afternoon of March 9th the husband was with his wife and on the evening of the 10th the patient had her first rigor. Throughout the whole course of the illness the abdomen remained flaccid, manipulation of the uterus caused no discomfort, the lochia were normal, and the bowels regular. The case appeared therefore to be one of pyrexia only. The drainage of the cottage and the kennels was declared by the medical officer of health to be perfect. There was no history of the nurse having been near a woman suffering from puerperal fever. No cases of typhoid fever had occurred for some time within a radius of six miles. The kennels are situated right away from any houses. I should not like to assert that this was a case of puerperal fever caused by the organisms of distemper, but I think that the clinical history rather supports that view.

Edwinstowe, Newark, Notts.

A CASE OF JEALOUSY.

BY WILLIAM O'NEILL, M.D. ABERD., M.R.C.P. LOND.,
LATE PHYSICIAN TO THE LINCOLN GENERAL DISPENSARY AND TO THE LINCOLN LUNATIC HOSPITAL.

AMONG the multitudinous and multifarious cases of disease reported year after year in the columns of THE LANCET I have not seen a case of that very old and commonplace complaint, jealousy—or "spirit of jealousy," as it is named in the Scriptures, where it is fully described and treated. I would therefore ask permission to mention a case of it that has come under my observation.

Some years ago I was requested to visit a lady who it was represented to me was very ill and who consequently required immediate attention. On entering the house I was shown into the so-called sick-room in which there were three persons all of whom seemed to me to be in good health. There were present an old lady (the owner of the house) and her daughter, who had arrived a few days previously from a neighbouring county to spend two or three weeks with her mother, and the daughter's husband, whose visit was only to be for a day or two. The man was about thirty-five years of age, small in stature, swarthy in complexion, and plain-looking. The wife was a striking contrast to her husband; she was rather tall, remarkably fair and handsome, and was a few years younger than her good man. After taking a seat I asked which of them was the patient, but no answer having been given to my inquiry I asked again. Then the younger lady with some hesitation said: "I am the patient and my complaint is jealousy. I am jealous of my husband and if you do not give me something to relieve me I shall go out of my mind." This accusation against the little man seemed to me to be most ridiculous; indeed, I could not help thinking that if the accuser had been the accused it would have been more in the nature of things. I assured the lady I was extremely sorry for her, the more so that I was quite incompetent to treat such a case. However, I advised that a wise mutual friend should be consulted who would make things pleasant between husband and wife, for that in all probability there were no grounds for her suspicions. The husband protested his innocence and declared there was no cause whatever for her accusations. The wife persisted in reiterating them and so the wrangle went on till suddenly she fell from her chair on the floor in a fit the spasmodic movements of which were so strange and varied that it would be almost impossible to describe them. At one moment the patient was extended at full length with her body arched forwards in a state of opisthotonos. The next minute she was in a sitting position with the legs drawn up, making while her hands clutched her throat a guttural noise. Then she would throw herself on her back and thrust her arms and legs about to the no small danger of those around her. Then becoming comparatively quiet and supine she would quiver all over while her eyelids trembled with great rapidity. This state perhaps would be followed by general convulsive movements in which she would put herself into the most grotesque postures and make the most unlovely grimaces. At last the fit ended, and exhausted and in tears she was put to bed. The patient was a lithe, muscular woman and to restrain her movements during the attack with the assistance at hand was a matter of impossibility, so all that could be done was to prevent her injuring herself and to sprinkle her freely with cold water. The after-treatment was more geographical than medical. The husband ceased doing business in a certain town where the object of his wife's suspicions lived. He was enabled to do so by the kindness of a friend who exchanged part of his district with him.

This was not a case of epilepsy, for the muscular spasms of the patient were not exactly similar to those of that disease. Besides there was no foaming at the mouth or biting of the tongue and consciousness was not, I think, at any time fully at abeyance as is the case in epilepsy. The attack was a well-developed hysterical fit with a good deal of cataleptic rigidity of the muscles. The fit was not the disease, but it was the symptom or manifestation of a mind diseased or deranged, the state of the mind being the result of the woman's broodings over her real or imaginary wrongs. When the mind of a sensitive person is fixed on an all-absorbing subject like that of jealousy it may become unhinged and when this is the case the brain may I think occasionally relieve itself by explosions of more or less incontrollable and misdirected muscular energy. It lets off steam and perhaps prevents the boiler from bursting. But jealousy frequently assumes a violent and destructive character, for as the wisest of the sons of men says: "Jealousy is cruel as the grave; the coals thereof are coals of fire which hath a most vehement flame." Not long after the above case came under my notice I read in the *Standard* newspaper an account of three murders each of which was attributed to jealousy.

Again, jealousy in an inobtrusive form may be found influencing the course of many diseases and sometimes it may take such a deep hold on the mind of a patient that it may be considered the disease itself. It is not often, however, that a female patient will reveal to a third person the cause of her mental depression, loss of sleep and appetite, and her unwillingness to leave her room and resume outdoor exercise. A husband may throw some light on a case that is making little or no progress towards recovery. I have had cases illustrative of this kind of jealousy and have had one lately and this I know that in treating them a man requires to be a diplomatist as well as a physician.

Lincoln.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL FREE HOSPITAL.

A CASE OF SPREADING TRAUMATIC GANGRENE.

(Under the care of Mr. W. EVANS.)

FEW diseases possess more symptoms than does spreading traumatic gangrene. The time of onset of the gangrene and the rapidity of its progress are very striking, but the characteristic by which it is most readily recognised is the subcutaneous development of gas. In its symptoms the case narrated below was very typical but the micro-organism which was found in the affected tissues in this case was different from that usually described. The question of the form of bacterium present in most cases of acute spreading gangrene was settled by Chauveau and Arloing in 1884.[1] They showed that the organism was the "vibrion septique" of Pasteur, or as it is usually called now the bacillus œdematis maligni. There can be no doubt that this bacillus is the cause of the disease in nearly all cases, but other organisms have been described. Wicklein[2] found in three cases a bacillus differing in several points from the bacillus œdematis maligni. Bunge[3] discovered the bacillus coli communis in a case of this disease, and this bacillus was also present in the following example of spreading traumatic gangrene. The desirability of amputating through tissues already infected is doubted by many, but cases certainly do occur in which recovery follows, even though it has not been possible to remove by amputation the whole of the diseased structures, as shown by the presence of the emphysema beyond the site of operation, and especially is this true of the upper limb.[4] We are indebted to Mr. H. J. Walker for the notes of this case.

A boy, aged nine years, was brought to the Royal Free Hospital on Aug. 27th, 1897, suffering from a fracture of the radius and ulna of the right forearm; he also had a small punctured wound which did not extend down to the fracture. The whole arm at the same time was covered with dirt from the road. The boy was immediately put under an anæsthetic and Mr. Walker enlarged the wound and syringed it out with carbolic lotion (1 in 20), and then dressed it with cyanide gauze soaked in carbolic lotion (1 in 40); anterior and posterior splints were then applied and the arm was put in a sling and the boy sent home. The next day (the 28th) the patient came up to the hospital and said that he felt no pain and that the arm was quite comfortable. The fingers were not swollen or in the least blue. The same night the arm commenced to pain him slightly and his mother said he was rather delirious. The next morning (the 29th) the boy was brought up to the hospital with his arm almost black from the finger tips to the shoulder, covered with blisters, and emitting a foul odour. The whole arm was emphysematous and the emphysema extended as far as the lower part of the neck of the same side. The patient was at once admitted; his temperature was found to be 102·4° F., but he suffered no pain and there were no marked constitutional symptoms. Shortly after admission the case was seen by Mr. Evans, who amputated at the shoulder-joint, but it was considered almost hopeless as the discolouration extended beyond the site of amputation. On the night of the operation the temperature fell to 99·2° and the patient was ordered five grains of quinine every six hours. He did not sleep well, vomited three times, but took milk, soda-water, and beef-tea well. At 6 A.M. on the 30th his temperature rose to 102·2° and the discolouration of skin and emphysema were found to be extending up the right side of the neck and down the right side of the chest. All day he was slightly delirious; his temperature did not rise above 101°, but he vomited after taking anything by the mouth. In the night he gradually became worse, vomiting all food when fed by the mouth. Anti-streptococcic serum (30 c.c.) was injected subcutaneously at 12.30 P.M. The temperature in the night was 100°, the pulse was 160, and the respirations were 48. On the 31st the patient was much worse, the discolouration and emphysema had extended over the middle line to the left side of the sternum and almost to the lower margin of the ribs. Anti-streptococcic serum was again injected, but with no beneficial result. He did not regain consciousness during the day and finally died at 3.5 A.M. on Sept. 1st. On bacteriological examination of this case coverglass preparations and cultures from the intermuscular spaces of the amputated limb showed numerous specimens of a bacillus which proved to be the bacillus coli communis.

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[1] Étude Expérimentale sur la Septicémie Gangreneuse, Bulletin de l'Académie de Médecine, vol. xiii., p. 604.

[2] Centralblatt für Chirurgie, Jan. 28th, 1893.

[3] La Tribune Médicale, Nov. 28th, 1894.

[4] Erichsen: Science and Art of Surgery. Tenth edition. Vol. i., p. [illegible]

HULL ROYAL INFIRMARY.

A CASE OF HERNIA OF THE BLADDER.

(Under the care of Mr. HENRY THOMPSON.)

A MAN, forty-eight years of age, was admitted into the Hull Royal Infirmary on Oct. 19th, 1896, for double hernia. It was difficult to learn much from the patient about the ruptures, but he seems to have had a reducible hernia on the right side for twenty-three years; all that could be learned of the rupture on the left side was that he had had it for "a many years." He appears to have had no pain or trouble with either hernia until he began to wear a truss two or three years before admission which seems to have caused him a great deal of pain. On Oct. 8th the left hernia became irreducible and at the same time there was increased frequency of micturition but no vomiting. On the 19th he was admitted in order to have a double radical cure performed. The hernia on the right side was a femoral hernia of moderate size. Before the operation it was suggested by the house surgeon, Mr. Hainworth, that the frequency of micturition pointed to the presence of the bladder in the hernia on the left side. The operation took place on the 21st. On the right side the sac of the femoral hernia was separated from the surrounding structures and sewn in the ring, the redundant portion being cut away. The inner edge of the ring and the fascia over the pectineus muscle were then stitched together. On the left side a semi-lunar incision was made over the external abdominal ring and a firm semi-elastic swelling was found which greatly resembled a dense omental hernia. The dissection was continued and after cutting through at least half an inch of dense muscular and fibrous tissue a viscus was opened; it was lined with mucous membrane arranged in rugæ, and on examination it proved to be a pouch of the bladder, for a catheter introduced per urethram was made to project through the wound. The opening into the bladder was at first stitched up, but the attempt to separate it from the surrounding structures in order to return it into the abdomen caused the walls of the bladder to tear, so a serre-nœud was passed round and the projecting portion was cut off. The stump was then covered with tannin and iodoform and the skin-flap was loosely stitched over it. The aperture through the abdominal wall appeared to be in the position of a direct inguinal hernia. The patient passed urine about two hours after the operation and was instructed to do so frequently. The serre-nœud was tightened up daily. The urine contained a little blood for a day or two and the patient did well except for severe vomiting, which caused rectal feeding to be adopted on the 25th. The vomiting then ceased immediately and the wound on the right side was healed by the 26th, but on the left side there was a little sloughing, although the discharge was quite sweet. On the 30th the screw of the serre-nœud broke while being turned and urine began to ooze from the wound. By Nov. 2nd urine was being discharged freely from the wound and the next day a catheter was tied in the bladder. The quantity of urine escaping through the wound diminished, especially after the application of an elastic bandage and pad to the part, and by Nov. 28th all the urine came by the urethra. The patient was discharged on Dec. 9th with a small portion of the wound still unhealed.

Remarks by Mr. THOMPSON.—In an admirable article on Wounds of the Bladder in Operations for Hernia by Farquhar Curtis, published in the "Annals of Surgery," in 1896, I find that as early as 1769 Verdin published a treatise on "Hernia of the Urinary Bladder," which still remains one of the classics on the subject. From that date to almost the present time this variety of hernia has been considered a rarity and hence of little practical interest, but within the last few years numerous cases in which the bladder has been wounded during the operation for a radical cure have been recorded. The reason for the great increase in the frequency of this accident is undoubtedly to be sought in the altered methods of operating for hernia. In the old operation of herniotomy, consisting of a simple incision of the hernial ring, the bladder was not exposed to injury even if it were prolapsed and was not likely to be discovered even if it were injured unless very conspicuous. But the attempt to effect a radical cure now made even in cases operated upon primarily because they are strangulated necessitates complete dissection of the neck at least in order to ligate it, and if the hernia is in close relation with the bladder the latter is more likely to be discovered even if not wounded. As a rule the protruding portion of the bladder is so attenuated and altered that its recognition has sometimes been a matter of difficulty even after it has been opened and the surgeon has passed his finger into it, but in my case, instead of being attenuated, the walls of the protruding portion were enormously thickened, so much so that I do not exaggerate when I say that they were half an inch thick. This was the chief reason why I decided to remove the projecting portion as in the process of dissecting down so as to make out what was the nature of the tumour I more or less damaged its walls and the thickness thereof was so great that I felt I could not successfully stitch up the aperture.

The bladder may be involved in hernia in at least three different ways. The first and most common is the prolapse of a portion of the organ which is entirely extra-peritoneal either with or without a hernia of the bowel accompanying it. Two-thirds of the cases recorded are of this variety. Secondly, there may be a hernia of an intra-peritoneal portion of the bladder. About one-twelfth are of this variety. Lastly, there may be a hernia of both intra- and extra-peritoneal portions of the bladder; one quarter of the cases are of this variety. Of the cases recorded by Curtis one-fifth have been found in femoral herniæ.

As to the cause little is known except those general facts which apply to all herniæ, but it is especially to be noted how many of the recorded cases have occurred in herniæ which have relapsed after attempts at radical cure and which may be explained by the fact that in the operation it is customary to pull the sac well down when ligating it in order to secure a smooth internal surface for the peritoneal cavity, and this traction may certainly predispose it to descend if that portion of the peritoneum were further drawn upon to make a sac for the recurrent hernia.

The diagnosis has seldom been made in the recorded cases before the operation although certain symptoms such as my patient complained of may awaken a suspicion as it did in my case. When I mention that such men as Howse, Roux, Berger, Israel, Boeckel, Gueillot, Polaillon, Championnière and Thomas have incised the bladder before realising its presence some excuse may be afforded for any surgeon who happens to do so. The chief symptoms are difficulties in micturition, passing attacks of retention, alteration in size of the tumour during urination, vesical tenesmus, and the urine may show signs of inflammation. If strangulation occurs there is ordinarily no difference from the usual clinical symptoms of strangulated hernia.

If the bladder has been recognised before it has been injured it should of course be freed and reduced, the ring being closed as usual by sutures. In my case, however, even if I had not opened the bladder this would have been impossible owing to the enormously thickened and adherent walls. If reduction cannot be effected the surgeon must either leave things *in statu quo* or invert the protruded bladder and close the aperture with sutures. When the bladder has been wounded three methods of treatment may be adopted—the open method, treatment by ligature or by suture. By the open method, 3 out of 8 died; by the ligature, 3 out of 11 died; and by the suture, out of 18 cases 12 got primary union, 3 died, and only one was followed by a permanent fistula. Taking all the cases together in which the bladder was injured—namely, 41—11, that is 25 per cent., ended fatally, but in 3 of the fatal cases death was independent of the vesical injury.

KASHMIR MISSION HOSPITAL.

A CASE OF CARCINOMA OF THE RECTUM; EXCISION; RECOVERY.

(Under the care of Mr. Arthur Neve.)

The following case is of interest as showing that in some respects the perineal operation of proctectomy is more easily performed in women, especially in multiparæ, than in men, but it must not be forgotten that, as Allingham[1] has pointed out, the peritoneum descends lower in the female than in the male; in the former it is frequently less than 3 in. from the anus, while in men 3½ in. to 4 in. from the anus is the common site for the reflection of the serous membrane. The mortality of the operation is high; it has been given by Butlin[2] as 35 per cent., and by Ball as 16 5 per cent.; the one is probably too high and the other too low.

A Punjabi woman, servant in the family of a distinguished officer, had been ailing for some months but had had great increase of pain since a fall fifteen days before. She was admitted on June 7th, 1895. She appeared to be over fifty years of age and was exceedingly feeble. Much pain was complained of and there were frequent motions with much straining. Blood, mucus, and pus were passed. On digital examination a tumour could be felt on the posterior aspect of the rectum extending from near the sphincter for a finger's length upwards. Laterally it measured about two and a half inches in diameter. There was a considerable amount of thickening extending upwards with an ulcerated centre. Owing to the comparative accessibility of the parts in a multipara Mr. Neve decided to excise by the perineum. The operation was performed on June 13th with the assistance of Dr. Ashton and Dr. M'Culloch. The usual lithotomy position was employed. The anus was widely dilated. An incision was carried outside the sphincter for the posterior two-thirds of its circumference and continued back to the coccyx and a little up on the right side. The tissues were rapidly separated in front and on the left side cutting where necessary with scissors; pressure forceps were left on the bleeding points. Separation was then effected on the right side to a point level with the upper limit of the tumour. Thus a strip of the anterior surface of the rectum was left continuous with the sphincter. The attachments of the tumour above proved too dense for the écraseur, so they were cut through with scissors as high as the third sacral vertebra. The incision seemed to go through tissue infiltrated by carcinoma, as proved to be the case when the part removed was examined by Stiles' method. Mr. Neve cut away some nodules that were within reach and also a gland the size of a marble. The pelvis could now be easily explored as the gap admitted the whole hand. A strong solution of chloride of zinc was applied to the raw surface and the wound was packed with gauze, a glass tube having been inserted in the bowel, several pairs of pressure forceps remaining *in situ* till next day. The loss of blood had been considerable. The progress of the case was uneventful. On the following day the stuffing was removed. Fæces collected in the wound and had to be daily cleared out by syringing with dilute creolin lotion. Ten days later the cavity was fast closing and the wound towards the coccyx narrowing. On July 13th, a month after the operation, the patient was able to get about the ward and the wound was closed. She returned to her mistress in August and in the winter obtained employment elsewhere. When heard of she was said to be fairly well and at work (April, 1897).

Remarks by Mr. Neve.—The relief given to the patient by this operation was very striking. At the time I did not consider that the disease was eradicated and the history is not sufficiently complete to prove that it had been. At the operation the view of, and access to, the diseased parts was all I could wish for. To have performed Kraske's operation would have been needlessly severe and would scarcely have afforded any better chance of extirpating the disease. In this case it was not necessary to open the peritoneal cavity. The infiltration was all posterior with dense periosteal adhesions to the sacrum. Had the patient been a man it would not have been possible to have removed so much through a perineal incision. It is in males and in cases where the tumour is situated anteriorly, or where the peritoneal cavity has to be opened and the whole rectum drawn down, that Kraske's operation is serviceable.

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[1] International Encyclopædia of Surgery, vol. vi., p. 122.

[2] Operative Surgery of Malignant Disease, p. 241.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Cyst of a Sudoriparous Gland.—Blood in Pemphigus.—Intestine from Case of Strangulation.—Appendicitis.—Abscess of the Suprarenal Body.—Meckel's Diverticulum.—Anomalous Aorta.

A meeting of this society was held on Jan. 18th, the President, Dr. Payne, being in the chair.

Mr. Betham Robinson showed a Cyst of a Sudoriparous Gland with Papilliferous Ingrowths removed from the axilla of a girl thirteen years of age. The cyst was about one and a half inches across, translucent, and had only been noticed a short time before. It was excised and was found to contain clear fluid with no trace of sebaceous material. It was situated in the corium. The wall consisted of fibrous tissue with a lining of flattened epithelium. Projecting from the wall were several papillary ingrowths, which were covered by columnar epithelium. He could find no record of a cyst of this nature reaching such a size.

Dr. J. H. Drysdale showed microscopic specimens of the Blood from a case of Pemphigus taken twenty-four hours after the eruption of a fresh crop of bullæ. The blood showed some paucity of red cells and a remarkable number of eosinophile cells. Out of the leucocytes present no fewer than 69 per cent. were of this nature. Ten days later, when a fresh specimen of the blood was examined, there were only 8 per cent. Increase of eosinophile cells was met with in many skin diseases and in cases of bone disease, &c., but it was rarely that the percentage rose above 20. Kanthack had described as many as from 30 to 50 per cent. in cases of pemphigus and a high percentage had also been met with in trichinosis.—Dr. Galloway said that the hopes which had been entertained when the association of eosinophilia with pemphigus was first observed that it might serve as a diagnostic criterion had not been realised as a similar condition obtained in other forms of skin disease and in the fluid from ordinary blisters.—Dr. Arthur Whitfield said that the eosinophile cells, although present in cases of dermatitis herpetiformis and hydroa gestationis, did not occur in such large numbers, nor were they as numerous in blisters in healthy persons.—Dr. Lazarus-Barlow said that it had been questioned whether the cells in such cases as this were true eosinophile cells. He was inclined to think that they were. He thought that the numbers of these cells in a blister depended on the state of health at the time. In pemphigus the attacks usually occurred when the patient was out of health.—The President said with reference to Dr. Lazarus-Barlow's remarks that it was interesting to note that Sir James Paget in his early papers on Inflammation drew attention to the difference in the nature of the fluid in blisters according to the patient's state of health and even with the imperfect methods available he had noted the "corpuscular" character of the fibrin obtained or, as we should say, the number of leucocytes.

Mr. Wallis showed a piece of Intestine removed successfully in a case in which an artificial anus had been formed at an operation for the relief of intestinal obstruction due to a cicatricial band. As the artificial anus, which was in the small intestine, could not be induced to close by ordinary procedures he resected about seven inches of the gut with a perfectly satisfactory result. The specimen showed the small amount of adhesion which had taken place between the bowel and the skin and it also showed that there was a good deal of fatty degeneration of the intestinal wall at the point of apposition.—Mr. Wallis also showed the Inflamed Appendix from a Case of Acute Appendicitis removed forty-eight hours after the onset of symptoms, which were due to an abscess at its root.

Mr. Alexander Foulerton showed a Dilated Appendix which had given rise to no symptoms and was discovered accidentally during an operation for extra-uterine gestation.

Dr. A. W. Addinsell showed a specimen of an Abscess of the Suprarenal Body removed from a man twenty-eight years of age. He came under observation suffering from appendicitis which was followed by symptoms of general peritonitis. The symptoms referable to these conditions were subsiding when he began to have rises of temperature with several rigors. This was believed to be due to a return of Malta fever from which he had previously suffered severely. The only point against this view was the remarkably good pulse. After death no pus was found in the appendix and there was no pus in the peritoneal cavity, but an abscess of the size of a Tangerine orange was found in the left suprarenal body. It contained true pus and not softened caseous material. It was examined for tubercle bacillus with a negative result. There was no sign of tubercle or of pyæmic processes in any part of the body. There was, however, a strong family history of tubercle, one aunt having died from phthisis and another from typical Addison's disease, and a child of the patient showed signs of tuberculous disease, and he could not help thinking that it might have been the cause of the abscess in this case. He did not regard it as having any connexion with the appendicitis. The effect of extracts of the suprarenal body in causing a rise of arterial tension was well known, and he thought that the good quality of the pulse, which was so much at variance with his general condition, might have been due to an increased internal secretion by the gland in the early stage of the inflammation.—Mr. **WALLIS** had also seen the patient and confirmed the observations of Dr. Addinsell. He had been asked to perform laparotomy for exploratory purposes and at the time of the operation the appendicitis had so far subsided that he was unable to feel the appendix. — Dr. **BERTRAM ABRAHAMS** said that information was wanted as to which of the various organisms present in the appendix were responsible for the very acute form of inflammation which occurred in such cases as that brought forward by Mr. Wallis. He mentioned that there was one present in many cases which possessed a capsule and resembled Friedländer's pneumococcus.

Mr. **TREGELLES FOX** (Strathpeffer) exhibited a specimen of Meckel's Diverticulum which caused the death of a child five years of age. It was greatly dilated and had a free pyriform extremity. This had become lodged under a dilated transverse colon and its pedicle had become twisted, forming a band under which a coil of the small intestine had become incarcerated. Owing to the twisting of the pedicle and interference with the vascular supply sloughing of the wall of the fundus of the diverticulum had taken place, leading to perforation and fatal general peritonitis. In addition to the abnormality described there was an absence of an ascending colon, the cæcum being just under the liver. The ileo-cæcal valve was competent. Another developmental defect was present—partial cleft palate. Until the onset of the fatal illness, which lasted four days, there were no abnormal symptoms beyond those of dyspepsia.

Dr. **FREYBERGER** showed a specimen of an Anomalous Brachiocephalic Arterial Trunk associated with Aortic Incompetence and symptoms suggesting Aneurysm. The patient was a woman, thirty-six years of age, who was admitted suffering from aortic disease to the Great Northern Central Hospital under the care of Dr. Clifford Beale. A pulsatile swelling was observed above the right sterno-clavicular articulation which simulated an aneurysm. At the necropsy it was found that the swelling was due to an abnormal arrangement of the great vessels at the root of the neck. There was a large trunk arising from the summit of the arch of the aorta out of which sprang the right subclavian artery and both common carotid arteries as well as the inferior thyroid artery. The left subclavian arose from its normal situation. The first part of the aorta was dilated, but the rest of the arch was normal. There was extensive disease of the aortic valves of rheumatic origin.—The **PRESIDENT** remarked that the condition of things in this specimen was that normally occurring among some apes and some of the lower mammalia. It was of interest because Galen, who used apes for anatomical purposes, described it as the normal condition of the parts. The mediæval anatomists, who followed the authority of Galen, also figured this trunk in their anatomical works, and Dr. Freyberger's photograph strongly reminded him of illustrations which he had seen in the old anatomical treatises.

CLINICAL SOCIETY OF LONDON.

Obliterative Arteritis.—Obstruction of the Inferior Vena Cava.—Locomotor Ataxy with Complete Analgesia.—Trephining for Symptoms of Cerebral Tumour.—Arsenical Neuritis.—Injury of the Brachial Plexus.—Operation for Ulcer of the Leg.—Lesion of the Medulla Oblongata.

A MEETING of this society was held on Jan. 14th, the President, Mr. **LANGTON**, being in the chair.

Mr. W. G. **SPENCER** showed a man, twenty-seven years of age, suffering from Obliterative Arteritis. The first symptoms appeared in the left leg in August, 1897, and they increased till October, when amputation of the leg was necessitated through the development of gangrene, which spread up from the toes. By the middle of November the stump had healed and the patient's general health had greatly improved. The femoral artery was found to be obliterated in the stump, but the femoral vein was patent. Only one small vessel was tied and there was very little oozing. The skin of the right lower limb, which was colder than the left, had since desquamated, but was now almost normal. The case was similar to one reported by Mr. Pearce Gould in 1884 of a young man, nineteen years of age. In that case the disease, after progressing for about three years, came to a standstill. The late Dr. Hadden had recorded a case which he had watched for two years and the disease in his case also progressed for two years and then became stationary. In Mr. Spencer's own case the arteries in the right arm were thickened. The tibial arteries in the stump showed thickening of the intima and in the thigh the vessels were firmly thrombosed, but there was no obvious change in the arterial coats. The condition of the abdominal aorta and of the iliac arteries was doubtful.—Mr. **PEARCE GOULD** recalled the case of a man with gangrene of the left leg due to obliterative arteritis for which amputation of the leg was performed. He remained well for eighteen months and then symptoms developed in connexion with the right leg consisting of numbness, pain, and a sensation of cold. No pulse could be felt in the tibial or popliteal artery. The symptoms had persisted till the present time.

Dr. C. W. **CHAPMAN** showed a man with symptoms of Obstruction of the Inferior Vena Cava associated with Bradycardia. Both legs were swollen and there was a varicose condition of the veins of the legs and of the abdominal wall. There was a loud, rough, systolic murmur on the right side of the chest but no enlargement of the heart. There was no albumin in the urine. Dr. Chapman thought that the thrombosis was due to influenza, from which the patient was suffering when the symptoms developed six years ago.—Dr. J. J. **PRINGLE** related a similar case which had recently been under his observation in a lad thirteen years of age. When brought to him he was suffering from purpura on both legs, some of the spots having coalesced and ulcerated. On examination of the chest he found evidence of obstruction of the inferior vena cava. This appeared to have been an immediate sequela of an attack of scarlet fever. He recovered under simple treatment but relapsed a year later and again recovered. He thought that the bradycardia in Dr. Chapman's case was a coincidence.—Dr. **MORISON** remembered a case of venous thrombosis in a man, sixty-five years of age, which commenced in the veins of the legs and extended to the groins and ultimately to the external iliac arteries. He had two attacks of pleural effusion during his illness. He was very depressed and tried to commit suicide by refusing food, and during that time his temperature fell to 91° F. He died at the end of two years.

Dr. C. E. **BEEVOR** showed a case of Locomotor Ataxy with almost complete Analgesia. The man was fifty years of age and had shown tabetic symptoms for six years. There was no specific history. He presented all the ordinary symptoms of locomotor ataxy and in addition there was complete analgesia over the whole body except on and around the mouth. Loss of sensation to touch was slightly marked and present on the arms and trunk mainly. The analgesia began in the legs and spread upwards. Dr. Beevor accounted for the escape of the mouth by supposing that morphologically the mouth was the most anterior part of the body as seen in most of the lower animals.

Mr. **PEARCE GOULD** showed a man, forty-one years of age, whom he had Trephined for Symptoms of Cerebral Tumour. The patient, a robust man, who had not received any injury, was attacked by severe headache, followed by aphasia, twitchings, facial palsy, and paralysis of the right side of the tongue. As his condition was rapidly getting worse he was trephined on the supposition that there might be a tumour in the frontal lobe. The dura mater bulged but did not pulsate. The brain beneath appeared perfectly normal and exploration failed to find any excess of fluid. Nevertheless the patient began to improve and the surface of the brain instead of bulging became concave after a few days. After a time he resumed work and with the exception of a few epileptiform attacks he had been well.—Dr. **SIDNEY PHILLIPS** mentioned the case of a man who had received some injury to the head fourteen years before. Six months before admission he suffered from headache and vomiting. There was no optic neuritis. He had a very slow pulse and just before the operation it was as low as eighteen. As there was a tender spot he asked Mr. Pepper to trephine. Nothing was found except some thickening of the bone, but the patient made a complete recovery. Immediately after the removal of the bone the pulse rate rose to sixty and was sixty-seven when he left hospital.

Dr. Colman showed a case of Peripheral Neuritis from Arsenic. The patient was a girl, aged twelve years, who was admitted to the National Hospital for the Paralysed and Epileptic, Queen-square, Bloomsbury, in December, 1897, with the following history. From Sept. 27th to Oct. 28th (with the exception of six days when the treatment was discontinued on account of gastric disturbance) she was given fifteen minims of liquor arsenicalis three times a day for the cure of chorea. She left the hospital in which she had been treated cured of the chorea and apparently quite well. On Nov. 10th she complained that her legs were weak and tingled. In another week there was distinct ankle drop. When admitted to hospital there was almost complete paralysis of all muscles below the knees, with well-marked reaction of degeneration. There was also some weakness of the extensor muscles in the forearm with diminished faradaic reaction but no reaction of degeneration. There was no alteration of cutaneous sensibility but there was great tenderness of the muscles of the leg. There was well-marked arsenical pigmentation in the neck and groins. She had been kept in bed and treated by massage and galvanism and she was rapidly recovering. The case was of interest by reason of the delay that occurred between the cessation of the arsenical treatment and the onset of the symptoms. It also showed that these somewhat heroic doses of arsenic which were so much used in the treatment of chorea were not unattended by serious risk. Several instances of similar paralyses had come under his notice, and in one at any rate recovery did not take place.—Dr. Beevor said that he had seen a case in an adult after six weeks' treatment who presented double wrist drop with severe pain in the legs. There was no recovery two years later.

Mr. F. C. Wallis showed a case of Injury to the Brachial Plexus associated with Dislocation of the Shoulder. In June, 1896, the patient, a woman fifty years of age, fell downstairs and injured her shoulder. This was left unattended to for three weeks and an attempt was then made to reduce a dislocation. She came to hospital in December, 1896, complaining of a constant gnawing pain in the joint, and there was almost complete paralysis of the right arm with complete loss of sensation and glossy skin. He could feel that the head of the humerus was enlarged and he cut down upon it and found that the cords of the brachial plexus were implicated in tissue which was itself adherent to the periosteum. This was carefully stripped off and under a course of massage a great improvement had taken place. There was now a fair amount of movement and sensation had returned, though the skin was still glossy. There was no longer any pain.—Mr. Wallis also showed a man on whom he had operated for the relief of an obstinate Ulcer of the Leg by a new method. The patient had been shown before the society at the end of last session before healing was complete, and Mr. Wallis now brought him in fulfilment of a promise that he then made. It will be remembered that the method consisted in making two incisions through the skin and fat on each side of the ulcer, and raising the skin, &c., between these incisions and the ulcer from the deeper tissues. The edges of the ulcer were then pared and brought together, so that a gap was now left in healthy tissue at the site of the lateral incisions, which he filled up with Thiersch grafts. The ulcer and lateral incisions were now soundly healed. He had employed this method in two other cases since, and in one it had been successful, while in the other, a chronic case with much thickening, the result had been unsatisfactory.

Mr. Raymond Johnson shewed a child, twelve years of age, in whom he had ligatured a Femoral Aneurysm. She was brought complaining of pain in the right hip and a swelling in Scarpa's triangle which was at first thought to be an abscess in connexion with the hip, as the tissues above it were red and inflamed. There were, however, well-marked pulsation and thrill as well as a loud bruit. In operating he made an incision in the linea semilunaris through which an assistant could introduce his finger and control the external iliac artery. He then cut down on the aneurysm and turned out the sac, ligaturing the artery above and below. He could not say whether the profunda was involved. He thought that the aneurysm was probably of embolic origin, as the patient had extensive valvular disease of the heart.

Dr. Purves Stewart showed a man, aged thirty-eight years, who exhibited symptoms pointing to a Lesion of the Left Side of the Medulla Oblongata. There was no history of venereal disease. He had had an injury to the head some time since, but it was not followed by any symptoms at the time. A year ago he began to drag his right foot and then the right hand began to feel heavy. Five months ago he experienced difficulty in swallowing and articulation and his voice became hoarse. Three months ago, on admission, he complained of giddiness and unsteadiness in walking. There was no optic neuritis. Treatment by iodides and mercury was without effect. The symptoms seemed to point to a lesion of the medulla extending back to the left inferior peduncle of the cerebellum, and they might possibly be due to a tumour, an aneurysm of the vertebral artery, or, as suggested, to an exostosis. It was probable that the nerve roots rather than the nuclei were implicated.

Reviews and Notices of Books.

A System of Surgery. Edited by Frederic S. Dennis, M.D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College, &c., assisted by John S. Billings, M.D., Deputy-Surgeon-General U.S.A. Vol. IV. 1896. New York and Philadelphia: Lea Brothers and Co. Pp. 970. Price $6.

The fourth volume of this excellent System of Surgery is before us and we may say that we consider it to be in every way worthy of the three volumes which have preceded it. The subject of Tumours has been treated by the chief editor, Dr. Dennis, and in the 127 pages devoted to the article we find a very satisfactory account of these growths. In treating of the etiology of tumours the author quotes several cases in support of his contention that local injury is a very important cause of sarcoma of bone. In one case a man was thrown from a train and sustained a fracture of the lower end of the femur. The fracture would not unite and nine months after the injury a subperiosteal sarcoma appeared at the fracture. In another case the patient received an injury to the fibula while skating and in three months from the time of the accident a round-celled sarcoma developed at the site of injury. Several similar cases are narrated, but though we acknowledge that local injury may predispose to the formation of a growth, yet in the cases quoted there is no proof that the sarcoma was not already present at the time of the injury; especially is there reason in the first case to think that the bone was already the seat of a new growth when the fracture occurred because the bone would not unite. The cases are interesting but by no means conclusive. The classification of tumours is ingenious but we sincerely hope that the names suggested may not become commonly used as it would be appalling to have to speak of a "teleangeiectatic cylindro-cellular ino-epithelioma." We must also acknowledge that we fail to see why a fibroma (or, as the author prefers to call it, an "inoma") should be classed under "endothelial neoplasmata." A good account is given of the use of Coley's fluid in the treatment of malignant growths; and the opinion is expressed that the method has much value, but that as yet it is too immature. Dr. Edward K. Dunham, of New York, has contributed the section dealing with the microscopical structure of tumours; it is accurate and concise.

The article on Hernia has been written by Dr. William T. Bull, of New York, and Dr. William B. Coley, of New York. A very clear account is given of the various methods of radical cure of inguinal hernia and Bassini's method is preferred to the others. In speaking of the use of the worsted truss for infants the authors condemn it as worthless, quoting the results in a series of 250 children under one year of age observed at the New York Hospital for Ruptured and Crippled in which alternate cases were treated with the worsted and the spring truss, and the latter was found to be much the more satisfactory. This is hardly in accord with the experience of many English surgeons.

The alimentary canal for surgical purposes is somewhat arbitrarily divided into two at the ileo-cæcal valve, the surgery of the portion above the valve being treated by Dr. Maurice H. Richardson, of Harvard, with the assistance of Dr. Farrar Cobb, of Boston, while that of the remainder of the intestine is dealt with by Dr. Lewis S. Pilcher, of New York. The former of these sections is exceedingly well written and an excellent account is given of the most recent methods of suturing divided intestine. It is a little difficult to see why the surgery of the spleen is included in this section. The surgery of the large intestine occupies more than a hundred pages; it is satisfactory and needs no comment except perhaps the expression of a doubt as to the desirability of calling the use of Dupuytren's clamp "comparatively safe."

The articles on Appendicitis, by Dr. Frank Hartley, of New York, and on the Surgical Treatment of Appendicitis, by Dr. Charles McBurney, of New York, contain practically all that can be said about this important condition. Dr. Robert Abbe of New York, contributes the section on the Surgery of the Liver and Biliary Passages; the space devoted to abscess of the liver is small, but a clear account is given of the present state of our knowledge of the origin of hepatic abscess. The next four articles are devoted to gynæcological surgery—the Surgery of the Uterus, by Dr. W. M. Polk, of New York; the Surgery of the Ovary and Tubes, by Dr. J. Taber Johnson, of the University of Georgetown; Minor Gynæcological Surgery, by Dr. H. C. Coe, of New York; and Symphysiotomy, by Dr. W. T. Lusk; all the articles are good, but we must especially praise Professor Lusk's elaborate account of symphysiotomy; it deals fully with the history of the operation, the anatomy of the parts concerned and the operation itself. The author concludes that it is distinctly of value in moderate degrees of pelvic deformity, as when the conjugate is between two and three-quarters and three inches, that the prognosis both as regards mother and child is favourable, and that the operation is entitled to a high place among the measures available in the treatment of difficult labour. Dr. R. F. Weir and Dr. E. M. Foot write on the Surgery of the Thyroid Gland; they endorse Kocher's opinion that a transverse incision, convex downwards, gives the best cosmetic result. An interesting paper on the Surgical Peculiarities of the Negro is from the pen of Dr. Rudolph Matas of New Orleans. We will quote only two of the conclusions arrived at by the author: one is that middle-ear disease is much less common in the coloured than in the white, and the other is that new growths are more prevalent. The editor has contributed the article on the Diseases of the Female Breast; it is well illustrated. A short paper on the Use of the X Rays in Surgery with reproductions of skiagrams concludes the book. The whole volume is a very creditable production of American surgery.

William Harvey. By D'ARCY POWER, F.S.A., F.R.C.S.Eng. London: T. Fisher Unwin. 1897. Pp. 263. Vol. II. of "Masters of Medicine." Edited by the late ERNEST HART, D.C.L. Price 3*s*. 6*d*.

THERE is no name of which English medicine may be more justly proud than that of William Harvey and in a series of volumes dealing with the masters of medicine he rightly occupies one of the earliest places. If we have any fault to find with this life of the great discoverer of the circulation of the blood it is that it is all too short. For this the author is in no sense responsible; and as the series of which it forms part is intended for the general public as well as for the medical profession it may well be that the editor did wisely in limiting the size of the volumes. A short, readable and inexpensive biography is certain of a far wider circle of readers than a larger and more elaborately detailed one would be. Yet in the volume under review, so interesting is the story to be told and so well and lucidly has it been placed before the reader by Mr. D'Arcy Power that one is tempted to regret that the last page is reached so soon.

The facts of Harvey's life, from his birth in 1578 to his death in 1657, are fairly well known. He came of good yeoman stock. His father was "jurat" or alderman of the port of Folkestone. He himself was the eldest of seven—"a week of sons," as Fuller quaintly phrased it. His school life was mostly spent at the King's School in Canterbury, whither he was sent in the memorable year of the Spanish Armada. In May, 1593, he was entered as a pensioner or ordinary student at Caius College, Cambridge. After taking his B.A. degree four years later he went at once to Padua, then almost at the height of its fame as a great anatomical school. It was probably the friendship which he here formed with the famous anatomist Fabricius then studying the action of the valves in the veins and teaching, be it noted, the most egregiously false views as to their functions, which roused Harvey's special interest in the circulatory system. It is remarkable that almost nothing is known of the exact date at which he first conceived the theory of the circulation of the blood and thus laid the foundation of all modern scientific medicine. It is more than probable that he himself could have fixed no exact date—that the conception was not born in a single moment but was rather a gradual growth the result of years of patient labour and observation. As early as 1616 he had clearly enunciated the principle in his Lumleian Lectures at the Royal College of Physicians of London, of which the original notes are still preserved in the British Museum. But though his teaching on this point was not only totally subversive of all accepted ideas, but was destined to revolutionise the whole of medical science, it seems to have made little stir at that time and it was not until the publication in Frankfort in 1628 of his immortal "Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus" that general attention was drawn to the new theory. Then we have it on his own authority "he fell mightily in his practice," for, as Mr. Power adds, "it was believed by the vulgar that he was crack-brained and all the physicians were against him." 'Twere a fine theme for moralising, but we prefer in the short space at our disposal to dwell upon the essay itself, in which the great discovery was first stated and defended. The author of the present biography has done wisely to insert considerable extracts from this essay. No comment, however eloquent, could equal Harvey's own golden words as a proof of his absolute originality, his wonderful powers of observation and no less wonderful industry. "We are too much in the habit of worshipping names to the neglect of things," he says in one place. In this work he goes straight to the heart of "things" as he himself observed them, though it involved the overthrow o the "worship of names" and went dead against all tradition and authority. The closely-reasoned argument is supported at every turn by evidence drawn at first hand from the whole animal world. There were few representative animals which Harvey had not examined, dissected, or vivisected and every fresh experiment only served to confirm him in the absolute correctness of his theory. The "Exercitatio" of Harvey and the "Inquiry" of Jenner perhaps stand alone as models of scientific essays announcing great discoveries to the world. Harvey's second great work, "De Generatione," while of much less importance than the "De Motu Cordis," is nevertheless full of original observations and shows in a remarkable way Harvey's extraordinary knowledge of the habits and ways of animals, a knowledge which could only have been gained by years of observation and experiment. But in many parts it shows clearly that he had not shaken himself free from the trammels of the semi-mystic false philosophy of his time. What was the nature of his other works—for ever lost in the pillage of his house by Cromwell's soldiers—can only be surmised. "Let gentle minds forgive me," he wrote, "if, recalling the irreparable injuries I have suffered, I give vent to a sigh"; and after describing the destruction of his treasures he adds: "Whence it has come to pass that many observations, particularly on the generation of insects, have perished, with detriment, I venture to say, to the republic of letters." We have no space to dwell on the interesting and often exciting incidents and events which filled Harvey's long life—on his intimate relations with King James I. and his unlucky son the Martyr-King, his dramatic experiences during the Civil War, his close connexion with, and generous benefactions to, the College of Physicians, his retirement in old age, and his death in 1657. With all his peculiarities of temper and manner and the oft-quoted eccentricities which marked the later years of his life he seems to have retained to the last a personality full of charm and interest. Full justice to this as well as to the scientific and other sides of his many-sided character is done in Mr. Power's well-written pages, which should find a wide circle of readers both within and without the profession. We may add that among the illustrations is one showing a specimen of Harvey's handwriting (surely the most illegible man ever wrote), reproduced from the block used to illustrate a paper which appeared in THE LANCET of Jan. 19th, 1895.

Diseases of the Liver, Gall-bladder, and Biliary System. By H. J. WARING, M.S., B.Sc. Lond., F R.C.S. Eng., Demonstrator of Operative Surgery and Senior Demonstrator of Anatomy, St. Bartholomew's Hospital; Senior Assistant Surgeon, Metropolitan Hospital; Surgeon to the Belgrave Hospital for Children. Edinburgh and London: Young J. Pentland. 1897. Pp. 385.

THIS volume is an amplification of the Jacksonian Prize Essay for 1894. It has all the merits and defects that are invariable in such a work. Mr. Waring gives an excellent *résumé* of the most modern views on all questions connected with diseases of the liver and gall-bladder. The very full bibliography at the end of the book leaves out no writer of importance on the subject here treated. The main defect of the book is that the author is able to give so comparatively little from his own clinical experience. There is a full account of a very interesting series of experiments on animals proving that large wedges of liver substance may be removed with due surgical precautions and the animal recover completely. But it is at once obvious that the number of cases, in which such a condition in man as would necessitate such an operation is present, must be infinitesimally small if indeed diagnosable. There is no better summary of our present knowledge on diseases of the liver, especially from the surgical aspect.

Obstetric Accidents, Emergencies, and Operations. By L. CH. BOISLINIERE, A M., M D, LL.D., late Emeritus Professor of Obstetrics in the St. Louis Medical College, &c. Profusely Illustrated. Philadelphia: W. B. Saunders. 1896. Price $2 net.

THIS little book is "not a treatise on midwifery or a manual of obstetrics, of which," as the author says, "there are excellent ones already written." It is convenient as regards size, print, and arrangement, and should, if the advice given is sound, be found useful to turn to in a hurry when the practitioner has to act promptly and feels a little uncertain what to do. Testing it in this way we looked up accidental hæmorrhage as a good example of a case of emergency. We find that "the hemorrhage is more or less abundant if a considerable portion of the placenta otherwise normally situated has, from some violent or accidental cause, been detached. ...... This condition constitutes a case of *accidental hemorrhage* proper and is not caused by an originally abnormal implantation of the placenta, but by an accident which occasions its premature detachment and which gives rise to *unavoidable hemorrhage*." Seeing how almost universally among obstetric teachers the expression "unavoidable hæmorrhage" is understood to mean that due to placenta prævia we think, if the word "unavoidable" above quoted is not a misprint, such a passage is extremely confusing both to the student and the practitioner. Indeed, the author does not appear to regard accidental hæmorrhage as generally a matter of much importance. He recommends rest in the horizontal position as the general treatment for accidental hæmorrhage, but if this does not control the hæmorrhage and the loss of blood is alarming a tampon should be used according to the method described above. If the flow is then not checked forced delivery should be resorted to. He advises incisions to be made into the cervix and the child delivered with forceps or by version, according to the presentation. The line of conduct here recommended cannot be regarded as judicious. Incisions into the cervix and forced delivery are likely to lead to lacerations of the cervix and so to cause additional hæmorrhage, while if that is not fatal the patient will often die from post-partum hæmorrhage caused by the inertia due to the rapid emptying of the uterus. In some other sections we are not altogether in accord with the author's views. The print is clear and the illustrations are generally good.

LIBRARY TABLE.

Medical Hints for Hot Climates and for those out of reach of Professional Aid. By CHARLES HEATON, M.D. Brux., M.R.C.S. Eng., L R.C.P. Lond. London: W. Thacker and Co., 2, Creed-Lane. Calcutta: Thacker, Spink, and Co. 1897. Price 3s. 6d.—The title of this work is sufficiently explanatory of its nature. It is what it pretends to be—a portable book of medical reference with plain practical hints and advice for people residing at out-stations or travelling in hot climates where skilled medical aid is not readily available for the treatment of emergent sickness or injury. It is clearly printed and supplied with well-defined headlines to paragraphs which increase the facility of reference; the directions are simple and the list of appliances and drugs (of tabloid form for choice) recommended is not too large. It is a good, useful little book of its kind.

Die Farbenblindheit und ihre Diagnose. Von Dr. M. OHLEMANN. Braunschweig: T. H. Meyer. (*Colour-blindness and its Diagnosis.* By Dr. M. OHLEMANN. Brunswick: T. H. Meyer). 1897. Price 2s. Also Supplement. Price 1s.—In a compact form and with simple directness of description Dr. Ohlemann has prepared this handy volume with the object of instructing medical men and civil authorities who have to test the capacity of individuals to discriminate colours. Total colour-blindness, he points out, is a very rare condition, but, on the other hand, partial colour-blindess is fairly common. Holmgren estimated for Sweden that about 2 per cent. of the population were partially colour-blind, in one-half of the affected there being either complete green or red blindness and in the remainder an imperfect sense of colour. The author of this little work describes the various methods of testing—namely, by the spectrum, by contrast colours, and by pigments. A plate showing the normal spectrum and that as seen by the red-, green-, and totally colour-blind respectively is appended. A useful Supplement has also been issued containing cards of different shades of colour which may be substituted for coloured wools.

Les Troupes Coloniales: Maladies du Soldat aux Pays Chauds. Par F. BUROT, Médecin Principal de la Marine, et M. A. LEGRAND, Médecin de Première Classe de la Marine. (*The Colonial Troops: Diseases of the Soldier in Hot Countries.* By F. Burot, Chief Medical Officer of the Navy, and M. A. Legrand, Naval Medical Officer of the First Class.) Paris: J. B. Baillière et Fils. 1897. 1 vol., 8vo, pp. 184, prix 2fr. 50c.—This interesting little work is dedicated to Dr. Auffret, the head of the French Naval Medical Department. The opening sentence of a brief introduction runs as follows: "We know now in what proportion our soldiers die in our colonies." Each corps used to keep up its own statistical records, but apparently no attempt at a general compilation has heretofore been made. As the result of an inquiry undertaken by the authors we learn that the colonial military death-rate during the quinquennium 1891–95 was equal to 42·95 per thousand per annum, that of the Fleet and of the Army on home service for the same period having been respectively 11 and 6 per 1000. Naturally the incidence of the mortality varies greatly in the several colonies, ranging from 107·1 and 103·7 per 1000 in the Soudan and Madagascar, to 3·8 per 1000 in Guadeloupe, and 2·6 per 1000 in Tahiti. The causes that swell the death-rate in hot countries are comparatively few in number. According to the authors they may be grouped under the following twelve heads: 1. Paludism. 2. Dysentery and Diarrhœa. 3. Hepatitis. 4. Insolation and Heat-Stroke. 5. Cholera. 6. Yellow Fever. 7. Typhoid Fever. 8. Tuberculosis. 9. Other Diseases. 10. Wounds. 11. Accidents. 12. Warfare. To each of these subjects a chapter is devoted but, as might be expected, the first is by far the longest and the most important, paludism being responsible for three-fifths of the total losses. The grand source of disease and death is the soil. Telluric action is predominant in the genesis of the chief endemics, climate playing quite a secondary *rôle* as a producer of unhealthiness. As colonies grow older they become more salubrious because the conditions that foster malaria tend to disappear under the influence of civilisation. It should be the unceasing endeavour of those in authority to purge the soil of its malarious poison and keep it pure by sanitation.

Handbuch der Anatomie des Menschen. Herausgegeben von Professor Dr. KARL VON BARDELEBEN. Fünfter Band, Erste Abtheilung, Sinnesorgane. Erste Abtheilung, Haut (Integumentum commune). Von weil Professor Dr. A. VON BRUNN. Jena: Verlag von Gustav Fischer. 1897. Preis für Abnehmer des ganzen Werkes, 4 m.; für den Einzelverkauf, 5 m. (*Handbook of Human Anatomy.* Edited by Professor KARL VON BARDELEBEN. Vol. V., Part I., The Sense Organs. Part I., Skin (Integumentum commune). By the late Professor A. VON BRUNN. Jena: Gustav Fischer. 1897. Price 4*s.* for subscribers to whole work; 5*s.* if purchased separately.) —This instalment, the fifth that has yet appeared, of the serial issue of von Bardeleben's exhaustive treatise on anatomy forms a complete monograph upon the structure of the skin and its appendages and is written by the late Professor von Brunn, of Rostock. It opens with a description of the cutis, its general disposition and the variations in its structure seen in different parts—the subcutaneous bursæ—and the disposition of papillæ. The various layers are then described; first the epidermis and then the corium—the cell arrangement of the former and the disposition of the fibres of the meshwork of the latter being elaborately dealt with. Then comes the description of the elastic tissue, vascular supply, and seats of pigmentation of the skin. The development of the skin is briefly sketched, and a large part of the monograph is devoted to the structure of cutaneous appendages—hairs, and nails, and the glands. Separate sections are devoted to the nerves and blood-vessels, whilst the mammary glands, regarded as cutaneous structures, are described anatomically and morphologically. There is a full bibliography appended to the monograph, which contains within its 100 pages no fewer than 117 admirably executed illustrations.

JOURNALS.

Brain: A Journal of Neurology. Edited by A. DE WATTEVILLE. London: Macmillan and Co. Autumn, 1897.—This number of *Brain* which has just been issued is a most interesting one and its interest appeals not only to the clinical but also to the histological neurologist and to the general medical reader. The first article is on the Endogenous Fibres of the Lumbo-sacral Region of the Spinal Cord, by Dr. A. Bruce. An annotation on this article has already appeared in our columns.[1] This is followed by a description of the Morbid Anatomy in one of the exceedingly interesting cases of Hereditary Ataxy described by Dr. Sanger Brown in *Brain* a few years ago. Dr. Mumford's article on Survival Movements of Human Infancy is of interest even to the non-medical reader; and Dr. Harris's valuable observations on Hemianopia will awake fresh interest in this symptom. Dr. Grünbaum has a short note on Muscle-spindles in Pseudo-hypertrophic Paralysis and contrary to other observers believes he has found some change in them in this disease. Dr. Ruffini, of Bologna, and Mr. Victor Horsley both write on Sensory Organs in Voluntary Muscle. Dr. Foxwell describes a case of Acute Graves's Disease both clinically and pathologically, and Dr. Coombs Knapp, of Boston, contributes a suggestive article on Traumatic Neurasthenia and Hysteria. There is also a short account of the Proceedings of the Neurological Society at its Pathological Meeting in October. It will be seen that the number is one of much value and that the papers discuss several subjects which have comparatively recently acquired fresh interest.

The Practitioner.—With the opening of the new year this excellent monthly journal comes out with a newly-designed wrapper. From the editorial paragraphs we learn that several new features are to be introduced. Clinical notes from the hospitals will be published and communications from leading American medical writers are promised. The original papers for January are three in number. Sir William Broadbent contributes a practical paper upon Dilatation of the Stomach; Mr. Tubby writes upon the Immediate Reduction of Angular Curvature of the Spine; and Dr. Vivian Poore upon the Use and Abuse of Antiseptic and Germicide Remedies. Among these he mentions garlic (raw) as a means of getting rid of the foul odour of the sputa in bronchiectasis. The Hero of Medicine is mes Marion Sims.

Caledonian Medical Journal.—The subject of Second Sight, which has hitherto been discussed from a sympathetic point of view by Dr. Alastair MacGregor, of Huddersfield, is now criticised by Mr. Andrew Lang, LL.D. From the general tenour of his article and his references to "alcohol, fever, incipient brain disease," Mr. Lang is evidently no more than a half-hearted believer, but he nevertheless acknowledges that within the last three years a death was predicted by a "phantom coach" and that a cousin of his had a vision of a "thumbless hand." In conclusion Mr. Lang says: "It is a matter within my own knowledge that a percentage of people can provoke hallucinations by merely gazing into a glass ball. I have had experience convincing to myself that a small percentage of such hallucinations are 'veridical,' or, in popular language, are real cases of 'second sight.' Anyone who knows a Highland seer might make an interesting and harmless experiment by trying him with a glass ball." The article on the Macbeths of Islay, by Dr. Robert C. Maclagan, brings the series to a conclusion. Dr. H. Cameron Gillies continues his philological papers on the Gaelic Names of Diseases.

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[1] THE LANCET, Jan. 8th, 1898.

Archives Internationales de Pharmacodynamie. Vol. IV. Fasc. 1 and 2.—Plugge and Schutte have investigated the toxic alkaloid, dioscorin, extracted from the root of the yam, *Dioscorea hirsuta Bl.* They succeeded in isolating a pure substance melting at about 43·5°C., having an action like that of picrotoxin, but feebler. It first produces convulsions, but finally paralyses. It acts only on the central nervous system, not on muscle, nerve, protoplasm, or blood. It is easily identifiable by various chemical reactions. Laverman contributes an article on Merck's digitoxin. In a long and laborious research A. ver Eecke shows that thyroidectomy reduces the quantity of urine, diminishes the urea and the phosphates, but increases the chlorides in the urine. Partial thyroidectomy produces quantitatively smaller results. The ingestion of thyroid gland produces just the opposite effects except that the chlorides vary proportionately to the amount of water. The Pasque flower (*Anemone pulsatilla*) contains an alkaloid which has been once more investigated by Noel and Lambert. The pure substance is but slightly toxic as distinguished from the very poisonous properties of the plant as a whole. The volume is completed by a necrologue on Plugge by Heymans. Plugge was Professor of Pharmacy and Toxicology at the University of Groningen and died at the age of fifty years, a victim to beri-beri in Java, whither his enthusiasm to study the toxic plants of the Dutch Indies in their native home had led him. P. Courmont contributes an article on the Relation of the Agglutinating Power of "Typhoid" Serum to the other Properties Acquired by the Serum During the Course of the Disease. The first few pages are occupied with an endeavour to draw a distinction between "reaction of immunity" and "reaction of defence" and in describing the ordinary precautions necessary for experiments. Four sets were made in each series: A with agglutinated typhoid bacilli injected intra-peritoneally; B with the same dose (as A) of typhoid bacilli intra-peritoneally and the same dose of serum subcutaneously; C the same as A, with a non-typhoid serum; and D, with an injection of typhoid bacilli only. The inconstant form of bouillon culture was used. The serum was decanted a variable number (from one to ten) of days after collection and allowed to act a variable time (from nine to nineteen hours) on the bacilli. Whether any original serum contained typhoid bacilli or how the agglutinated bacilli were separated from the serum is not mentioned. Three animals were generally used in each set. Sometimes all three gave concordant results but generally only two out of three. Thus in one experiment A animals survived 39, 60, and 39 days and B animals 29, 33, and 4 days respectively; in another, A survived 14, 2½, and 13 days, and B ½, 14, and 13 days respectively. Courmont draws the following conclusions from his 78 experiments with thirteen sera: (1) during the first few days of illness the serum possesses a property *favouring* infection by bacillus typhosus; (2) later this is succeeded by a *vaccinating* (protective) property; (3) "typhoid" serum has an *attenuating* property proportional to its agglutinative power when left in contact with bacillus typhosus, but this property is independent of the two foregoing; and (4) there is a possibility of elaborating a serum *prognosis* as well as serum *diagnosis*.

Monist.—The least abstruse of the six original papers is one on the Philosophy of Laughing, by Dr. Paul Carus, the editor. Although the author does not approach the subject in a humorous vein the gravity of philosophical discussion is incidentally relieved by various historical pleasantries which he introduces merely for the purpose of illustrating his argument. The opening article is an ethnographical study by Professor G. Sergi of Rome. It is entitled "The Aryans and the Ancient Italians" and is based mainly on the craniology of extinct races. Professor Sergi concludes that the Aryans (in Europe) were represented in antiquity by the ancestors of the Celts, the Germans, and the Slavs; no Italian and no Hellenic people were among the Aryans.

Mercy and Truth.—Dr. Emmeline M. Smith describes her Persian experiences in Julfa, Ispahan and the neighbouring villages. Dr. Cook and Miss Timpson give an account of medical mission work at Mengo Hospital, Uganda. It is stated in the editorial paragraphs that there are forty-eight medical missionaries on the roll of the Church Missionary Society.

# Analytical Records
FROM
THE LANCET LABORATORY.

COKAY (COCA WINE).

(Allen and Hanburys Limited, Bethnal-green, E.)

The name of this preparation is derived partly from the word coca and partly from the word Tokay. It is in fact Tokay wine containing the principles of the leaf of erythroxylon coca. Analysis gave the following results:—Extractives, 19·27 per cent.; mineral matter, 0·55 per cent.; alcohol by weight, 14·82 per cent., by volume, 18·25 per cent.; equal to proof spirit, 31·99 per cent. The wine is said to be made not merely by the addition of the leaf extract but by macerating the dry leaves in the wine itself. We can quite accept this statement judging from the pleasant leafy flavour of the wine. That it contains an important amount of the active principles of the leaf is evident from the fact that the alkaloid cocaine was easily isolated and recognised. Since Tokay is a wine of peculiar value as a mild stimulant and tonic it affords an excellent vehicle for the purpose. The wine is sweet to the taste but possesses the agreeable characteristics of good Tokay.

BEEF-TEA TABULES.

(Brand and Co., Limited, 11, Little Stanhope-street, Mayfair, W.)

When, coupled with a consideration of the following results of analyses, it can be stated that the flavour of the beef-tea made from these tabules is satisfactory it will be evident that they are of distinct merit. The analysis was as follows:—Moisture, 15·38 per cent.; mineral matter, 11·68 per cent.; organic matters, 72·94 per cent. The organic matter was found to be composed as follows:—Muscular fibre, 11·40 per cent.; albumin, 1·88 per cent.; peptones, &c., 29·00 per cent.; meat extractives, creatin, &c., 30·66 per cent. The tabules dissolved in hot water require no further preparation. The resulting beef-tea is pleasantly seasoned and free from excess of salt. Its composition is quite in accordance with the requirements of invalids, affording the nourishing as well as stimulating principles of meat itself in a palatable form.

(1) PARAHYDROPIN; AND (2) COMPOUND SYRUP OF HYPOPHOSPHITES.

(Lorimer and Co., Britannia-row, Islington.)

The formula of Parahydropin is as follows: theobromine, 2 grains; calomel, ½ grain; sulphate of sparteine, ⅛ grain; and camphor, ½ grain. The diuretic action of theobromine is well known and the addition of the accompanying drugs affords a useful combination. The preparation is suggested as a substitute for digitalis, theobromine offering some advantages over caffeine in this connexion. Unlike the latter body, while it is a decided diuretic theobromine is more prolonged in its effect and is not so narcotic in its action. The Syrup of Hypophosphites is a very satisfactory preparation of standard strength and quite permanent. The preparation examined proved to be a clear, colourless syrup, absolutely neutral and containing no deposit. It may be relied upon as presenting in a perfectly stable combination the ingredients of an excellent tonic formula.

EDINBURGH TOFFEE.

(J. MCGILL, 29, ASHLEY-TERRACE, N. MERCHISTON, EDINBURGH.)

This confection resembles toffee in composition but it also contains the albuminoid constituents of milk. The materials employed are evidently carefully chosen.

RUSKS.

(L. T. OUWERKERK, FLUSHING, HOLLAND. AGENCY, J. GABOR AND CO., 35, LOWER THAMES-STREET, E.C.)

Evenness of texture and a satisfactory degree of crispness are the noteworthy features of these rusks. They are well cooked, of good flavour, and their crispness is preserved for some time. Their nutritive value is high seeing that as a result of careful cooking the carbohydrates occur chiefly in the soluble condition.

STERILISED MILK.

(J. HARRISON, EMMOTLAND DAIRY, NORTH FRODINGHAM, HULL.)

On opening the bottle containing this specimen the milk was found to be in a perfectly sweet and sound condition, which is sufficient evidence of its being satisfactorily sterilised. The specific gravity of the milk was 1034. The results of analysis were as follows:—Total solids, 11·35 per cent., fat, 2·43 per cent., mineral matter, 0·65 per cent. Satisfactory as the condition of this sample proved to be yet the milk is distinctly poor in quality. Both the fatty and mineral matters are decidedly below the figures of an analysis of milk showing a rich composition.

SUCHARD'S COCOA.

(P. SUCHARD, NEUCHATEL, SWITZERLAND, AND LONDON.)

On microscopical examination this cocoa proves to consist of an exceedingly finely ground powder. It possesses an attractive rich flavour, but contains a minimum quantity of the indigestible fat of the cocoa bean. Analysis gave the following results:—Moisture, 4·72 per cent.; fat, 32·80 per cent.; other cocoa constituents, 54·88 per cent.; mineral matter, 7·60 per cent.; alkalinity of mineral matter equal to 2·35 per cent. potash. The cocoa is quite neutral in reaction and therefore contains no free alkali. The method of preparation has evidently increased the mineral constituents with the advantage, however, of presenting the nourishing cocoa constituents in a more soluble and more easily digestible condition. The flavour of the infusion is rich and palatable, while no perceptible separation of insoluble matters occurs. The cocoa is evidently prepared on a line with dietetic requirements.

MALTED LEAVEN.

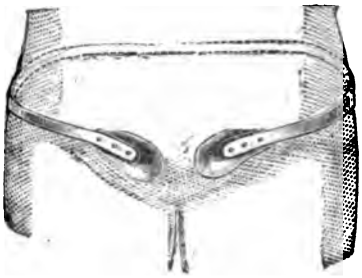
(W. G. DUNN AND CO., CROYDON, SURREY.)

We have examined this preparation carefully and find that it contains perfectly innocuous ingredients. On moistening it with water it effervesces, owing to the disengagement of carbonic acid gas. At the same time a pleasant malty smell is developed. It consists, in fact, of a mixture of bicarbonate of soda, tartaric acid (with a little starch), and active, dry extract of malt. Its function, therefore, is twofold—first, to "raise" dough and make bread light and spongy; and secondly, to exert some amount of digestive action upon the starches in the flour. The loaf thus produced certainly presents an excellent and uniform texture while the flavour is a decided advance on bread made in the ordinary way, being decidedly malty and somewhat sweet. The use of this "leaven" obviates, therefore, the uncertainty attending the preparation of bread with ordinary yeast, whilst the addition of active malt extract doubtless contributes advantages of a dietetic importance.

New Inventions.

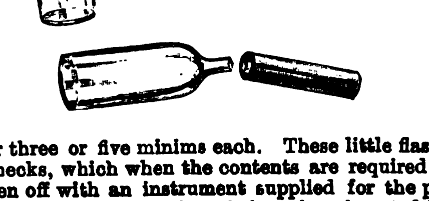
A WASHABLE TRUSS.

MESSRS. SALT AND SON, of Corporation-street, Birmingham, have now made several improvements in their well-known celluloid-padded truss which was described in THE LANCET as far back as Oct. 29th, 1892. The springs of the new trusses are covered with celluloid as in the original invention, but modifications have been introduced in the process of manufacture which have the effect of increasing the durability of this covering and giving a superior finish to the article. Messrs. Salt and Son manufacture washable pads for their trusses in several materials—namely, in ivory, in celluloid of different colours, and in porcelain—which last is less expensive than the others. They are all made in a special shape designed with a view to lightness and rigidity, the back of the pad being hollowed and channeled in such a manner as to give the least possible weight consistent with strength and durability; the surface and edges of each pad are also carefully finished so as to fit comfortably to the body. A washable truss of this kind which can be easily kept clean is in some respects superior to the ordinary pattern of leather-covered truss.



HYPODERMULES.

MR. FRANK A. ROGERS, of 327, Oxford-street, W., has introduced a novel method of putting up solutions for hypodermic injection, his system being one which seems to possess several advantages in respect of accuracy and convenience. Instead of the solutions being supplied in bulk and measured with the same syringe which injects them they are carefully sterilised after being brought to the proper strength and measured quantities are then sealed up in separate small glass flasks which are usually of the capacity of either three or five minims each. These little flasks have slender necks, which when the contents are required for use are broken off with an instrument supplied for the purpose, and the needle of the syringe being then inserted into the flask the contents are drawn up and the injection proceeded with in the usual way. The solutions are always ready for use; no matter how long they may be kept they cannot become concentrated by evaporation and therefore increased in strength; the sterilising reduces the after-risk of boils and pustules to a minimum; the inconvenience of having to dissolve a solid is avoided; and there is no fear of giving an over-dose. Any size can be made and any formula can be included in these hypodermules.



THE LANCET.

LONDON: SATURDAY, JANUARY 22, 1898.

IT can scarcely have escaped the notice of our readers that public opinion is in a state of ferment at the present time in regard to the army. Great additions have been made of late years to the extent of territory under British rule or influence and the responsibilities of the empire have been thereby vastly increased and multiplied, but the strength of the army has not been augmented in any corresponding ratio. The time has come, in the opinion of the Government, when this must be done. The proposal was no sooner started, however, than it gave rise to another issue underlying the whole matter—namely, as to whether the nation derived the benefit it had a right to expect having regard to the expenditure already incurred, and whether our whole army system did not require to be thoroughly overhauled and radically re-organised. As might have been expected these subjects have been, and are still being, very keenly discussed. On the one hand we are assured that the short service system with all that it has entailed has practically broken down, and on the other hand it is argued with considerable ability and with all the force of figures that it is a sound system and has been productive of great benefit to the army and nation. Be all this as it may, there can be no doubt that great political and social changes have been, and are still, taking place. A democratic spirit has set in and is spreading, and people are growing more averse than they were to habits of discipline and restrictions of personal liberty as well as more opposed to all class distinctions and privileges. This, we need scarcely say, is not a favourable spirit for increasing the popularity of the army as a means of livelihood. An army without discipline is a mob, consequently discipline there must be; but the questions have to be faced whether the army has kept pace with the times and whether a number of changes of a minor kind might not be introduced into it and many petty restrictions removed which would have the effect of popularising the service without jeopardising discipline.

In any case one thing is clear: there cannot be a river without water or an army without recruits. How are these to be obtained and of the right sort? That is the question which a good many people are asking themselves at the present time and about which medical officers might venture to give an opinion. In the first place recruits must be taken when they can be had and when they can be drilled, trained and disciplined, and that is when they are young; but they should not be regarded as soldiers available for service whilst they are still mere boys. It is opposed to all physiological law to expect the physical results of maturity from growing and immature frames, whether of men or animals. The best fighting age is probably from twenty-four or twenty-five to thirty-five years. Practically short and long service might, we think, in a sense be amalgamated or run together. If young and immature recruits have to be taken, the services of those who are willing to remain with the colours when they have matured and are trained might probably be secured by offering them fresh terms and a pension. The efficiency of the army is apparently being sacrificed for the creation of a reserve under the existing system. In the present day and with a voluntary system of enlistment a soldier serving with the colours requires to have "a clear shilling a day and all found" if the army is to compete successfully with employments in civil life. If it be the case, too, as has been recently stated, that about 25 per cent. of the casuals at some of the London workhouses are army reserve men, and if a large number of reservists are tramping about the country either seeking employment or avoiding it from distaste to all settled labour, it is a bad object lesson as far as recruiting is concerned. Recruiting establishments should not be in back streets, but in light, airy, and pleasant positions, with attractive exteriors and should be provided with good interior accommodation and clean, inviting arrangements generally. When so much has admittedly been done of late years to improve the health and material comfort of the soldier it is surely desirable that he should be favourably impressed with what he sees at the outset of his career in the army. The accounts which occasionally appear in the press about the needless discomforts to which soldiers are exposed on shipboard have a prejudicial effect on enlistment. They should be investigated and if untrue contradicted, or if true corrected and guarded against. We think, too, that if the system of military camps of exercise in which men of the regular army, the militia, and volunteers were brought together from time to time were extended the effect would be favourable for developing the growth of a military spirit. Young men of all classes like outdoor life and exercises and are glad of anything which promises change and adventure.

We are strongly of opinion that everything should be done to maintain and cultivate a spirit of *esprit de corps*. The soldier's regiment is his home; he takes a pride in its good name and is proud of its traditions. As many a young fellow who may be but little influenced by religious principles is restrained and solaced by thoughts of his home and what his mother and sisters would think of him, so is he powerfully influenced and attracted by the good name and reputation of his corps and by the glamour of its deeds of gallantry in the past. Military service in the British army with our numerous colonies and dependencies is quite different from that of Continental armies. India, with its great drain on the young manhood of this country, has, for example, to be provided for, and to do this by a separate long-service army for that country would, it is feared, be merely to remove one great difficulty by setting up other great difficulties of another kind. We think that all are agreed on developing as far as practicable a system of decentralisation in the conduct of army administration. If Lord LANSDOWNE has a difficult problem to solve he has now a great opportunity for making his mark as a War Minister and statesman, and his proposals are anticipated with great interest not only on the general question but with regard also to the Army

Medical Service. There can be no question that the popularity of the army is much increased by everything which tends to the cure and comfort of the soldier when sick or wounded, and to secure these good hospitals and an ample supply of well-trained medical officers are necessary. We consequently look to Lord LANSDOWNE to do his best both for the army and its medical staff.

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THE question as to what are the circumstances which justify the induction of abortion is one that often arises and can generally be answered without much difficulty if the fundamental principles that should guide us are borne in mind. We have reason to think, however, that at times, and perhaps not very rarely, practitioners who are fully alive to their responsibilities and really anxious to do their duty feel some doubt as to what is the proper course to pursue. Uncertainty of the kind referred to arises more especially, and indeed almost entirely, from the introduction of collateral issues into the main question. The wishes of the patient, or of her husband, or of her friends, for example, may be strongly in favour of the termination of the pregnancy, and it may need some firmness on the part of the medical man to disregard these wishes at the risk of giving offence and to form his opinion on the medical aspects of the case with due regard to the requirements of the law. Certain it is that medical men are frequently—none but medical men know how frequently—asked to terminate a pregnancy in circumstances in which compliance with the patient's request means the commission of a crime. There is apparently a good deal of ignorance on the part of some women about the right and wrong of the matter. Not very rarely a woman will say that when she and her husband married they agreed that there should be no family, that they formed plans of life which the presence of a family would seriously interfere with or completely alter, and she will, after the occurrence of two months' amenorrhœa has suggested pregnancy, come to her medical man asking him, as she may euphemistically term it, to help her and impressing it upon him *more feminarum* that he really *must* help her. When it is more or less gently pointed out to her that she is asking him to do what would be professionally infamous and what is besides actually a crime in the eyes of the law it is very common for her to say that at the early period of pregnancy supposed there can be nothing wrong since the child has not yet come to life. This is, of course, a ridiculous fallacy, but one often tenaciously clung to by women in such cases as that supposed. Argument with patients of this type is generally futile. Another plausible argument not rarely urged by women is that they are poor and unable to provide properly for children if they should have them. Neither of the two points just mentioned need, however, give rise to the least hesitation on the part of the medical adviser as to what is the right course for him to adopt. Neither inconvenience as regards private plans for the future nor even the real hardship that is occasioned, more especially to the children, by the marriage and fertility of persons unable to support a family are considerations that are entitled to the slightest weight as the law stands, nor do we think they give rise to any difficulty.

We now come to a more insidious argument than any we have as yet referred to. In no small proportion of cases both in married and in single women where there exists a strong desire to avoid giving birth to a child the patient will often declare her intention of committing suicide unless the pregnancy is terminated. She often threatens to take poison or to destroy herself in some other way. Now here several factors come into play. As regards the intention to commit suicide much obviously depends on the histrionic ability of the patient, much also on her force of character. According to her capacity, depending on both these factors, of leading her friends to believe that she really means to carry out her intention will be the effect produced on them. If they believe the patient is about to take her own life they in turn will be likely to urge on the medical man that to avoid a tragedy the pregnancy must be terminated and that it will be an act of gross inhumanity on his part to refuse to do so. It is in such circumstances that we think it may be helpful to some if we discuss the question a little and point out the fallacious character of this reasoning, since, if not clearly recognised as erroneous, it might easily lead to mistakes. The law forbids the production of abortion, but in certain cases it is justifiable to terminate pregnancy, the general law to the contrary notwithstanding. What, then, are the cases in which the practitioner may terminate pregnancy without breaking the law? The fundamental principle, we should say, is this: when the patient's life is *necessarily* exposed to great danger if the pregnancy is allowed to continue it is proper to terminate it after *adequate consultation*. In this enunciation of the general principle we should especially lay stress on the word "necessarily" and on the words "adequate consultation." To render abortion justifiable the continuance of the pregnancy must from the very nature of the case involve great danger to the life of the mother. Such cases are not common and in any particular practice we are sure they must be actually rare. When, for instance, a patient is the subject of the really dangerous variety of the vomiting of pregnancy—an extremely rare condition—it becomes justifiable to terminate the pregnancy. But the pernicious vomiting of pregnancy must be carefully distinguished from the more or less troublesome forms of the ordinary vomiting of pregnancy. The advice of someone of large obstetric experience should in such cases be sought, since, owing to the rarity of the disease, only someone with exceptional opportunities is likely to have seen many cases of it. The profound and progressive emaciation, the state of the tongue, which becomes dry and brown, the fœtor of the breath, the inability to sleep, the presence of blood in the material vomited, some fever, and an extremely small rapid pulse are the symptoms that characterise the really serious form of this disorder which we repeat is an exceedingly rare occurrence. In proof of this we may quote Dr. PLAYFAIR's words: "It has fortunately but rarely fallen to my lot to have to perform this operation for intractable vomiting."[1] Another example of a morbid condition justifying the induction of abortion is renal mischief that has supervened more or less acutely since the commencement of the pregnancy, with marked albuminuria, general œdema and perhaps ascites, and the presence of casts in the urine, and other grave symptoms of renal insufficiency.

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[1] Playfair's Midwifery, eighth edition, vol. i., p. 231.

No doubt also in some cases of contracted pelvis, where it is impossible for a living child to be born unless the mother is prepared to run the risk of Cæsarean section, she is entitled to exercise a choice. If she chooses that the pregnancy shall be terminated we cannot say that she is not within her right in doing so, and after proper consultation it is a legitimate thing on the part of the medical attendant to give effect to her wishes. Such cases, again, however, are certainly rare. A point that seems worth alluding to is that in many of the cases where abortion is especially and legitimately called for on medical grounds the patient herself has no desire for it and is not rarely averse to any interference. Again, we may say that the cases where the woman is most anxious to have the pregnancy terminated are precisely the cases to be regarded by the medical attendant with the greatest amount of suspicion and disinclination to interfere. Such cases furnish by far the largest proportion of the group in which the operation is not legitimate, or to speak more plainly in which to induce abortion is to be guilty of a crime severely punishable by the law. "Adequate consultation" is the other expression of special importance in the terms of the general proposition given above. Probably the text-books are partly responsible for some confusion that undoubtedly exists on this part of the subject. Thus in PLAYFAIR'S "Midwifery," already quoted from, we find this passage: "It is almost needless to add that no one would be justified in resorting to this expedient without having his opinion fortified by consultation with a fellow practitioner." This is very good advice as far as it goes, but it scarcely goes far enough, since there are instances where a medical man has been under the impression that his action in inducing abortion will be blameless so long as he can find another member of the profession to agree with him in considering interference justifiable in the particular case. It should be clearly understood that it is essentially a question of the rightness or otherwise of the operation in the case under consideration. If two men, or any number of men, agree to do what is wrong the action remains wrong notwithstanding the number of those concerned in it. Unless the grounds on which they decide to act are such as will satisfy the requirements of the law the mere fact that two or more are concerned, instead of one, in doing what is done is of no importance. It is not the number of practitioners concerned but the actual merits of the particular case that will render the course adopted legal or otherwise. The fact that a patient threatens to commit suicide unless her medical man terminates the pregnancy is no justification at all for him if he should comply with her wishes. That she threatens to do what is wrong in no respect improves his position if he consents to do what is wrong. If she is mentally in such a state as to be unaccountable for her actions that is a good reason for having such a patient carefully watched, or, if necessary, put under restraint. As a general rule, as is well known, patients who threaten to commit suicide in the circumstances in question do not do so. But it cannot be too clearly insisted on that a threat of this kind does not justify the induction of abortion. Were it otherwise the law against abortion would for obvious reasons at once become a dead letter. When all has been said the cases in which it is right to induce abortion are exceedingly few. The safest course in practice is not to prematurely terminate a pregnancy until it has been shown to be necessary by adequate and independent examination of the facts by at least two medical men and after consultation between them.

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THE deed which recently thrilled the public with horror and it might be said with something akin to a feeling of revengeful indignation has, by the verdict of the jury at the Central Criminal Court, been declared to have been that of a madman. To individuals unversed in the variations of mental alienation it was natural to view the "wilful murder" of Mr. TERRISS as the act of a wicked responsible agent. The definition of the crime set forth in the indictment and endorsed in the verdict implies that the murder was done under conscious motive. There can be no gainsaying the fact that this was so, but then we have to explain the inadequacy of the motive. Even were the alleged wrongs of the convict PRINCE real and not exaggerated—and undoubtedly they were imaginary—it will at once be evident that there could be no moral, much less legal, justification for such fearful reprisal. Either the act was an exhibition of cold-blooded villainy deserving the severest punishment or it was that of a man driven by an irresistible impulse and therefore not criminally responsible. Such at least are the alternatives consistent with the present state of medical science. The statute law is less exclusive, for there the gauge of responsibility is that the accused should understand the difference between right and wrong and be able to appreciate the nature and quality of the act.

In a general sense PRINCE knew right from wrong and if interrogated on the abstract question would probably have admitted that it was wicked and illegal to commit murder. His fault or failing in the first instance was in supposing a persecution that did not exist and secondly in magnifying the extent of it. Then another phase of mental disorder came in support of his delusional insanity to complete the history of a crime—viz., the inability to restrain himself from acting in obedience to his over-stimulated fancy. In past times he would undoubtedly have suffered the extreme penalty of the law, which recognised only in insanity an aberration of the intellect to the exclusion of its moral and impulsive forms.

The view held by Mr. Justice MAULE—a member of the committee of Judges appointed to consider the question of criminal responsibility—though singular in that it was much more comprehensive and more in accordance with physiological and psychological teaching than that of his colleagues, has gradually but surely forced itself upon the judicial mind. It has been our painful experience to witness the laboured efforts of judges to reconcile the correct interpretation of the wording of the law with the precepts of medical knowledge. Homicidal mania is now generally recognised as a valid defence in criminal actions, and there is little fear of an unfortunate prisoner being hanged for an offence which he has helplessly committed. Much that was formerly left to the judgment of juries is now submitted to them as facts upon which to base the consideration of their verdicts. We cannot help acknowledging the compliment paid to our profession at the recent trial in the qualification appended to the finding of the jury. "On the medical evidence," said the twelve good men and true, "we determine that the prisoner was insane at the time he murdered Mr. TERRISS and that he is insane now." It will naturally be asked why, if the prisoner was insane when placed in the dock, he was allowed to plead? The procedure was unusual and apparently illogical. It may be contended that if the prosecution knew the fact they ought to have called the medical evidence to prove it to the jury, in which case the trial would not have proceeded and PRINCE would, as now, have been ordered to be detained during HER MAJESTY'S pleasure. Possibly the Treasury were moved somewhat by the tension of public feeling and naturally wished that every feature of the tragedy and its antecedents should be fully demonstrated. Again, PRINCE'S behaviour when arrested and subsequently in the police-court did not betray to the unprofessional mind that intellectual derangement which is commonly considered as the only valid ground for a plea of irresponsibility. Moreover, the rigid portraiture of all the factors of a capital crime presented at a final tribunal is more impressive and convincing than the investigation in a court of committal. It might be argued that to subject PRINCE to the ordeal of a public trial knowing that he would be proved by the medical evidence to be insane was an act of unnecessary cruelty. The contention, however, could not be sustained when it is borne in mind how stolidly indifferent he was to his position, as shown by the utter absence of any sign of remorse and his persistent efforts to justify his act. It is probable rather that the publicity accorded him merely fed his vanity and was a source of pleasurable experience.

The general belief that persons at large must be considered of sound mind and that those who openly threaten to commit assaults are not the most prone to transgress the law—each a dangerous and fallacious conclusion—is the true explanation why men of PRINCE'S type are allowed unfettered enjoyment of liberty. Beyond all question had his mental state been fully inquired into long prior to the fatal attack on his unfortunate victim ample grounds would have been forthcoming to have ensured his being placed under restraint. As a lad he was a dreamer. Over-endowed with a sense of his own sufficiency and unheedful of the moral claims of others he drifted into deep waters. His false ambition, impossible of satisfaction, led him to look upon successful rivals as enemies and as persecutors. His delusion on this latter head becoming fixed, his unstable mind readily translated the means of revenge into the instrument of merited, and therefore justifiable, punishment. Wanting in will-power he at last found himself unable to resist the homicidal impulse. The fact that the crime was premeditated is not inconsistent with complete irresponsibility. He was deluded into the idea that he was being wronged and that it was right to revenge himself upon the fancied author of his misfortunes and sufferings. He was just as irresistibly impelled to provide the means and seek the opportunity to murder his victim as he was to commit the murder. The study of PRINCE'S life history and its tragic development give cause for anxious thought to those who are responsible for discharging from confinement, on *apparent recovery*, lunatics who have in their insane moments evinced homicidal symptoms.

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THE movement for the formation of a teaching university in London either by the reconstruction of the existing University of London or by the establishment of a new university to be practically controlled by the teachers has again been brought to the fore. Since the abandonment of the Bill of last year by the Government the question has practically been ignored until very recently. The plan for a separate university, to be termed the University of Westminster, has been widely circulated and has obtained a certain amount of support, more especially among medical teachers, many of whom are graduates of other universities and not of the University of London, but we doubt if there is enough enthusiasm behind the movement to bring it into the arena of practical politics. We know the fate of the Gresham University scheme, even though that passed through the ordeal of a Committee of the Privy Council. Lord HERSCHELL on one side and the LORD PRESIDENT of the Council on the other, seem to be agreed that one university in London is to be the final settlement of the difficulty. Mr. CHAMBERLAIN, at Birmingham, on the 13th inst., pointed out that although Mason College had now been raised to the dignity of a university college it had not yet become a university. "The fact was the need of a local university had been recognised, and that at the present time Birmingham and the surrounding district was the only great centre in England which was not already provided with such an educational institution. Liverpool, Manchester, and Leeds had their Victoria University. Newcastle was closely connected with Durham. Wales had its own university. London had a university of a kind—which when Londoners were able to make up their minds would doubtless develop into something much better." Nothing can be more frank or candid than this statement. The University of London must be reconstituted, for two universities—one an Imperial examining board and the other a teaching university as in Scotland or Germany—will evidently not be supported by prominent leaders of both political parties. It seems to us, therefore, that although two separate institutions form by far the best ideal, the reconstitution of the existing university should be firmly supported by everyone who is anxious that the London medical student should enjoy the same opportunity of obtaining a degree as do his fellow-students in Scotland and the provinces. If Birmingham becomes a local university centre the students of this great metropolis will alone be debarred from obtaining degrees on the same lines as those which exist in every other educational centre.

So far as the solution of the problem is concerned the meeting of the Convocation of the University of London on Monday last affords but little promise. The house was thinly attended and the debate was carried on for two hours by barristers, whilst practical teachers of science and medicine were conspicuous by their silence. Questions affecting the status of Convocation, the standard of degrees, and the equal treatment of internal and external students were discussed with a reiteration that was quite unnecessary. Every medical student is a collegiate and therefore an internal student. Candidates for degrees in arts and law are mostly non-collegiate and therefore external students. A division, in a house of 118, took place as to whether all the members of Convocation (some 4000 or more) should be invited to express their opinions *en plébiscite* and this was rejected by 76 votes against 42. The original motion, "That this house accepts the scheme embodied in the London University Commission Bill, 1897," was then put to the vote and passed. The dissentients declined to vote or to appoint tellers. The Bill is an avowed compromise, and like most compromises will have few ardent friends. The various bodies affected by the Bill will be received as a deputation on the 24th inst. by the Lord President of the Council, and then we shall be able to judge more clearly the intentions of the Government.

Annotations.

"Ne quid nimis."

A HERBALIST ABORTIONIST SENTENCED TO IMPRISONMENT.

A woman of Wigan, Nancy Bedford, a herbalist, has been found guilty, after trial at the Borough quarter sessions on the charge of unlawfully supplying certain noxious things with intent to procure the miscarriage of certain women. The prosecution was instituted under Section 59 of 24 and 25 Victoria, C. 100, which enacts: "Whosoever shall unlawfully supply or procure any poison or other noxious thing, or any instrument or thing whatsoever, knowing that the same is intended to be unlawfully used or employed with intent to procure the miscarriage of any woman whether she be or be not with child shall be guilty of a misdemeanour." The police of Wigan in using this Act effectually have set an example to the police authorities in other towns who can scarcely be ignorant of the fact that this system is carried on extensively throughout the land. Superintendent Barry, of the Wigan Borough Police, in consequence of certain complaints instructed two women to apply at the prisoner's shop, state they were pregnant, and ask for something to make them all right again. They were supplied with medicine and pills and the first woman in addition with a powder. The composition of these various drugs was ascertained by Mr. W. J. Orsman, F.C.S., public analyst for Wigan, and found to be as follows:—

Medicine—8 oz. bottle.

Colocynth	67 grains.
Aloes	90 grains.
Borax	77 grains.
Oil of savin	5 grains.

Two tablespoonful to be taken three times a day.

Pills.

Sulphate of iron	1 grain.
Ergotin	1 grain.
Ext. hellebor.	1 grain.
Ext. socot. aloes	1 grain.
Ol. sabinæ	½ grain.

Two to be taken three times a day.

Powder.

Colocynth	58 grains.

In the case of the first woman the powder was to be taken in two doses after finishing the medicine. Mr. Wm. Mitchell Roocroft, the police surgeon, gave evidence as to the dangerous nature of the medicines and the obvious and illegal intention with which they were supplied. Mr. William Barry, F.R.C.S. Irel., gave similar evidence. There can of course be only one opinion of the dangerous nature of the medicines here supplied and of the intention with which they were sold. The Recorder instructed the jury that the following points must be proved: (1) that the medicines were supplied by the prisoner; (2) that they were injurious, not necessarily fatal; and (3) that they were supplied with a knowledge that they were intended to be used unlawfully to procure miscarriage. In the end the woman was found guilty and sentenced to six months' hard labour. The case is a most important one. It shows what things go on and what crime is practised in the name of herbalism. We commend the action of the police of Wigan to the police authorities in all our large towns.

ELECTRIC RAILWAYS FOR LONDON.

The enormous, and as many people think, excessive growth of our modern cities has given rise to a problem which the smaller towns of our fathers were not called upon to face, the problem of rapid and easy communication between one part of the city and another. In London this difficulty is specially felt on account of its immense population, and the first great attempt to deal with it was the construction of the Metropolitan and District Railways. Much was done no doubt by this to relieve the pressure of traffic on our streets, but with the ever-increasing area of modern London much remains to be done. The perception of this fact has led to the proposal of many new schemes for railways, some of which, the City and South London Electric Railway for example, have already been carried out, while others, such as the Central London and the Waterloo and City lines are still in process of construction. Others, again, have been projected but not yet taken in hand. The problem of what we may call "city" railways—railways that is which exist solely for local passenger traffic in large towns—has been differently solved in different cities and countries. In New York the overhead system has been tried and from every point of view save the æsthetic may perhaps be considered a success. At Liverpool again, to come nearer home, the overhead system has been resorted to for conveying passengers to and from the docks, the motive power being electricity. Instances might be multiplied of different methods of dealing with the problem. In London the feeling against "overhead" lines in the streets is, we think, insurmountable, and in London, therefore, the needs of rapid communication between different districts can only be met by the underground system. The old form of underground railway, however (represented by the Metropolitan Railway), has at least one great disadvantage. It is enormously costly to construct. Much may be said in its favour on the score of convenience, and investigations have shown that it is not unhealthy, but its cost is almost prohibitive. The new form of underground railway (of which the City and South London Railway was the pioneer) aims at providing an equally convenient means of communication at a greatly reduced cost. In place of the large brick-lined tunnels of the Metropolitan Railway two iron tubes of comparatively small diameter are carried under ground at a sufficient depth to avoid any claims for compensation by owners of adjoining property (a most extravagant item under the old system). The train is worked and lighted by electricity, and the cars are built on the American pattern, the interior of each resembling pretty closely an ordinary English tramcar. The "up" and "down" trains run in separate tubes so that collision between them is impossible and the cars as nearly as may be fill up the total air space of the tube. The problem of ventilation in a tube at a depth of eighty or more feet below the ground might be thought to present difficulties, but this is solved by making the size of the carriages so nearly correspond to the diameter of the tube that each train as it passes through drives out all the air in front of it and draws in by suction a fresh supply from the station behind. The tubes are thus ventilated as it were automatically. This sounds so satisfactory in every way that we hardly like to point out the practical defects of the system as seen on the South London line, but those defects must be faced. In the first place, the travelling is very far from smooth even when compared with the Metropolitan Railway. The same fault is sometimes found by visitors in the case of the rapid electric tramways of, for example, New York. Indeed we have known bad sailors complain of true cross-channel qualms during a journey on the South London line. Again the new system is excessively noisy, mainly no doubt on account of the small diameter of the tubes. The metal casing may, perhaps, intensify this defect, but if the tubes were larger in relation to the cars the volume of sound would be less apparent in the increased air-space. The electric lights again are deficient in steadiness, but this might probably be remedied by some comparatively small alteration in the method of supplying them with power. It will be interesting to see whether the Waterloo and City and the Central London lines are able to adopt any means of successfully meeting these difficulties. Electricity we are always being told is the "motive power of the future," and its employment in underground railways has such obvious advantages that its progress deserves to be watched with interest.

THE MEDICO-LEGAL QUESTION OF THE INFECTION WITH SYPHILIS OF THE NURSE BY THE NURSLING.

PROFESSOR FOURNIER devoted his inaugural lecture at the Saint Louis Hospital to an exhaustive discussion of this question which may be difficult and have pitfalls for the unwary. In examining the nurse the discovery of a chancre in a position in which contagion from the child is possible is all-important (for simplicity, positions other than the breast are put aside). If a sore is present its induration and the existence of an indurated axillary bubo must be especially noted. If there is no sore, relics are to be looked for—a macula which is constant but lasts only for a few weeks; a cicatrix which is apparent in only two or three out of ten cases; induration which lasts for several weeks, and in the case of neoplastic-like chancres for periods up to five months; and a bubo which always remains for a certain time. The genital organs must be carefully examined and mucous patches in the form of papules or erosions must be distinguished from chancres, the presence or absence of buboes being especially noted. In examining the child the first point to be determined is—Is the syphilis acquired or congenital? In establishing the latter alternative the absence of chancre must be first ascertained. Next the period at which the secondary symptoms became manifested is to be noted. Every case in which secondary symptoms occur in the course of the first two months of life is congenital. Professor Fournier insists on this rule which he proves mathematically. Suppose that a child contracts syphilis on the day of its birth. The incubation period of chancre is three weeks at least—say, twenty days. The second incubation period averages about forty-five days—say, forty days; 20 + 40 = 60. Therefore the secondary symptoms of acquired syphilis cannot appear before sixty days (two months). Again, the presence of lesions peculiar to congenital syphilis will decide the question—coryza, pemphigus, epiphyseal dislocations, marasmus, cranial and nasal deformities. The examination of nurse and child being completed the relation of the disease in one to that in the other is to be considered. There are three possibilities. Either may have contracted the disease from the other or the attacks may be independent. At the examination of a case of hereditary syphilis the nurse showed some papulo-tubercular lesions manifestly too old to be the result of infection from the child. She proceeded to bring an action; inquiries were therefore made as to her antecedents, and it was found that four months before the birth of the child she was under treatment for constitutional syphilis. The previous condition of the nurse should therefore always be investigated, her child and husband (if there is one) should be examined. The condition of the former is of the highest importance. Immunity is an almost absolute proof of immunity of the mother. Syphilitic women may with rare exceptions beget apparently healthy children but scarcely with recent secondary syphilis present. Next the priority of disease in nurse or child must be ascertained if possible. The hereditary syphilis of the child, the previous immunity of the nurse, her infection by a mammary chancre which is in such a stage that it could have been acquired in the lactation being determined, is the practitioner justified in swearing that her syphilis must have been acquired from the child? Professor Fournier insists that he is not. All that he should say is that there are reasons which authorise the belief that the nurse could have acquired syphilis from the child. There may be other sources. Professor Fournier mentions a case in which the child suckled badly and the nurse disgorged her breasts to other infants in a public square, and two others in which chancres of the breast arose from venereal contamination.

THE CLIMATIC TREATMENT OF PULMONARY TUBERCULOSIS.

WE have on various occasions drawn attention to the views expressed by those who have studied the climatic conditions of the British Isles in regard to the suitability of various localities for the "open-air" treatment of pulmonary tuberculosis and have deplored the general inclination which exists amongst medical practitioners to send every person afflicted with this complaint to some foreign health resort. Fortunately this practice is not so uniformly adopted as it was a few years ago. Local medical geography is more closely studied and the result has been that several localities have been selected in which the "open-air" treatment may be satisfactorily carried out. For a considerable amount of our knowledge of the medical geography of Great Britain we are indebted to Mr. Alfred Haviland, late lecturer on the Geography of Disease at St. Thomas's Hospital. His article on this subject in Professor Clifford Allbutt's "System of Medicine" (vol. i., p. 46) contains valuable information, and in July of last year he published a paper in the *Journal of Balneology and Climatology* on Phthisis and the Isle of Man. This contribution has now been reprinted together with the Inaugural Address on Medical Geography as an Aid to Clinical Medicine delivered at the first meeting of the Isle of Man Medical Society in December, 1896.[1] Both articles well repay perusal. With regard to the occurrence of pulmonary tuberculosis in the Isle of Man Mr. Haviland points out that all the littoral districts exposed to the unchecked violence of the sea winds have the highest mortality from phthisis amongst females, whilst all the littoral districts more or less protected by precipitous cliffs have a low mortality. The more inland parishes also have a low mortality. Further, Mr. Haviland considers that there are many upland valleys in the Isle of Man where the open-air treatment can be well carried out; that these localities should be made known, and the building of small cottages encouraged, upon the rotatory or turn-table principle, so that the occupant would be able without difficulty to turn them round to any point of the compass required. We trust that further developments of such treatment will be carried out throughout the kingdom. There are thousands of patients who find it impossible to carry out their medical adviser's recommendation to "go abroad," whilst if such arrangements were made as we have before suggested some months might then be devoted to a restoration of health in an English resort similar in general arrangement to Göbersdorf or Falkenstein.

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[1] THE LANCET, July 31st, 1897.

THE HEALTH OF MR. GLADSTONE.

MR. GLADSTONE has suffered since the autumn of last year from a chronic nasal catarrh accompanied by facial neuralgia which resisted all the most careful treatment. Therefore, at Mr. Gladstone's urgent desire and because the climatic influence had previously always restored him to health, he was allowed to go to Cannes in spite of any risk attendant upon the long journey. At first the neuralgic pain almost disappeared and there were but fitful attacks. Subsequently the presence of the Mistral with cold and wet weather produced the return of the pain, but at no period has there been any evidence of increase of other inflammatory symptoms. The pain has continued since, though varying from day to day. This has doubtless had a depressing and disappointing effect upon the distinguished patient, but otherwise his general physical condition remains very much the same, and there is no further development to record. We are happy to be able to publish this information upon excellent authority, inasmuch as the rumours that were rife in the press during one or two days this week have been of a decidedly disquieting character.

ABDOMINAL SECTION IN CASES OF PROLONGED VOMITING.

WE have received a copy of a pamphlet by Mr. H. G. H. Naylor, of Hobart, Tasmania, containing a report of a most interesting case of obstinate vomiting in which abdominal section proved of the utmost value. The patient was a woman, a native of Tasmania, aged forty-four years, who stated that she had been vomiting all her food at irregular intervals daily for eighteen years. She had been under other treatment for most of this time without success. Mr. Naylor tried lavage but no relief was experienced. After observing the patient for some months and adopting various methods of treatment he came to the conclusion that there was pyloric obstruction and recommended an operation with a view either to perform pyloroplasty or gastrojejunostomy, according to the nature of the obstruction. This view was corroborated in consultation by Dr. Wolfhagen. Laparotomy was performed in the usual manner and the pylorus was found deep down and adherent to the liver, the stomach itself being empty, flaccid, and not at all enlarged. On trying to draw the stomach out into the wound it could only be drawn slightly forward, being tied down by adhesions to the bowel below. These adhesions were separated and the greater part of the stomach was liberated, but the pyloric end was left adherent to the under surface of the liver. The patient made an excellent recovery and appeared to be quite relieved. The cause of the sickness, in Mr. Naylor's opinion, was the existence of the adhesions tying the stomach down above and below and producing spasmodic vomiting and tightening or constriction of the pylorus. The case is a suggestive one and Mr. Naylor has done good work in placing it on record. Cases are not unfrequently met with in which vomiting resists all attempts at treatment; some of these may be "hysterical" in nature, but others cannot be so classified, and the success of this case adds support to the plan not unfrequently adopted of an "exploratory laparotomy." In recent cases the conditions found obviously indicate further operation, but in others the happiest results may ensue after the necessary surgical procedures have been carried out.

THE LATE PROFESSOR TYNDALL AND THE ROYAL INSTITUTION.

SIR JAMES CRICHTON BROWNE, the treasurer of the Royal Institution, has received a letter from the widow of the late Professor Tyndall enclosing a cheque for £1000. This sum was left by Professor Tyndall to be handed over to the Institution by Mrs. Tyndall at such time as should be most convenient to herself, "to be disposed of as the Board of Managers may see fit for the promotion of science." Sir James Crichton Browne, in acknowledging the gift, says that of course the managers would be guided as to the disposal of the sum by the wishes of Mrs. Tyndall, but that in the absence of any explicit directions it will probably be employed in original research. He also refers to the bust of Professor Tyndall by Woolner in the possession of Mrs. Tyndall and inquires whether she would allow a replica of it to be made for the Institution, that body not possessing any worthy presentment of the late Professor Tyndall. This generous gift from Mrs. Tyndall will be all the more welcome seeing that the Royal Institution possesses little or no endowment for research with the exception of the magnificent laboratories founded by Mr. Ludwig Mond, which were opened last year.

A STRANGE CESSPOOL FATALITY.

AT Leicester last week an inquiry was held into the circumstances attending the death of a labourer who had lost his life while engaged in clearing out a cesspool which was evidently used as a sediment tank in connexion with a brewery and malting house. The cesspool contained liquid matter, and it was necessary to empty this down an outlet pipe by means of a bucket. There were two men engaged in the operation. The atmosphere had previously been tested by lowering a lighted candle with satisfactory results. One of the men, who afterwards gave evidence at the inquiry, said that when he descended he did not notice anything unusual about the smell, but the air was rather warm. The smell was strong but it did not make him feel sick. His companion, the deceased, did not appear to show any signs of distress after working in the cesspool, except considerable running at the eyes. As the scavenging proceeded the smell became more marked. The deceased descended for the third time, the men evidently relieving each other in the work. The witness hearing a kind of thud soon afterwards proceeded down the ladder to see what had happened, when he found the deceased lying on his back with his head against the wall, only one leg and arm and his head being above the surface. The deceased groaned but he did not appear to be conscious. The witness was at length obliged to go to the top for assistance and subsequently when attempting to extricate deceased he himself was overpowered, became unconscious, and fell into the liquid. He however recovered and managed to ascend again and get assistance. He felt very ill and was conveyed home but he was not able to give evidence for some time. Dr. Young expressed the opinion that death was due to suffocation caused by drowning. The jury, however, returned a verdict that the deceased died from accidental suffocation by some sort of noxious gas present in the cesspool but of what kind it was impossible to say. The death may have been due to suffocation by drowning, but there seems little doubt that there was some deadly gaseous constituent present in the cesspool which had overpowered the deceased, since the man helping him was overcome in a similar way, though he escaped drowning. It cannot be too strongly impressed upon all those who engage men to do work in cesspools and excavations generally that every possible precaution should be taken to ensure the innocuous character of the atmosphere in such places. We should have thought that when dealing with a mass of waste and spent material derived from brewing operations some step would have been taken to ventilate the cesspool before a descent was made. It surely would not be a difficult matter in places where there is considerable steam power and machinery to connect an air-pump with the well so as to effectually drive out any poisonous gas that may be present, and the pumping could be continued so long as the labourers are engaged at their unenviable occupation.

AN INTERNATIONAL PHOTOGRAPHIC EXHIBITION.

THE announcement of an International Photographic Exhibition to be held at the Crystal Palace from April 27th to May 14th will be welcomed by a very large section of the public, for nowadays photography in its many applications is a pursuit followed almost by everyone. It is proposed to devote the entire nave of the Crystal Palace to this purpose. The arrangements have been placed in the hands of a committee the names of many of the members of which are well known in the photographic world. Half the number of the members composing the committee have been nominated by the council of the Royal Photographic Society, under whose auspices the exhibition will be held. We have received from Mr. R. Child Bayley, assistant secretary (a letter from whom is published in another column), a copy of the preliminary prospectus, from which it appears that the exhibition will be divided into eight sections: (1) the history of photography; (2) pictorial photography; (3) portraiture and general technical photography; (4) apparatus and material; (5) photo-mechanical processes; (6) scientific applications of photography (including medical photography and the application of the x rays); (7) photography in colour; and (8) photography as a science. With such an excellent and comprehensive programme in view the success of the enterprise should be guaranteed. All intending exhibitors should communicate with the secretary of the Royal Photographic Society at 12, Hanover-square, W.

CHARLES PELHAM VILLIERS.

THOUGH not concerned in the mere political aspects of the life of Mr. Villiers we are by no means disposed to withhold our tribute to his memory or the expression of our pride in the facts of his career. Such men, especially after the results of their labours are so universally admitted, cease to be the property of any party and become the veritable Fathers of the State. Besides, the nature of the legislation which Mr. Villiers initiated in Parliament and to the success of which he so greatly, yet so modestly, contributed was such as to call for our special meed of praise. It had reference to the supply of the food of the people. If there is one supreme duty of a State it must be to make the preservation of life possible to the poorest and the most laborious classes of the people. This was the object to which Mr. Villiers devoted himself almost against hope in the early part of his Parliamentary career and before Bright and Cobden by their eloquence had made it a burning question outside. It was the first big step in the direction of that social legislation which has for its primary object the health and the happiness of the people and which has carried the glory of the Victorian reign beyond all precedent. The aristocratic connexions of Mr. Villiers only make his merit the greater as they must have involved greater difficulties and prejudices to be overcome. In the same direction was his great work as head of the Poor-law Board in the Union Chargeability Act, which in its way was as humane and as great a boon to the poor as the repeal of the Corn Laws. We must not close without a word on another aspect of Mr. Villiers's life—its great length. He was born in 1802. And there is much of both moral and physiological interest in the fact that he not only lived for so long but held the position of Member of Parliament till the time of his death. Here is a lesson of permanence and persistency to public men. Mr. Villiers did not do his great work because he was physically strong; he was, on the contrary, of rather delicate constitution as a young man. Twenty-five years ago he was an old man and somewhat feeble, yet he has lived in honour among all men and all parties and in the length of his life and of his connexion with Parliament and with the constituency he represented for sixty-two years has left a record that is creditable to all concerned.

DIPHTHERIA AND THE LOWER ANIMALS.

AT Pembridge, near Birmingham, several cases of scarlet fever and diphtheria have lately occurred. All the cases of diphtheria—namely, five—were in one house supplied with water from a tank. This tank upon being opened was found to contain a dead mole to the presence of which Dr. Harding, the medical officer of health, attributed the disease. He reported these facts before a meeting of the Kington Rural District Council on Jan. 13th, and also mentioned that he had heard of a similar case before. The mole is an animal about which, owing to its habits, not very much is known. Worms form the staple of its diet, but it has been known to catch and eat birds and sometimes its fellows. That certain of the lower animals suffer from diphtheria or an analogous disease is well known, and the transference of diphtheria from the cat to human beings is not uncommon, but transference from the mole is we should say exceedingly rare. Amongst other diseases transmitted from domestic animals to human beings, leaving out of the question such well-known ones as anthrax, are "psittacosis" from parrots a complaint which has been variously described as resembling pneumonia and yellow fever, and favus which has been spread by the cat and the mouse. The spread of plague through the agency of monkeys and rats has been much in evidence in India of late and there is, we fancy, little doubt as to the *rôle* of flies in carrying infection. But for an animal like the mole, which is purely carnivorous and spends its life as much as possible out of contact with human beings, to contract diphtheria opens up new fields for inquiry as to the spread and mode of growth of the diphtheria bacillus.

LUMBAR PUNCTURE OF THE SPINAL THECA.

PROFESSOR GOLDSCHEIDER has contributed an article on this subject to the third edition of Eulenburg's Real-Encyklopädie. An abstract of this appears in the *Neurologisches Centralblatt* of Jan. 1st. The history and technique of the operation are first dealt with and then the writer considers (1) the diagnostic significance of puncture; and (2) the therapeutic effects. As to the former he considers the method most useful as an aid to diagnosis. It furnishes in doubtful cases confirmatory evidence of an increase of cerebrospinal fluid and of pressure. If, clinically there are symptoms of severe pressure, and lumbar puncture furnishes evidence of only a moderate increase of fluid, an acute process might be inferred to exist. Distinct increase of albumin in the fluid would exclude simple hydrocephalus; on the other hand, a trace of albumin would indicate that the collection of fluid was not likely to be that of an acute inflammatory process but was probably the result of a damming-up of fluid such as occurs in cases of cerebral tumour. The significance of the sugar reaction is difficult to estimate. Coagulation of fluid probably indicates inflammatory affection, and its absence, tumour or hydrocephalus. Turbid fluid with numerous cells is in favour of purulent or chronic meningitis, although the fact that the fluid is clear does not necessarily negative such a diagnosis. Repeated withdrawal of blood-stained fluid probably indicates ventricular hæmorrhage, possibly bleeding into the subdural space. Tubercle bacilli, of course, indicate tuberculous meningitis and puncture makes it possible to diagnose acute serous meningitis. As to the therapeutic effect of the operation Professor Goldscheider thinks that in certain cases distinct improvement is to be expected. In conclusion the accidents that may be caused by spinal puncture are enumerated, especially such as may be caused by too rapid or too complete withdrawal of fluid.

A SKILLED ABORTIONIST.

ONE of the disgracers of his profession received his deserts at the Central Criminal Court on Jan. 18th in the shape of a sentence of seven years' penal servitude. His name was James Charles Ady and it will be remembered that a little time ago he, in conjunction with a woman calling herself Graham, brought an action against the *Sun* which was dismissed. Ady's name was then removed from the Medical Register and on Dec. 13th, 1897, Graham was sentenced to a term of imprisonment for illegal practices at Edinburgh. The offence for which Ady was sentenced on Tuesday was attempting to procure abortion and also for conspiracy to perform illegal actions. His fellow-conspirator was a man named Tomasso and both scoundrels received the same sentence. As the judge remarked, it is the very skill of men like the prisoners that makes them so dangerous and everyone will agree that their punishment is in no way too heavy.

INTELLECT AND FUN.

THE author of "Alice in Wonderland" is dead, to the supreme regret of those who knew him and of those to whom he was a stranger personally. It has apparently surprised many of those called on to write biographical notices of him in our contemporaries to find that the author of the best book for children in the English language was a college don, a lecturer and writer on higher mathematics. Some have even gone so far as to hint that Lewis Carroll mistook the vocation of Charles Lutwidge Dodgson when he allowed that little-known person to write on mathematics at all. And yet as a mathematical writer and teacher Mr. Dodgson was neither unsuccessful nor obscure, and there is nothing in the fact of a man being able to fascinate the world of childhood to disqualify him from the possession of intellect of a high order. It may be the case that not many mathematicians care to amuse children. The same may be said of grown men in any class of intellectual workers and it must be added that fewer still have published their work in such directions. The Christchurch don was devoted to children and especially popular in the family of the famous Dean who has just passed away at the ripe age of eighty-seven. In this congenial circle he told stories such as his clever brain devised, and grown-up people who heard them and saw how thoroughly they had captured the imagination of the children urged him to publish the stories. He did so with the result that the pseudonym under which he veiled the mathematical tutor became one of the most widely famous names in Victorian literature. That a man because he is devoted to mathematics must be destitute of humour can hardly be said. Professor Kingdon Clifford published one or two little parables well calculated to amuse children if not so famous as the Adventures of Alice or as the Hunting of the Snark. Augustus De Morgan in his Budget of Paradoxes made others besides mathematicians smile over the amazing communications made to him by those with mathematical bees in their bonnets. Professor De Morgan's work is not for children, nor is it a fairy tale any more than the Mathematical Diversions of Mr. Walter Rouse Ball of more modern date, but both teem with humour. Dr. Edwin Abbott, at the time head master of the City of London School, a senior classic and a Hulsean Lecturer, was guilty of an excellent piece of mathematical fooling entitled Flat Land, a Romance of Many Dimensions. Good fairy tales are very rare. If out of the pile of elaborately got-up works circulated each Christmas we try reading to a child we soon fall back in despair upon Grimm, Andersen, Lewis Carroll, Kingsley's Water Babies, and very likely upon Tales at Tea Time by Mr. Knatchbull-Hugessen (afterwards Lord Brabourne), a hard-working politician who declared that he composed them during dull debates in the House of Commons, and admitted that most of the debates being dull he was afforded plenty of opportunity. We may even find what we want written by a lawyer, and a county-court judge at that, in the History of Katawampus by his Honour Judge Parry. Lewis Carroll is dead, the creator of Alice; the Rev. Charles Dodgson is dead, the author of A Syllubus of Plane Algebraical Geometry and similar works; and the world is the poorer; but let us not be surprised to find that high intelligence is compatible with humour, love of children, and sympathy with their mirth.

THE ARCHBISHOP OF CANTERBURY AND THE STUDENTS OF LONDON HOSPITAL.

ON the 11th inst. the Archbishop of Canterbury visited the London Hospital in connexion with the London Hospital Christian Association which is connected with the Medical Prayer Union. The Archbishop delivered an address to a large number of students and members of the medical staff. In doing so the Archbishop made good use of his great office and set an excellent example to other ministers of religion. Many of these, we fear, are apt to regard medical men as an unresponsive audience. The existence of such Christian associations in our hospitals and the support which they have from some of our leading physicians and surgeons might make men pause in entertaining such notions of the profession to which Sir Thomas Browne, Henry Vaughan, and Dr. Abercrombie belonged. The mistake is a great one, for there are no men more ready to regard the moral and religious side of human nature or more capable of doing so than the members of the medical profession. They of all men see proofs of the unsatisfying nature of mere physical and natural good and are glad of any encouragement or help to cultivate the religious side of truth. The Archbishop did full justice to the medical profession and to the study to which it is addicted as one great means of getting at truth. He thought the study of the human body "a glorious occupation" and one standing at the very head of all natural studies. Even astronomy was not, after all, either in importance or promise for the future, to be put by the side of the study of the human body. He recognised generously the great progress such study had made of recent years and the beneficent purposes to which it had been applied. He also showed much belief in the future of the study of medicine and anticipated a time when the present progress would be spoken of as comparatively very small. Still, as in duty bound, he showed the limitations of our knowledge of truth as it enters through the senses and pointed out the temptations of the students of nature to neglect the testimony of cor science and of the spiritual faculty within us and urged them to conduct "thei lives on high principles, to meditate on the great truths of morals, and to turn to thoughts of Him who is the source of all morality, not merely the law of all morality, but Himself the giver of it all." Medical men, whether students or practitioners, will respond to such appeals. Whatever the anatomical points which differentiate man from animals they are dwarfed by the moral distinctions. The possession of conscience, the capacity for Faith, Hope and Charity are peculiarly his and they involve religion and all its great beliefs.

THE PLAGUE IN INDIA.

As our readers are aware we have repeatedly stated that the epidemic of plague in India was a very grave matter and that it had apparently gained such a hold that its proportions in the affected districts were calculated to give rise to serious alarm. We regret to say that the latest reports from Bombay quite bear out this view. The epidemic in that city has been greatly aggravated of late; the type of the disease is of a more virulent character than that of last year and the mortality is reported to average more than 200 daily. It is scarcely necessary to add that trade is paralysed, and there is a renewed exodus of natives from Bombay. The disease also largely prevails in Poona and in the Deccan. The local government is doing all it can to deal with the epidemic, and the India Office in this country has for some time past been fully alive to the gravity of the case. The India Office, in response to a telegram from the Indian Government to the Secretary of State to that effect, has asked for the aid of additional medical men and nurses for temporary service in India in connexion with plague work and it is quite possible that still further reinforcements will be required. There has been, and still continues to be, a good deal of activity in the India Office in replying to the telegrams and applications that have been received from medical men and nurses, and those selected for employment have been directed to present themselves for medical examination as to their physical fitness for service in India.

FOOTBALL IN THE UNITED STATES.

FOOTBALL as played in the United States would seem to be a more dangerous game than it is in England. Serious and even fatal accidents more than occasionally occur in Great Britain, but they do not happen with the alarming frequency that has been the case within the last few years in the United States. A correspondent who writes to the above effect states that in England there are absent many of the brutal features that characterise the game in the States. This fact, too, is becoming generally recognised by the American public, and it has been for some considerable time a matter of grave discussion as to whether legislation should not be called upon to intervene to do away with some of the more dangerous points of American football. Georgia, the first State to take the initiative, has gone even further than this and, aroused by the death of a student as the result of injuries received at football, has passed a Bill through the House of Representatives of Georgia making it a misdemeanour to engage in the game when matches have been arranged or gate money has been demanded. This Bill passed the Lower House by an overwhelming majority and the action was endorsed by the Senate. Owing, however, to strong pressure being brought to bear upon the governor of the State he has been prevailed upon to exercise his right of veto and render the proceedings of the two Houses of Legislature of no effect. Nevertheless, although the Anti-football Bill in Georgia has not become law, yet the very fact that such a measure should have been deemed necessary by a majority of the Georgian legislators will undoubtedly exert a salutary influence on the conduct of the game throughout the entire country. The *New York Medical Record*, referring to the question, says: "In view of the great number of serious accidents on the football field between college teams it is impossible any longer to regard the game in the light of innocent recreative amusement with harmless and healthful athletics as its object. Although so-called slugging has been ruled out in the new game there is still left enough of brutal muscular force to make the alleged sport productive of the greatest variety of surgical injuries to every part of the body. In fact, there is hardly a game played in which some one of the contestants is not more or less seriously hurt. Only the severer injuries are noted, while the lesser ones serve as enlivening incidents to call forth the plaudits of an excited audience. Short of actual death on the field not much account is taken of the hundreds of young men who are oftentimes injured for life as the result of the rough-and-tumble methods of the match. ...... It is certainly time we should look the matter fairly in the face. If we wish to develop pluck, courage, endurance and strength we can do so in more healthful and safer ways." These words may be taken as the expression of the opinion of the American people at large, and it seems certain that radical changes will have to be made in the present mode of conducting the game if football is still to retain its popularity in the States.

THE SOCIETY OF PUBLIC ANALYSTS.

THE most important and interesting speech delivered on the occasion of the annual dinner of the Society of Public Analysts, which was held on the 18th inst. at the Criterion Restaurant, was that by Mr. Hudson Kearley, M.P. Early in the last session of Parliament Mr. Kearley moved an amendment to the Address from the Throne regretting that no intention was expressed of promoting legislation in furtherance of the report of the Select Committee on Food Products. As will be remembered this amendment was negatived, although some promise was given that the question would be dealt with at an early opportunity. A Bill was eventually prepared, which, however, was withdrawn in favour of a new one prepared by Mr. Chaplin and Mr. T. W. Russell. With this useless measure we dealt at length in a leading article in THE LANCET of Jan. 8th, 1898. We did not consider that this Bill was in accordance with public requirements or with the necessities of the case. We are glad, therefore, to learn from the speech of Mr. Kearley on the occasion just referred to that he is determined to move strenuously in the matter in the forthcoming session. A great national question, he said, had been trifled with by the introduction of Mr. Chaplin's Bill. The iniquity of adulteration of food was very great and it was the poor who were the greatest sufferers. It was not, as some have supposed, purely an agriculturists' question, but one which vitally affected the towns and if adulteration were allowed to continue it would thoroughly sap the commercial honesty of this country. It was a form of robbery, he added, of a most flagrant character, and if a Bill dealing with the matter were not promised in the Queen's Speech he should again feel it his duty to move an amendment to the Address. The President of the Society of Public Analysts, Dr. Bernard Dyer, in proposing the health of the Houses of Parliament also expressed regret at the fact that Parliament had not seen fit during the past year to place upon the Statute-book an Act which substantially gave effect to the recommendations of the Select Committee of the House of Commons on Food Products and Adulteration. The gathering was a very representative one, there being present the presidents of several of the learned societies. The Society of Public Analysts is to be congratulated upon the excellent work which in the interests of the public it is doing, and there is every prospect of it continuing this good work since the membership of the society is increasing and there is never any lack of material for discussion at the monthly meetings which are held in the Chemical Society's rooms in Burlington House. Further, the issue every month of a journal known as the *Analyst*, which contains a *résumé* of all that is being done in the direction of analytical chemistry, is a valuable means of communicating to the public analyst the latest analytical methods with the view of enabling him to detect with certainty the newest frauds. We trust that a comprehensive measure will soon become law which will assist the analyst in his work and remove the great and constant difficulties which he encounters in endeavouring to carry out his duties under the present *régime*.

THE DETECTION OF ALBUMOSE IN THE URINE.

ALBUMOSE in the urine is recognised by its yielding the biuret reaction, but Salkowski, in a communication published in the *Berliner Klinische Wochenschrift* (1897, No. 17), has pointed out that urobilin gives a similar colouration, so that the test is not altogether reliable. Dr. Ivar Bang, of the Physico-Chemical Institute of the Upsala University, writing in the *Deutsche Medicinische Wochenschrift* of Jan. 13th, states that all difficulty may be avoided by the following new method which he has devised. If urine containing albumose and urobilin be saturated with ammonium sulphate and treated in a centrifuge it quickly yields a precipitate consisting of albumose, albumin, and urobilin, together with some uric acid and salts. The supernatant fluid is then poured off and the precipitate well mixed with alcohol of 97 per cent., which dissolves the urobilin, leaving the albumose, the albumin, the salts, and the uric acid. The residue after the addition of a little water is now thrown on a filter, which retains the albumin, the uric acid and the insoluble salts; the albumose passes through in the filtrate and may be recognised by the biuret reaction. When pure aqueous solutions are employed the urobilin is always so completely extracted by the alcohol that the residue gives no biuret reaction, but with urine containing a large amount of urobilin the separation may be incomplete, in which case the residue left after the extraction with alcohol is mixed with water and shaken with chloroform and a few drops of sulphuric acid, and the aqueous solution after removal of the chloroform by means of a pipette or otherwise is ready for the biuret test. If urobilin has been taken up by the alcohol it may be recognised by the fine fluorescence produced on the addition of a few drops of solution of chloride of zinc; this test is extremely delicate.

AWARD OF PRIZES BY THE PARIS ACADEMY OF SCIENCES.

UPWARDS of forty prizes varying in value from 10,000 francs to 200 francs (from £400 to £8) were awarded by the Paris Academy of Sciences at the annual meeting held on Jan. 10th. Sixteen prizes were included in the departments of anatomy, zoology, medicine, surgery, and physiology, but some were not awarded and others were sub-divided among several aspirants. The complete list is as follows:—Prix Savigny (975 francs), Prix da Gama Machado (1200 francs), Prix Montyon (one of 7500 and one of 750 francs), Prix Barbier (2000 francs), Prix Bréant (100,000 francs), Prix Godard (1000 francs), Prix Parkin (3400 francs), Prix Bellion (1400 francs), Prix Mège (10,000 francs), Prix Lallemand (1800 francs), Prix du baron Larrey (1000 francs), Prix L. La Caze (one in physiology and one in physics, 10,000 francs each), Prix Pourat (1400 francs), Prix Martin-Damourette (1400 francs), and Prix Philipeaux (890 francs). In connexion with the Prix Bréant, which is for the discovery of a cure for cholera, a grant the value of which was not stated was made to MM. Burot and Legrand. The Prix Parkin was awarded to Dr. Augustus Waller for his researches on the effects produced by certain gases and vapours on the nerves. The two Prix L. La Caze were bestowed on Professor Roentgen and Professor Lenard.

SIR FREDERIC BATEMAN'S HEALTH.

WE are sorry to learn that this well-known Norwich physician was seized a few weeks ago with an attack of right hemiplegia. As there was no loss of consciousness or defect of speech and as his subsequent progress has been uniformly satisfactory his numerous friends have good grounds for hoping that he will soon be able to resume his professional and literary work.

FRIEDREICH'S ATAXY.

A VERY interesting case is described by Dr. J. Simon in the *Progrès Médical*—interesting because the patient had been under observation for ten years and because Charcot had lectured on the case. The patient was an only child, without any inherited taint, who had at the age of two or three had some affection of the eyes and pain in the feet. The first note was to the effect that the child (at the age of ten years) had an asymmetrical skull, was frequently laughing, and seemed not very intelligent. Articulation was slow and scanning. There was absence of nystagmus, scoliosis, and pes cavus, and no defect of sensibility or affection of the sphincters was present. The knee-jerk was not obtained and Romberg's symptom was very marked. Four years later the patient was almost quite helpless, with great weakness of the legs, deformity of the feet, and marked atrophy of the muscles of the lower extremities. The knee-jerk was absent, but sensibility was normal. There was well-marked horizontal nystagmus, and the speech was slow and stuttering. There was no scoliosis, but some deformity at the level of the first dorsal vertebra. The patient died suddenly, being found dead in bed, but no condition of the organs could be found to account for this. The spinal cord was unusually small, and combined sclerosis was found affecting the posterior columns, the pyramidal tracts and the direct cerebellar tract. Changes were also found in the cells of the grey matter.

TREATMENT OF SPRUE.

WE would draw the attention of our readers, especially those who are likely to come in contact with patients who have resided in India or China or who themselves reside in those countries, to a letter in our issue of Jan. 15th from Dr. Charles Begg. Dr. Begg is especially entitled to speak in the treatment of sprue as during his residence in China he has treated a very large number of cases. He advises moderately large (5 gr. night and morning) doses of yellow santonin dissolved in salad oil. He insists on the observance of certain details. The white santonin as usually sold in this country he has found to be quite useless. It is rather difficult to obtain the yellow santonin, but if the white preparation be allowed to stand exposed to the sunlight for some hours (preferably under a glass shade) it will soon turn yellow. What the chemical difference between the two is Dr. Begg is unable to state, but it makes all the difference in the efficiency of the drug. Another point is that the santonin should be administered dissolved in oil. As powder it does not act nearly as well. The explanation Dr. Begg offers is that as a powder the chief effect of the drug is produced in the stomach, which is useless, but when given in oil the desired action is obtained. He states that when thus prescribed the unpleasant effects of the drug are not experienced, even when it is given in large doses, and his experience confirms him in his belief "that all cases yield to it." Before commencing this treatment a gentle purgative or enema should be ordered, and if the attack be acute the patient should rest on a bed or sofa. The routine treatment already described should be followed for a week and the average patient requires nothing more. During this period the patient should be kept on a milk diet and afterwards gradual latitude may be allowed. It is hoped that Dr. Begg's method may be given an extended trial. Sprue is the cause of death of a very large number of persons, more especially in China, and if treatment can be adopted which will diminish this death-rate great service to humanity will have been done by him.

THE BRITISH MEDICAL JOURNAL: THE NEW EDITOR.

AT the meeting of the Council of the British Medical Association on Jan. 19th Dr. Dawson Williams, Assistant Editor, who has been connected with the editorial department of the paper for seventeen years and has on many occasions discharged the duties of Editor, was unanimously appointed Editor. At the same time Mr. C. Louis Taylor, who has been Sub-Editor for the last eleven years, was appointed Assistant Editor. We congratulate these gentlemen and also the Council of the Association upon the appointments.

WE understand that Dr. Charlton Bastian has resigned the post of Professor of Clinical Medicine in University College and Physician to University College Hospital. Having just completed thirty years of service to these institutions, and finding it difficult to spare the time and energy necessary for the discharge of his duties, he is desirous of making way for others. He still retains, however, the post of physician to the National Hospital for the Paralysed and Epileptic.

THE Registrar-General's returns of mortality for last week show that the deaths from measles in London, which had been 112, 166, and 130 in the three preceding weeks, rose again last week to 134. They were as numerous, save one, as the deaths from diphtheria, scarlet fever, and whooping-cough combined. There surely must be some great neglect somewhere to account for the fatality of a disease which, though severe, is not intractable.

DR. HERBERT KNAPP, one of the medical officers recently sent out to Bombay on plague duty, has unfortunately contracted the disease. His attack, however, has been mild, no anxious symptoms having shown themselves, and he will probably be convalescent in about a week.

THE King's College Hospital students' dinner will be held on Thursday, Feb. 10th, at the Holborn Restaurant. Professor A. W. Hughes, F.R.C.S. Eng., will preside. Any past students wishing to be present should apply for tickets to the Honorary Secretary, Dinner Committee, at the hospital.

THE Lettsomian Lectures of the Medical Society of London will be delivered at the rooms of the society, 11, Chandos-street, Cavendish-square, on Feb. 7th and 21st and March 7th, at 8.30 P.M., by Mr. John H. Morgan, M.A. Oxon., F.R.C.S. Eng., the subject being "The Affections of the Urinary Apparatus in Children."

DR. J. A. CAMPBELL has forwarded for our perusal several interesting letters from important persons in the medical world which have been addressed to him in approval of his letter upon "The Hardships and Risks of the Medical Profession and Those Engaged in the Treatment of Bodily and Mental Disease," which appeared in THE LANCET of Dec. 18th, 1897.

A GENERAL meeting of the Association of Medical Officers of Schools will be held on Wednesday, Jan. 26th, 1898, at 3.30 P.M., at the rooms of the Medical Society, Chandos-street, Cavendish-square. Dr. Eustace Smith, President, will be in the chair, and a paper will be read by Dr. Greville Macdonald on Some Points in the Physics of Adenoids. Visitors are invited to attend.

DR. EDWARD MARRIOTT COOKE has been appointed by the Lord Chancellor a Commissioner in Lunacy. Dr. Cooke has been for some years medical officer and superintendent of the Worcester City and County Asylum.

THE Board of the Medical Faculty of King's College, London, have reported to the Council of the College that they are in favour of the scheme for a new University of London embodied in the Bill of 1897.

DR. DONALD W. C. HOOD has succeeded the late Dr. Witham Wadham as examining physician to the Queen's foreign and home service messengers.

OCCUPATIONAL MORTALITY.[1]

SECOND NOTICE.[2]

HAVING discussed, in our last issue, Dr. Tatham's remarks concerning the mortality of unoccupied men we now proceed to consider, of necessity very briefly, the statistics which he adduces respecting the comparative healthfulness of certain definite occupations. And, first, we observe that the mortality of occupied males generally differs considerably in various localities. This is only what might have been expected to follow from the fact, which is emphasised in a later portion of the report, that men engaged in different occupations die in very unequal proportions. Thus, for example, it is known that the general mortality is relatively high among men employed in the manufacture of iron, steel, lead and copper goods and also among those engaged in certain unhealthy trades; consequently the mortality among occupied men in industrial districts as well as in London is excessive, whilst in the agricultural districts where tillage of the soil constitutes the staple employment of the people, the corresponding mortality is generally low. At the census of 1891 London contained nearly 1¼ millions of occupied males above fifteen years of age and the agricultural districts about an equal number, whilst the industrial districts contained above one and three-quarter millions at the same ages; more than half of the occupied males in England and Wales are therefore included in these three sections of the population. At each of the age-groups from fifteen years upwards the highest death-rates among occupied males occur in the industrial and the lowest in the agricultural districts, London occupying an intermediate position. At ages from twenty to twenty-five years the death-rate of occupied males in London corresponds with the rate throughout the country, but at all other ages the London rates, as well as the rates in the industrial districts, are in excess. Speaking generally, the mortality of occupied males in industrial districts exceeds by one-third part the average for all occupied males at ages from forty-five to sixty-five years, whilst the corresponding mortality at the same ages in the agricultural districts falls below that standard by the same proportion. At ages above sixty-five years, however, the difference becomes much less, the mortality in the industrial districts being less than one-fifth part above, and that in the agricultural districts being only one-twelfth part below, the standard. In the report under notice Dr. Tatham gives sufficient reasons for regarding the interval between the 25th and 65th years as the period of life during which the effects of occupation are most conspicuous; in the case of the majority of occupations, but not in all, this is also the period of life which measures with the nearest approach to accuracy the duration of man's greatest capacity for effective work. It has therefore been designated the "main working period of life," and by the respective rates of mortality within these limits the healthfulness of the various occupations is tested in the present report. Space would fail us did we attempt to follow Dr. Tatham in his description of the methods adopted to avoid error in the calculation of standard mortality figures for the several occupations. It must suffice to say that in his introductory remarks, to which we referred with approval in our previous notice, he has set out in detail every step of the necessary calculations and has clearly explained the meaning and mode of application of the term "comparative mortality figure," an expression which is employed very frequently throughout the report. The average mortality among the entire occupied male population being taken at 1000 the following are the proportional mortalities due to the principal causes. The most fatal disease of all is phthisis, which accounts for 192 deaths, next follow pneumonia with 107 deaths, diseases of the nervous system with 102 deaths, and diseases of the heart with a like number of deaths. Thus rather more than half of the total mortality among men aged from twenty-five to sixty-five years is due to the four causes or groups of causes just enumerated. Of the remainder bronchitis, pleurisy, and other respiratory diseases contribute 117 deaths; alcoholism with liver disease, 42; urinary diseases, 44; and cancer, 47 deaths. To occupied males generally phthisis and diseases of the respiratory system are the most fatal of all maladies in London and in the industrial districts. In the metropolis these two headings contribute about equally to the total mortality; on the other hand, the industrial districts show a lower mortality than does London from phthisis, but the difference is more than made up by the heavy death-toll from respiratory diseases. In the agricultural districts the mortality figure due to phthisis is less than half that of London and the figure for respiratory diseases is still lower. These two diseases together cause nearly half of the total mortality amongst occupied males in London and in the industrial districts and more than one-third part in the agricultural districts.

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[1] Letter to the Registrar-General on the Mortality of Males engaged in Certain Occupations in the Three Years 1890–92. Supplement to the Fifty-fifth Annual Report of the Registrar-General. By John Tatham, M.A., M.D. Dub. Eyre and Spottiswoode. 1897.

[2] The first notice appeared in THE LANCET of Jan. 15th 1898.

We now come to that section of the report which treats in detail of the mortality incidental to the separate occupations; having regard, however, to the limited space at our disposal we can only glance in the present article at a few of the more prominent topics discussed in this important section. Among the 100 occupations dealt with in the report the clerical profession experience the lowest and publicans the highest general death-rate, after due correction for age-constitution of the respective populations, the former having a mortality figure of only 533, whilst innkeepers in the industrial districts are credited with the enormous figure of 2030. Farm labourers, gardeners, and, indeed, the agricultural class generally are likewise among the occupations with very low rates of mortality, whilst cutlers, file-cutters, saw- and needle-makers sustain rates of mortality which are not much below those of publicans. Reference to Table 4 in the report shows at once to what cause the excessive mortality of the publican class is due. They die seven times as fast as other occupied males from alcoholism and almost seven times as fast from diseases of the liver, six times as fast from gout, and more than double as fast from diseases of the urinary organs, from diabetes, and from suicide. Among publicans in London the case is in some respects even worse. Their mortality from all causes is nearly double the average in other occupations; they die ten times as fast from alcoholism, nearly four times as fast from liver disease, and more than twice as fast from urinary affections and from suicide. Among London publicans the mortality from phthisis, from rheumatic fever, and from suicide is two and a half times, that from diabetes is three and a half times, and that from gout is five and a half times as great as it is among occupied males generally. Dr. Tatham, however, is careful to insist that the entire excess of mortality to which we have referred must on no account be attributed to occupation exclusively; some part of it is doubtless due to local conditions, for the mortality of occupied males in London is considerably greater than that of occupied males throughout the country—e.g., from all causes the excess is 20 per cent., from alcoholism it is 38 per cent., from liver disease 11 per cent., from urinary diseases 37 per cent., from phthisis 50 per cent., and from suicide 29 per cent. In the industrial districts likewise publicans sustain a mortality from all causes which is more than double the average and a mortality from alcoholism, liver disease, phthisis, &c., which does not greatly differ from that of the same class in the metropolis; but as in the case of London publicans the excessive mortality among publicans in the industrial districts must be regarded as in some part due to local conditions. Although in the agricultural districts the general mortality of publicans does not exceed the average rate by more than about one-third part, their mortality from alcoholism and from liver diseases is between five and six times that of occupied males generally. The calculated figures, therefore, for publicans in the agricultural districts considerably understate the truth, for the influence of locality is greatly in their favour as is shown by the low mortality of occupied males generally in those parts of the country. For example, the mortality from all causes among occupied males in the agricultural districts is 28 per cent. below that of occupied males throughout England and Wales, whilst the mortality of publicans in those districts is 41 per cent. in excess of the same standard. The most noticeable features in the vital statistics of file-cutters, cutlers, and needle-makers is their exceptional liability to death by phthisis and other diseases of the respiratory system. Taking together the two forms of disease we find that these operators experience a mortality which is considerably more than double the average rate among other occupied males. Dr. Tatham has not omitted to investigate fully the mortality of our own profession. In the ten years ending with 1891 the number of medical men increased by 25 per cent. as against 3 per cent. only in the interval between 1871 and 1881. The comparative mortality figure for physicians and surgeons is 966 as compared with 821 for lawyers and 533 for the clergy. If the lifetime of medical men be divided into two stages it appears that since the year 1861 their death-rate has increased at ages above forty-five years and has decreased at the earlier ages. Comparing the mortality of medical men at decennial age groups in the 1891 period with that in 1871 it is found that there has been a considerable decrease at the age twenty-five to thirty-five years, that at ages thirty-five to forty-five and forty-five to fifty-five there has been a slight increase, and at ages above fifty-five years a considerable increase. This limitation of increase of mortality almost exclusively to the higher ages suggests that it may be partly due to the influenza epidemic which in the year 1891 was generally at its height and which is known to have been especially fatal to persons beyond the prime of life. For further and most interesting information concerning the mortality of the medical profession we must refer our readers to the report itself.

(To be continued.)

REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD, 1896-97.

SECOND NOTICE.[1]

IN our last issue we dealt in the main with Appendix A of this volume, and we now propose to confine our attention to Appendix B which is devoted to a consideration of certain bacteriological questions of great interest to the epidemiologist. The relations of bacteriology to the problems of preventive medicine are of necessity intimate, and, although the field-working epidemiologist must be careful not to be governed in too great a degree by the findings of the bacteriologist working under purely laboratory conditions, he must, nevertheless, have due regard to such findings, and this the more when he sees that the bacteriologist is endeavouring to imitate the conditions under which the micro-organisms may be thought of as subsisting in nature.

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[1] The first notice was published in THE LANCET of Jan. 8th, 189?.

In the volume before us this latter aspect of the question has evidently been kept prominently in view, and hence the work which is reported upon becomes correspondingly enhanced in value. Let us take for instance Dr. Klein's researches into the behaviour of Koch's cholera vibrio in non-sterile sea-water, and in oysters stored therein. It will be remembered by some of our readers that in the report on Oyster Culture in Relation to Disease Dr. Klein pointed out that the vibrio under these conditions rapidly underwent remarkable morphological changes and became so modified both in regard to its cultural and physiological properties as to leave but few traces of its origin, while the descendants of these modified organisms possessed all the characteristics of their parents. In the volume now under review Dr. Klein records the results of further investigations in the same direction. It was ascertained that these profoundly changed organisms soon reached a condition of relative stability, and that by no means at present discovered was it possible to bring about a reversion of these modified organisms to the conditions of the stock with which the researches were commenced. These results, which should be studied in detail, are most interesting, and they illustrate among other things the difficulty and uncertainty which there may be in determining the existence or non-existence of the cholera microbe under conditions which may have modified its behaviour in its morphological, cultural, and physiological aspects.

The researches, too, of Dr. Sidney Martin, to which we referred in our last notice, are very instructive and suggestive, more especially as there are perhaps indications that the bacillus of enteric fever is undergoing a phase of increased activity in this country. Dr. Martin found that in certain organically contaminated soils, which were obtained from localities where enteric fever is more or less endemic and which were sterilised before use, cultures of the enteric fever bacillus, when sown in the centre of a patch of such soil and incubated at a temperature of 37° C., rapidly spread from the centre to the periphery of the patch and the bacilli in question were to be recovered therefrom after an interval of no less than fifteen weeks, their vegetative properties being still intact. It was found, too, that the bacillus coli communis under similar conditions flourished in and pervaded the soil; at, however, a temperature of from 15° to 19° C. and when exposed to diffused daylight—i.e., under circumstances more nearly approaching those found in nature—the bacillus, though less active than when under the higher temperature, retained its vitality and grew from the centre towards the periphery. In marked contrast with these results were those obtained with "virgin" soil—i.e., soil procured from localities which had never been under cultivation or manured. In this case neither the enteric fever bacillus nor the bacillus coli communis manifested growth. It has to be borne in mind that in all these experiments *sterilised* soil was used so that the inhibiting or enhancing influences of the numerous organisms present in different soils remains, as far as these experiments go, undetermined. Probably, however, Dr. Martin is now engaged in further observations in this direction.

The work, too, of Dr. Robertson, the present medical officer of health of Sheffield, which we noticed some weeks ago in our columns, throws some light on this aspect of the question. Dr. Robertson went out into the fields to pursue his investigations, and the results which he obtained were of a sufficiently encouraging nature to justify further research. In this case the bacilli were exposed to all the atmospheric and other influences with which in localities in which the disease is endemic they probably have to contend.

The behaviour of the enteric fever bacillus in milk has been matter for Dr. Cautley's consideration. He found that under the ordinary conditions in which milk reaches, and is kept by, the consumer, the bacillus in question is capable of maintaining its existence, though it did not appear that the bacillus underwent any multiplication under these circumstances; it would seem rather that the bacilli in question rapidly undergo diminution when kept in milk stored in the usual fashion. These bacilli will maintain their existence in sterile milk curdled by the addition of the bacillus lactis, as also in sour milk, facts which show the possibility of the existence of the enteric fever bacilli in curd cheeses.

Dr. F. W. Andrewes, working on the flora of the human intestine, found that sporo-bearing anærobic bacilli were not normal inhabitants thereof, nor are they to be detected in the dejecta of what may be termed casual diarrhœa.

In connexion with the much debated question as to the cause of "return cases" of scarlet fever Dr. Klein tells us, as a result of his researches on the desquamating cuticle and on the urine of patients suffering from this disease, that he has been unable to isolate from the one or the other any organism, which he could regard as being the cause of the disease in question, a negative conclusion which, in so far as the urine is concerned, will have interest for those who are investigating the relation of scarlet fever to polluted soil. Dr. Klein has also devoted much attention to a consideration of the microbes associated with variola and vaccinia, and in this connexion he has examined as a cultivating medium certain eggs which had been previously inoculated by Dr. S. M. Copeman with the material of either variola or vaccinia. Dr. Klein was apparently unable to procure from these eggs what he regards as the essential organism of either of these diseases, but it is interesting to note that in the course of his experiments Dr. Klein practically confirms Dr. Copeman's valuable investigations as to the destructive influence of *diluted* glycerine on what have been called the "extraneous" organisms of vaccine lymph. In further attempts to cultivate on ordinary agar the microbe of variola from an emulsion of small-pox crusts and undiluted glycerine Dr. Klein obtained an organism which he calls the bacillus albus variolæ, and by the inoculation of cultures of this bacillus into a calf he procured results which certainly make it worth while to pursue the investigation. Some observations and experiments by Dr. Klein in connexion with the bacillus of bubonic plague complete a volume for which our thanks are in large part due to the medical officer of the Local Government Board.

LEGISLATION AS A REMEDY FOR MEDICAL GRIEVANCES.

A MEETING of the South-West London Medical Society was held on Wednesday, Jan. 12th, when Mr. Brudenell Carter replied to the address delivered by Mr. Victor Horsley on "The Medical Acts of Parliament: as they Are and as they Ought to Be" (see THE LANCET, Jan. 1st, p. 1). Mr. T. A. Ives Howell presided. Mr. Carter's address will be found on page 201 of this issue.

The CHAIRMAN, after thanking Mr. Carter for his address, said there was nothing in the nature of a personal attack or of personal feeling against Mr. Carter in Mr. Horsley's address before them on Dec. 8th. He thought it but right that he should let Mr. Carter know that.

Mr. BRUDENELL CARTER said he heard that statement with very great pleasure. He had been informed that a very gross personal attack had been made on him at the meeting referred to, but he had vainly endeavoured to obtain any details about it and it was for that reason that he appeared before them. He hoped Mr. Horsley would accept the withdrawal of any expressions which had been based on that foundation.

Mr. VICTOR HORSLEY said: I had hoped to have heard from Mr. Carter a systematic attack on my position of Dec. 8th. My position then was practically this that by the Acts of Parliament under which we work it can be seen by anyone who can read that the only qualification is registration. We work because we are registered and that is our statutory guarantee. I quoted, you remember, Section 6 of the Medical Act, 1886, which is headed "Effect of Registration," which is described in the margin as detailing the privileges of registered persons, and recounts as the first privilege that a registered medical practitioner shall be entitled to practise medicine, surgery, and midwifery in the United Kingdom. If those words mean anything at all they mean that the man in the street who is not registered is not entitled to practise. That position has actually not been touched by Mr. Carter. My first point, therefore, is that he has not entered into practical conflict with me upon the matters I brought before you. But he has gone into many points that I must naturally reply to. Let me say that I quite agree with Mr. Carter that the worst form of competition we have to deal with in a practical way is the prescribing chemist and the sale of patent medicines—I never said anything to the contrary.

I hold that they ought to be punished and that the Acts enable us to punish them. Then as to the question, Who is to carry that out? It is no good going to the police, though they ought to do it. If we cannot find some means of stimulating the Public Prosecutor to do his work we must do what we can ourselves. The profession should not be taxed to carry out this work; but are we to sit still and do nothing? In the first place, Mr. Carter has made a very personal attack upon myself with regard to the comments which I have thought fit at one time or another to make upon the action of the President of the General Medical Council. It is not true to my knowledge that any person, decent or indecent, left the room when I spoke at Carlisle. Then Mr. Carter says that a passage was not printed by the journals. It may be so, but I do not recollect it. I sent a full copy of the paper to Mr. Carter, so that he knew, as far as I knew, the contents of the paper as it was published in the *British Medical Journal*. Since my election to the Council I have found that precisely the same evils I complained of at Carlisle have been carried on and I have felt it my duty to publish the fact in a protest to the profession because I have done all I can constitutionally to stop these evils. I have asked the President to call the Penal Cases Committee together to deal with the matters to which I drew his attention, but he has refused to do so; and he has, I submit, acted improperly towards me by not only refusing to carry out this constitutional measure, but has actually written to me, a member of the Council, asking me to forego my right to address him personally. That was a personal matter between me and the President, but it is now becoming a matter of public interest, which I have published in the *Clinical Journal*[1] too late, I fear, for it to appear the same week in the other journals. Now my position is this: If the President does things of this kind am I to sit still and say nothing while knowing what is going on? Then Mr. Carter dealt with the construction of the Council, its constitution and functions. He told us that the profession is not ruled by the Council. I do not know what the word "rule" conveys to Mr. Carter, but I know that the Council has the power to strike me off the Register, and as I know that only by virtue of being on the Register I can practise medicine and surgery and midwifery I feel that I am ruled by the General Medical Council. Mr. Carter also told us, as I understood him, that the Medical Act was passed primarily for the protection of the public. I admit that it was passed for the protection of the public, but I contend that the Council is placed in a position by the Government to fairly and squarely protect the interests of both profession and public, and I should like to refer to an address I gave to the students at Sheffield three years ago in which I pointed out that the genuine interests of the profession were the material interests of the public. Mr. Carter said the object of the Act of 1858 was to secure the uniformity of medical diplomas; there can be little doubt about that and also of the uniformity of examinations upon which those diplomas are based. But no such uniformity has been obtained and cannot until we get the one-portal system. With reference to the fact that I made a mistake the other night about Sir Christopher Nixon's motion which Mr. Carter has corrected I admit I ought to have said not a complete majority of the corporations but an overwhelming majority. Whether that is a sample of my general inaccuracy or not I do not know. Then with regard to the control of the profession, the section dealing with the control of the profession is certainly drawn too strictly. It gives statutory power to the Council only to strike a man off the Register but no statutory power to publicly reprimand him. Offenders have been reprimanded by the President, though possibly Mr. Carter may tell you that is not so, and I was told by the legal advisers that such a thing was impossible. I pointed out to Sir William Turner a statement in the Minutes showing that a certain practitioner had been severely reprimanded by the President. It has been done whether it is legal or not, but probably no one would care to go to the High Court and complain of having been reprimanded on the ground that Clause 29 was drawn too strictly. Then we come back to Section 40 and the preamble of the Act, failures of prosecution and the great advantages that the Council has hitherto had in having certain gentlemen as its legal advisers. Unfortunately every single criticism of those legal advisers that I could make in the past session was made *in camerâ* and under ordinary circumstances one's lips on such subjects would be sealed; but as Mr. Carter has seen fit to break that secrecy in order to make an attack upon me personally as to my ability to interpret Acts of Parliament I must also lift the veil sufficient to defend myself. The point was one of vital importance: it was on the question as to whether certain wholly unqualified persons, and one especially—a man who had successfully evaded the law for fifteen or sixteen years—was to be placed on the Register. The Council arrived at a resolution dead against its legal advisers and it turned out that the legal advisers had suggested that the Dentists Act could be tortured by a certain reading of Section 37 so as to enable unqualified persons to be pushed into the Register. Mr. Carter's point was this. When I had made a speech, not of an hour as he says (it was certainly not more than ten minutes), I asked Mr. Mackenzie whether he agreed. Mr. Mackenzie replied, "That is not my opinion." Of course he did; he replied that to everything I brought forward and he was defeated on every single point by the Council itself. Now, gentlemen, we come to the point about the comma, which was in fact a colon; the point at issue was this. Section 37 of the Dentists Act was divided into two parts by this colon and I was maintaining that it was to be read as one section from top to bottom. Mr. Carter has given you to understand that I represented to the Council that the section was separated into two parts by intent. On the contrary, I got Mr. Mackenzie into a trap, I got the Council to recognise Section 37 of the Dentists Act as an entity. I said to Mr. Mackenzie, "Of course I know that there are no stops in an Act of Parliament, but here I see one, a colon," and I asked if this divided the section into two parts. Mr. Mackenzie replied, "Oh, of course it is well known that there are no stops in an Act of Parliament; the whole thing must be read as one." I replied that that is exactly what I wanted. The burden of my contention was this: Mr. Mackenzie had employed this section as the basis of his advice to the Executive Committee. The section was to the effect that any person who had been articled as a pupil and had paid his premium to a dental practitioner entitled to be registered under this Act in consideration of receiving from such practitioner a complete education shall, if his articles expire before the 1st day of January, 1880, be entitled to be registered under this Act as though he had been in *bonâ-fide* practice before the passing of the Act. Then follows provision for the Council to specially order the name of such *bonâ-fide* pupil to be put on the Register. When you apply the case to the Act what do you find? That actually this man in his application stated that he was a foreigner; that he had had no dental education; that he had been apprenticed to a dentist who was another foreigner who was not entitled to register under the Act at all. In other words he had in no sense complied with the words of the Dentists Act and it was on these grounds, wholly against the legal advisers, and not on the grounds Mr. Carter has represented to you, that the Council came to their decision. I would not have said a word of that if Mr. Carter had not broken the secrecy of the Council proceedings in order to attack me. I tried to show you that the Medical Acts contain a section to provide a penalty for unqualified practice—namely, Section 40. I can only say that the General Medical Council did last year successfully prosecute under that section and obtained full penalties. The man used a title in the same way that all unqualified persons do for the purposes stated in the Act. It states in the Act that a person uses a title to imply that he is registered under the Act. We find under Section 34 that a legally qualified medical practitioner is a person registered under this Act and nobody else so that the prosecution of "Dr. Bell" shows that Section 40 is a penalty clause preventing unqualified persons from practising. It is assumed by those who suggested that the only provision of the Medical Acts is to protect a title that as long as you successfully show that a person falsely pretended that he had a title you could convict him. But the experience of the Defence Union is that magistrates come forward and say, Where is your proof of practice? Now, to give Mr. Carter an object lesson as to the value of some statements of the legal advisers. One of the legal advisers on one occasion did refer to the want of success of the Medical Defence Union; but the same legal adviser forgot that the Medical Defence Union employed him as counsel in the case, and not only that, they employed him in the case when it went into the High Court but also to review the summons in the magistrate's court. That same magistrate, when the case was brought before him, when it was proved by a certificate that the person had quoted a title though she had been struck off the Register, said to the prosecutors "This is not enough proof; you do not show that she was practising." That prosecution failed because the legal adviser to the General Medical Council did not indicate to us in what way it would be successful although we paid him to do so. The Medical Defence Union had spent its money freely to test what could be done for the medical profession and if occasionally they were defeated as a general rule they were very successful. I must say that the legal advisers to the General Medical Council are the last persons to be quoted as critics of the legal policy of the Medical Defence Union. It is true the General Medical Council are going to take important steps to test the Act, but I cannot tell you why. Then there is another matter on which Mr. Upton is going to write—the use of the word "qualification." I pointed out that Mr. Upton used the word "qualification" in a popular sense. The word "qualification" is defined in the Act of 1886. I brought the matter forward and after a discussion it has been left to the legal advisers and they are going to bring forward their opinion at the next session in May; until then we must wait for any pronouncement of importance. Mr. Carter suggested—but I know he did not mean it—that I wished the preliminary examinations to be unduly severe in order to prevent overcrowding in the profession. To that statement I would simply return a direct negative. I never said anything of the kind. Such a comment is unjustifiable. The giving up of the Duke of Richmond's Medical Bill was a very great loss to the profession; it provided for a one-portal system—the very thing which was wanted. Of course it was opposed, but who by? The Corporations. The same opposition that we shall meet again, but which we will overcome. Mr. Carter himself stated that the leaders of the profession made such statements that the Duke of Richmond got into despair. I should think he did with such views as the corporate bodies represent. Then Mr. Carter said that the Apothecaries Society could not take a part in altering the conditions under which they lived. I do not see why. They obtained an Act not very long ago called the Apothecaries' Amendment Act to enable them to strike persons off their list of Licentiates, and if another Act were passed they would be placed on the same footing as any other body. I am quite at one with Mr. Carter in thinking that if the corporations had the money to spare they should spend some of it in prosecuting unqualified persons; but I should like to point out that the Medical Defence Union prosecutes most. Finally, I must once more refer to the sentences with which Mr. Carter concluded his address because I have been so frequently misrepresented in the journals and in public places. Mr. Carter says I have made a practice of vituperating those leaders of the profession who have been honoured by the Sovereign. He refers to the criticisms which I have published from time to time and intend to publish if necessary on the President of the General Medical Council. THE LANCET, at the time of the last election, made a statement in its leading article that I had made statements which I could not substantiate. In the next issue of THE LANCET I substantiated every one of them. It is nothing to do with me who is President of the General Medical Council, but if it comes to my personal knowledge that a public official is not, in my opinion, fulfilling the moral or written laws of the body to which I belong I shall certainly publish the fact in order to acquit myself of any personal responsibility.

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[1] At Mr. Horsley's request we publish his statement in full this week on page 253.

A short discussion followed and votes of thanks to Mr. Carter and Mr. Horsley terminated the proceedings.

DEATHS UNDER ANÆSTHETICS.

ON Dec. 17th, 1897, a fatality occurred during the administration of ether. The patient, a woman aged forty-four years, who suffered from "internal cancer," was admitted for operation into the New Hospital for Women, Euston-road. It was considered that an operation would afford a chance of the prolongation of her life. At the time of admission the patient was in a very exhausted condition. Mrs. Keith, the anæsthetist to the hospital, administered nitrous oxide gas, followed by ether, which combination of anæsthetics the patient took well. After the expiration of thirty minutes and while the operation was in progress the patient became so collapsed that the surgeon was requested by the anæsthetist to desist from further surgical procedure and she at once complied. Resuscitative measures were at once applied, but the patient died after about ten minutes from circulatory failure arising from surgical shock and collapse. We have not received any particulars as to the means adopted to restore the woman or whether hæmorrhage was severe. In all such cases posture, warmth, and guarding the patient from the effects of hæmorrhage are undoubtedly the most important points for attention both before and during the operation. The fact is established that both chloroform and ether cause a fall of body temperature and so increase shock unless the trunk and limbs are kept wrapped in flannel or cotton-wool. The fall of temperature under severe abdominal and vaginal operations again is considerable. A profound anæsthesia allows of a considerable drop in arterial tension which has been shown to be least when the limbs and pelvis are placed at a higher level than the head. Again, saline transfusion of Ringer's fluid certainly lessens the collapse in such cases when the bleeding, always severe, has been excessive. We do not doubt that such a severe operation undertaken when the patient was in a dangerous state of exhaustion was as far as possible safeguarded by every precaution and we regret we have not been favoured with the particulars of the methods employed. A death following the administration of ether is reported from the Corbett Hospital, Stourbridge.[1] The patient, aged thirty-nine years, was admitted on Sept. 21st, 1897, suffering from fracture of the right femur. A prolonged application of splints led to a stiffness with adhesions about the knee-joint which were to be dealt with under an anæsthetic on Dec. 8th. Ether was given from a Clover's inhaler; one ounce was used. The induction was slightly longer than usual but was marked by no unusual phenomena. No sickness occurred during or after anæsthesia and no respiratory spasm was seen. There was a short struggling stage followed by true anæsthesia when the operation, a very brief one, was rapidly performed. The patient was then taken back to the ward and the corneal reflex was noticed as being present. Voluntary movements were also said to have been seen. Later he opened his eyes "and seemed to recognise an onlooker." After this no special supervision was exercised. A hospital porter engaged in the ward noticed the man was breathing in gasps; this was twenty minutes after the patient had been taken from the operating theatre and half an hour subsequent to the first administration of the ether. The surgeons were fetched from the operating theatre and found by that time that the man was dead. "He was lying with his head thrown back so that no possible difficulty of breathing could have arisen due to his position. The eyes were open and the lips slightly parted; nor was there any sign of any struggle for breath having taken place." The ether was analysed and found to fulfil the British Pharmacopœia tests for purity. The necropsy revealed that the right heart was distended with venous fluid blood. The lungs also were loaded with blood as were all the viscera. We cannot but feel that the fact shown at the post-mortem examination seemed to indicate that the man died from asphyxia and not from heart failure. No doubt patients appear to resume consciousness after an anæsthetic and even mutter semi-intelligible words and recognise familiar faces. They then sink into deep sleep just like the stupefaction of the drunken, and in this condition the tongue falls back and the slightest cause—a little thick mucus or the dropping of the jaw—will completely prevent ventilation of the lungs taking place. Two very similar cases occurred in the practice of a French surgeon, who promptly opened the trachea and forced air into the lungs with the result that both patients survived. In his cases chloroform had been given. A death under chloroform occurred at the Infirmary, Kidderminster. The patient, a boy, aged eight years and nine months, suffered from a congenital hernia upon which it became necessary to operate for its radical cure. The house surgeon, Mr. Oliphant, M.B., C.M. Edin., administered chloroform from lint. In about eight minutes the breathing ceased, the operation not having then been commenced. Upon artificial respiration being adopted the child appeared to rally, but sank almost immediately and died within two minutes. The necropsy showed no organic disease. At the inquest the coroner asked Dr. Oliphant whether an inhaler was not a better means of giving chloroform and whether that substance was not the most dangerous of the anæsthetics in common use and received the answer that inhalers were not satisfactory for giving chloroform and that it was a matter of opinion as to which was the most dangerous anæsthetic. We so often hear that the Scotch schools never meet with casualties under anæsthetics because they always use chloroform and prefer to dispense with any apparatus that we can readily accept the replies given to the coroner as representing the views current among the majority of even the thoughtful alumni of those great centres of medical training. A glance over the long list of casualties under chloroform will unfortunately show that whatever charm Syme exercised during his life has not survived to his followers, and overdosage with chloroform proves as fatal in the hands of those who hail from beyond the Tweed as well as "down south." A death from chloroform contained in the A.C.E. mixture occurred at the General Hospital, Birmingham, on Dec. 15th. The patient, a girl, aged five years and ten months, suffered from hypertrophied tonsils and post-nasal adenoid growths. She was given the A.C.E. mixture by Mr. McCardie, one of the anæsthetists to the institution, and tonsillotomy was performed. As consciousness was returning some chloroform was given to enable Mr. Haslam, the operator, to remove the growths. She died at once from respiratory failure in spite of restorative measures. A necropsy showed absence of organic disease. The anæsthetist regarded the death as one from cardiac failure due to reflex inhibition by irritation of the vagus. We are not told the posture of the child or the method employed.

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[1] We are indebted to Mr. Hammond Smith, honorary surgeon to the hospital, and Mr. Edgar Collis for the notes of the case.

REPORT ON THE BUBONIC PLAGUE IN BOMBAY.[1]

Such a vast amount of interest has been taken in the progress of the plague in Bombay that the report issued by Brigadier-General Gatacre will be received with eagerness by the medical and lay communities alike. We naturally review it mainly from a professional point of view and taken as a whole we think that the chairman of the committee, together with his colleagues, may congratulate themselves upon having drawn up an able and complete account of the plague in so far as they were officially connected with it. In their report they have confined themselves almost entirely to the period between March 17th and June 30th, 1897. It follows therefore that from this report we learn but little about the epidemic when it was at its height in January of last year and nothing as regards its progress after the end of June. It is difficult indeed to gather whether the malady had been checked or was still raging were it not for a reference to "the decline" as a reason for a reduction in the plague pay of the non-commissioned officers and soldiers employed by the committee. With these exceptions, however, the report is most admirably drawn up and for medical readers especially contains a mass of interesting and readable information.

Chapter I. is headed "General Report" and includes a brief description of the operations conducted by the municipal authorities up to the time when the committee was appointed. Great difficulty was at this time experienced in arriving at the true plague mortality, the chief being the dread entertained by all classes of the population of being removed to hospital and the fear of having their houses invaded by a disinfecting staff.

On Oct. 6th, 1896, the municipal Commissioner issued a proclamation to the effect that all cases were to be segregated, their houses disinfected, by force if necessary, and their sick to be taken to hospital. This order was unfortunately badly, or rather insufficiently, worded and raised a storm of protest. It was not explained that the relatives of the patient would be allowed to attend him or that the prejudices of the various castes in the matter of food, &c., would be respected. Lord Sandhurst's letter to General Gatacre was a great contrast to this. He explained that measures were to be taken to suppress and prevent the spread of bubonic plague. These measures should comprise an organization for: (1) the discovery of all cases of plague; (2) the treatment of all cases in hospital; and (3) the gradual segregation as far as possible of the probably affected. The letter continues: "These are the objects to the attainment of which your energies should be directed. I am sure I need not do more than indicate that in all cases of obstinacy or misunderstanding on the part of those whom it is our endeavour to benefit persuasion and gentleness should be used; that the privacy of women should be disturbed as little as possible and only by women, and that the caste and religious usages of the people should be treated with all consideration." The organisation and disposition of medical officers is then given and explained by means of coloured plans.

The instructions given to the nursing staff are also detailed and special attention is rightly drawn to the courageous and self-denying conduct of the All Saints' Sisters, Mazagon, who nobly carried out a great portion of the nursing duties, the general supervision of the nurses being undertaken by the Reverend Mother Superior of that community. The Bandora Sisters (*Filles de la Croix*) also rendered most valuable service. The difficulties of bringing the Mahomedans to reason in reference to segregation and hospital treatment are then described and the measures adopted for their removal duly recorded. We must not forget to note that M. Haffkine in his minute attached to the report of the Mauser Committee expressed his opinion that the measures of disinfection carried out by the health officer before the Commission commenced its work "were in accordance with the best recognised principles of sanitation and were not in need of alteration."

In Chapter II. the distribution of the hospitals with the staff attached to each is detailed, together with a statistical, and in most cases a careful, medical report of the cases treated in each. These reports are most valuable and in a separate volume carefully prepared charts are recorded giving the temperature curve, pulse, and respirations in a very large number of cases. To those who are interested in the clinical characters of the outbreak this chapter will yield most valuable information.

Chapter III. gives a very excellent summary of the "Medical Aspect of Plague," derived from the views expressed by the medical officers working under the committee. The forms and types of plague are distinguished by some into simple bubonic and pneumonic plague only, by others as plague (with buboes and without buboes), all the variations in these two forms being grouped under symptomatic evidences of complications associated with one or other form. Reviewing opinions generally the following is given as a rational classification of forms of plague:—

1. With enlarged glands (gravity according to symptoms and severity of attack).	Femoral. Inguinal. Axillary. Cervical. Tonsillar.
2. Without enlarged glands (almost always fatal).	Septicæmic. Pneumonic. Mesenteric, enteric, or gastro-intestinal. Nephritic. Cerebral.

The signs and symptoms of these various forms are then given, followed by a section on "Ready Method of Diagnosing Plague."

With regard to treatment the report states: "It is difficult to recommend any particular line of treatment with confidence, for it is often seen that a plan of treatment which succeeds in one case totally fails in another. It may be shortly summed up as nutritive, stimulant, antiseptic, antipyretic, and local." Calomel was largely used as were the ice-bag and ice-packing for hyperpyrexia, the bath being considered dangerous, as "the danger of sudden failure of the heart's action makes it imperative to avoid movement on the part of the patient as much as possible."

Considerable interest attaches to the reports of M. Haffkine and Dr. Yersin's methods of treatment, neither of which, however, were attended with the success which had been hoped for, but this failure need not in any way prevent further investigations being made on the same lines.

M. Haffkine adopted his well-known method of cultivating the pathogenic bacillus in suitable media, killing the germs by heat and then injecting increasing quantities of the soluble toxins whereby mild reactionary symptoms of plague were produced. Dr. Yersin injected the antitoxin prepared from the serum of an immunised horse. The next five chapters describe the methods employed for the detection of cases of plague and for the prevention of the spread of the disorder, and include "land traffic inspections," "sea traffic inspection and observation camps," house-to-house visitation and disinfection, and the report by Veterinary-Major J. Mills, A.V.D., on the Pandora slaughter house. A list of foreign scientific missions is then given and reports follow on the outbreak of plague in the Kolaba and Cutch Mandvi districts.

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[1] Report on the Bubonic Plague in Bombay. By Brigadier-General W. F. Gatacre, C.B., D.S.O., Chairman, Plague Committee, 1896–97. With Plans. Bombay, 1897. Printed at the "Times of India" Steam Press.

Chapter XII. is an excellent summary of the views of the Commission. Reference is made to those who lost their lives whilst working under the committee. These are remarkably few in number, a matter of high praise to those who had the superintendance of the preventive measures adopted by the staff for their own protection. At Cutch Mandvi Nurse Herne died after only a few days' illness, as did also Sister Elizabeth (*Fille de la Croix*), who nursed at the Government Hospital at Mahim. Two hospital assistants caught the disease, one of whom recovered. Three military ward orderlies are recorded as having died of the disease contracted while engaged in hospital work.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fourth meeting of the Royal Commissioners was held in the Moses Room of the House of Lords on Monday last, January 17th. All the Commissioners were present. The London County Council were represented by Mr. Balfour Browne, Q.C., and Mr. Freeman, Q.C.; the Corporation of the City of London by their Remembrancer; the Middlesex County Council by Sir Richard Nicholson; the Hertfordshire County Council by Lord Robert Cecil; the New River Company by Mr. Pope, Q.C., and Mr. Claude Baggallay, Q.C.; the Kent Waterworks Company by Mr. Littler, Q.C., and Mr. Lewis Coward; the Lambeth, East London, Grand Junction, and West Middlesex Waterworks Companies by Mr. Pember, Q.C.; and the Chelsea Waterworks Company by Mr. A. G. Rickards.

Sir ALEXANDER BINNIE, chief engineer to the London County Council, was examined by the Chairman. He said that he had been for some years a member of the Council of Civil Engineers and was a Fellow of the Geological Society, that he had constructed waterworks in India and had for fifteen years held the office of water engineer and manager to the city of Bradford. For many years he had had occasion to consider the question of the London water-supply. In answer to questions by the Chairman the witness gave an account of the area and population of the administrative county of London, of the area called the Outer Ring, and of that called Greater London. He afterwards gave particulars of "Water London," the area actually supplied by the metropolitan water companies and that over which they have Parliamentary rights to supply. The administrative county of London extends for 121 square miles and the population has enormously increased during the last few years. Thus in 1861 the population was 2,808,862; in 1871, 3,266,987; in 1881, 3 834 194; in 1891, 4,232,118; and in 1896, 4,433,018. The area of the county of London is contained within the larger area of "Greater London," which is the name given by the Registrar-General to the area included within the metropolitan and City police districts. This area comprises all the parishes wholly comprised within the circle of fifteen miles radius from Charing-cross and all other parishes of which any part is. included in the circle of twelve miles radius from the same centre. It includes the whole county of London and with the area around includes a total of 701 square miles. The population of Greater London in 1861 was 3,222,720; in 1871, 3,885 641; in 1881, 4,766,661; in 1891, 5,633,806. The district outside the county of London and within the area of Greater London is generally spoken of as the "Outer Ring." The question of the water-supply of London necessarily affects the districts immediately surrounding it, and the witness had prepared a table showing the increase of population not only in the county of London and Greater London but in the Outer Ring, and to prevent mistakes which might otherwise have arisen the district of Penge was included within the county of London and deducted from the Outer Ring. The table handed in by the witness to show the increase of population is here given.

Having given these details of the population the witness described at some length the areas supplied by the eight metropolitan water companies and explained the situation of these areas. (Full information on this matter has lately been published in THE LANCET.) In addition to the supply given by the eight metropolitan water companies small areas included in "Water London" are supplied by independent companies and by local authorities. At Enfield, with a population of about 90,000, the people have an independent water-supply, and at Tottenham, with a population of 30 000, the area of independent supply is about two and a half square miles. Part of the area of distribution of the Croydon Corporation and of the Sutton Water Company is also included in "Water London" and an area of about five square miles within the Parliamentary district of the Kent Water Company is supplied by the Limpsfield and Oxted Water Company. The South Essex Water Company supplies an area of about forty-eight square miles; there are also independent supplies at Barnet, in the Colne Valley, at Cheshunt, at Ware, and at Hoddesdon. In the case of the metropolitan water companies the only area in London north of the Thames in which there are any overlapping supplies is a small district in Marylebone and Paddington, north of Bayswater-road, supplied by the West Middlesex and Grand Junction Companies. No details as to this were given.

In the year 1896, under the Staines Reservoirs Act of that year, a joint committee, called the Staines Reservoirs Joint Committee, was appointed by the New River, Grand Junction, and West Middlesex Companies. Under the powers of the Act the committee is empowered to take water from the Thames above Bell Weir, Staines, to pump it into reservoirs and to convey it into a distributing reservoir near Hampton for the use of the three companies. The works for which powers under this Act were given did not include any arrangement for filtration but simply for the storage of the water. Last session the New River Company obtained power to construct filter-beds and a pumping station at Kempton Park near this distributing reservoir and to convey water from the filter-beds to their district through a main of 42 in. in diameter and of a length of about twenty miles.

With regard to the water derived from the River Lee by the New River and East London Companies the witness pointed out that in 1892 the average daily quantity taken

Population of "London," "Outer Ring," and "Greater London," 1861–1891.

	1861.	1871.	Decennial increase		1881.	Decennial increase.		1891.	Decennial increase.		Increase in 30 years.		—
			Numbers.	Per cent.		Numbers.	Per cent.		Numbers.	Per cent.	Numbers.	Per cent.	
1	2	3	4	5	6	7	8	9	10	11	12	13	
Administrative County of London	2,808,862	3,266,987	458,125	16 3	3,834,194	567,207	17·4	4,232,118	397,924	10 4	1,423,256	50·7	Administrative County of London.
Outer ring (excluding Penge) ...	413,858	618,654	204,796	49·5	932,467	313,813	50 7	1,401,688	469,221	50·3	987,830	238 7	Outer Ring (excluding Penge).
Greater London ...	3,222,720	3,885,641	662,921	20 6	4,766,661	881,020	22·7	5,633,806	867,145	18·2	2,411,086	74·8	Greater London.

was 56,415,779 gallons, in 1893 53.208,379 gallons, in 1894 52,738,522 gallons, in 1895 71,927,191 gallons, and in 1896 51,717,328 gallons. For some years the companies had practically taken the whole flow of the Lee in dry weather and did not send down sufficient water for the purposes of navigation.

Mr. Pember pointed out that the companies were not bound to send down compensation water.

Sir Alexander Binnie replied that as a matter of fact the companies took the whole of the water of the river and that they pumped up water from the Thames at Bow Creek. He maintained that the Lee Conservators really afforded no protection to the public because they were "practically overshadowed" by the water companies.

Mr. Pember suggested that the County Council should apply for a *mandamus* if the Lee Conservators did not do their duty.

The Chairman remarked that what appeared to be happening was that the companies were pumping up water from the Thames to make good the deficiency of the Lee.

Mr. Pember claimed that with the exception of 5,400,000 gallons daily reserved for purposes of navigation the New River and the East London Companies were empowered to take the whole of the remaining flow of the river and it was contended at the time of Lord Balfour's Commission that as a matter of fact they had never taken the full quantity of water to which they were entitled.

Sir A. Binnie, in reply to the Chairman, said that he could not altogether agree with the finding of Lord Balfour's Commission that the Thames and Lee were satisfactory sources of supply and he thought that at least part of the future supply should come from other sources. Water into which a large amount of sewage was poured was not a good source of supply. It was impossible to give up suddenly the present sources of supply and in his opinion it would be well to supplement the present supply from other sources.

The Commission then adjourned.

On the following day the examination of Sir Alexander Binnie was continued, when he repeated that any fresh source of supply which he proposed would be supplementary to the quantity of water which the companies were now authorised to take from the Thames. In answer to the chairman he said that a considerable supplementary supply would be required in ten or fifteen years, that the works should be put in hand as soon as possible, and that he would look for the source of his supplemental supply to a district in Wales. He stated that he had made an estimate of the cost of this supply, the London County Council having been at work upon the whole question of the London Water Supply since the date of Lord Balfour's Commission. Certain recommendations of this Commission had engaged the particular attention of the London County Council. Lord Balfour's Commission had reported that, on considering what steps should be taken to ensure the proper treatment of the water-supply of London, they had recognised that the intakes must be subjected to certain important processes before the water could be brought into good condition for delivery and consumption. Upon these processes of subsidence and filtration the quality of the water when delivered depended largely so that the thoroughness with which they were carried out regulated the quality. It did not come within the terms of their reference to lay down what should be the exact regulations as regards filtration, what should be the proportionate area of the filtering-beds, the depth of sand, the frequency of renewal, or the rate at which the water should be allowed to percolate; nor as regards the subsidence tanks, how many days storage should be deemed sufficient so as to obviate the necessity of taking in turbid storm water and to allow of due settlement; but they stated that the provision for these purposes differed enormously in different companies, and in some of them was to their mind inadequate. Regulations on these matters, they said, should be drawn up after competent inquiry, and adherence to the regulations should be strictly enforced. This enforcement should be entrusted to the public water examiner, who should have the legal right of entry into all the waterworks, and the duty of reporting periodically as to the due observance of the conditions laid down. With reference to the River Lee the Commission reported that when "dealing with the river as a whole this abstraction is, in our opinion, too great with the storage now in existence, but if other reservoirs were constructed adequately increasing the storage capacity on well recognised lines, the taking of 52½ million gallons a day may be continued. The taking of the water should be under regulations similar in character to those suggested for the Thames, viz., the first flush of floods to be rejected, and in dry weather no water to be abstracted when the flow has run down to a quantity hereafter to be determined." Everything went to show, in the opinion of the witness, that the total flow of the Thames was gradually being absorbed by the water companies and it was of the first importance that the following recommendation of Lord Balfour's Commission should be put into effect:—"We think that regulations could be framed under which the quantity we suggest could be taken not only without reducing the flow of the river on the rare occasions of exceptional drought to the present *minimum* but in such a way as to secure that the volume of water left in the river at these times would be substantially greater than it is under existing conditions.' Under this recommendation the water companies would have to refrain from drawing water from the Thames during dry seasons and must add to the natural outflow of their storage reservoirs. Mr. More, the engineer to the Thames Conservancy, had stated that if less than 200,000,000 gallons were left in the river below Richmond it would be rendered almost unnavigable at low water. Again, the beneficial effects produced on the river by the London County Council's works for the treatment of sewage would be rendered valueless if the present abstraction of upland water was allowed. Sir Alexander Binnie declined to decide what the storage capacity of any future reservoir must be. To provide for the future population estimated by Lord Balfour's Commission 90 days' storage capacity of 300,000,000 gallons would be required—that is to say, it would require a storage capacity of 27,000 million gallons instead of 17,500 million gallons.

In answer to the Chairman Sir Alexander Binnie said that the cost of going to Wales for the water would be from £90,000 to £95,000 per million gallons.

The Commission then adjourned until next Monday.

BRITISH MEDICAL BENEVOLENT FUND.

The annual general meeting of subscribers to the above Fund was held on Thursday, the 13th inst., at the house of the Treasurer, Sir W. H. Broadbent, Bart., 84, Brook-street, Grosvenor-square, and was attended by a considerable number of members of the medical profession including the members of the committee and the honorary secretaries, Dr. Samuel West and Mr. Joseph White. In the unavoidable absence of the President, Sir James Paget, Bart., the chair was taken by Sir W. H. Broadbent.

The financial statement for the year and the report of the committee were presented to the meeting and from these it appeared that annual subscriptions amounting to £962 6*s*. 6*d*. and donations amounting to £405 4*s*. 10*d*., making a total of £1367 11*s*. 4*d*., had been received during the year and distributed in grants to 167 out of 216 applicants. The grants varied from £5 to £18 each. The amount received from interest on invested capital had been £2255 and this had been, as usual, devoted to the payment of annuities of £20 each to 107 recipients who had attained the age of sixty years and upwards.

Ten annuitants of £20 each had been elected during the year and one annuity of £15 had been granted to the widow of a medical man in accordance with the provisions of the Dunlop Gift. Owing to investment of recent legacies one new annuity has been added to the permanent list and the number on the list now amounted to 108.

The Grant Department had still caused the committee very great difficulty and anxiety. This part of the Fund is entirely dependent on the income derived from annual subscriptions and donations and this always falls very far short of its requirements. What the Fund most urgently requires is a large increase in its regular annual subscribers.

The books and accounts of the Fund had been exhaustively audited by the honorary chartered accountant and the working expenses had been remarkably small. Great regret was expressed at the resignation of Mr. J. T. Mould, F.R.C.S. Eng., who had been chairman of the committee for many years and who had been compelled to retire through ill health.

Votes of thanks were carried by acclamation to the committee, to the treasurer, and to the honorary secretaries and to the auditors, the honorary chartered accountant and the medical press, and a special vote of thanks to Sir William Broadbent for his courtesy in the chair and for his great interest in the welfare of the Fund terminated the meeting.

THE PENAL POWERS OF THE GENERAL MEDICAL COUNCIL: A REPORT TO THE REGISTERED PRACTITIONERS OF ENGLAND AND WALES.

MR. VICTOR HORSLEY, one of the Direct Representatives, has asked us to publish the following report to his constituents upon the Penal Powers of the General Medical Council:—

LADIES AND GENTLEMEN, — I sincerely regret being obliged to make the following report to you, but the urgent nature of the matters composing it and my inability to secure the safety of those of your interests which are endangered gives me no option but to discharge my personal responsibility as a Direct Representative Member of the General Medical Council.

A. Re *the Legal Affairs of the Council and Action of the President thereon.*

In a paper which I read at the annual meeting of the British Medical Association at Carlisle in 1896 I drew attention to the dangerously arbitrary powers possessed by the President of the General Medical Council, and I showed how the business of the Council, especially the prosecution of certain offenders against the Medical Act, was adversely affected by the exercise of such powers. Four months after the publication of my paper the General Council commenced a revision of the penal procedures of the Council, and ultimately removed from the President the personal exercise of most of his power, and vested it in the Penal Cases Committee. The fact that these precautionary measures have unfortunately not been sufficiently observed, or were not made sufficiently stringent, has led to a repetition in a very aggravated form of the evils to which I drew your attention at Carlisle in 1896. The circumstances of the present case are as follows. At the last session of the Council—viz., November, 1897—the Council decided that a flagrant example of the special class of offenders against the Medical Act referred to above should be legally prosecuted on certain lines and on certain definite evidence which was before them. At the end of December, 1897, from facts which came to my immediate personal knowledge, the conviction was forced upon me that unless a very radical change were at once effected in the conduct of this legal business an unsuccessful issue would result. Under these circumstances I felt it an imperative duty to write to the President informing him of the facts and asking him to call the Penal Cases Committee as soon as possible in order that the existing confusion might be rectified, he alone being invested with the power of calling such committee together out of session.

He replied that (1) such a proposal was impracticable; (2) that he did not intend to call the committee; (3) that he had referred the solicitor's statements (upon which my opinion as expressed above was formed) back to the same source for his opinion thereon; and (4) had instructed the same solicitor to take the opinion of eminent counsel upon facts already laid before the Penal Cases Committee, and upon the report of which the Council had decided to act. Thus the President, after making a statement (No. 1) that was not correct, and refusing to take the only constitutional course open—namely, that of summoning the responsible committee—assumed the direction of affairs and reopened the matter which had already been decided upon by the Council, and in addition assumed the responsibility of ordering the great and useless expense of taking legal means to rediscover facts already known to and settled by the Council itself, with the concurrence of the legal assessor in the Session of last November.

On receiving the President's letter I immediately communicated the facts to two leading members of the Penal Cases Committee, one of whom I am aware endeavoured to persuade the President to summon the committee, but was also unsuccessful. I therefore wrote again to the President (who had not answered my former letter) asking him once more to call the committee and to withdraw his instructions to the solicitor as being a waste of public money. By way of reply to that letter I have only received a note from the President improperly suggesting that I should in future address my communications not to him (the only responsible person), but to the Registrar or the solicitor, neither of whom of course have any authority or powers. The present situation, therefore, is that the President, with what in my opinion amounts to a reckless disregard of fact and of constitutional right, is allowing the most important and serious work of the Council affecting the interests of the whole profession to remain in the hands of those who would appear to be unable to satisfactorily prosecute it. And further that he has without any authorisation whatsoever from the Council ordered a large and useless expenditure of the public funds of the Council.

My object in obtaining a meeting of the Penal Cases Committee was to have the whole circumstances properly investigated by the body competent to deal with them and thus to secure matters of such difficult and delicate nature being properly dealt with. That object has been frustrated by the action of the President. As the Council does not meet until May I am unable to call in question the President's conduct in the proper place before that date and am therefore powerless to do anything to remedy either the present state of this special penal business of the Council or the expenditure in which the President has involved the Council. I am therefore constrained to make this public statement in order that the members of the profession may be made aware of the manner in which their interests are being menaced and of the steps I have taken to protect their interests. That I have not succeeded is, I venture to point out, not my fault, but is to be attributed to the power still left by the Council in the hands of the President alone and arbitrarily exercised by him.

B. Re *Practice in Italy.*

I desire at the same time to report to the electorate the following matter which is the outcome of an official letter sent by the President of the General Medical Council to the Privy Council on July 1st, 1897, since I can obtain no answer from the President of the General Medical Council, to whom I have addressed the communication reprinted below. A grave legal error contained in his letter impugns the whole position of all medical practitioners in the kingdom, and being now published will if possible be made use of by every enemy to the profession and every unqualified person who trades on the ignorance and fears of the public. It is necessary, therefore, to immediately correct the error referred to and to warn the profession of the injury which the President's official pronouncement may, if left unchallenged, inflict upon its members. The circumstances of the case are as follows. The Italian medical profession are seeking to obtain from their Government a statutory protection of qualified medical practice in Italy and desire to make it compulsory upon any British subject practising medicine in Italy to pass the Italian State examination. Our countrymen who are so practising in Italy applied last summer to the General Medical Council to interest itself in their behalf. As no reciprocity is possible, since we do not admit foreign degrees to our Register except as additional titles, the General Council ordered a small committee to draft a letter to the Privy Council upon the subject. This letter is the one to which I take exception. It is signed by Sir R. Quain as President of the General Medical Council, and after recounting in a way which in my opinion is erroneous and misconceived the respective positions of a British practitioner resident at home and abroad, dilates at length on the injustice of the proposed Italian legislation and suggests amendment of the Medical Acts in order that reprisals may be efficiently made when necessary by our Government. The letter is to be found on page 185 of vol. xxxiv. of the Minutes of the Council which has just been published. Immediately after this letter came to my notice I wrote to the President in the following terms, but have received no answer thereto beyond a formal acknowledgment:—

[COPY.]

25, Cavendish-square, W., 30th December, 1897.

SIR,—I beg to draw your attention to the following matter, which is of urgent public importance and I submit requires prompt correction.

On page 185 of the Minutes of the Executive Committee (meeting Nov. 22nd, 1897, vol. xxxiv., Minutes of the General Medical Council) is given a copy of a letter signed by yourself, dated July 1st, 1897, and forwarded to the Privy Council in consequence of a resolution of the Council of May 27th, 1897 (see Minutes of the General Medical Council, vol. xxxiv., p. 68).

In this letter occurs the following passage (page 186, line 17): "The reason assigned for the proposed change is that Italian doctors are not permitted to practise in other countries of Europe, including the United Kingdom, unless they possess the diplomas of the countries in question.

"In contravention of this statement the General Medical Council desire to remind the Lord-President that foreign medical men are under *no restrictions in Great Britain as* far as practice is concerned, and that the only disabilities under which they labour, if they do not possess a diploma registrable under the Medical Acts, are (*a*) that they cannot recover fees by legal process or sign certain certificates; (*b*) that they are unable to give *medical* evidence in courts of law; and (*c*) that they may not hold certain public offices. *They are absolutely free to practise their profession*, not only upon other foreigners, as British medical men may at present practise in Italy, but also *upon the Queen's subjects*, and upon foreigners resident within the Queen's dominions."

Since the name of no foreigner can be placed on the Register except he possesses a British qualification this statement assumes that any unregistered person may unrestrictedly carry on medical practice in the United Kingdom. In other words, that registration under the Medical Acts, 1858 and 1886, is of no value as regards practice and that the Apothecaries Act of 1815 does not apply to foreigners practising in the United Kingdom, though unregistered and unqualified.

I beg to call your attention to the following considerations which show that the statement in your letter to the Privy Council is incorrect and that foreign practitioners who are unregistered and unqualified persons cannot practise unrestrictedly medicine, surgery, and midwifery in the United Kingdom.

1. The Medical Act of 1886 (49 and 50 Vict., cap. 48) contains a section, No. 6, which is headed "Effect of Registration" and in the marginal index is stated to describe the "privileges" of registered persons. This section in its commencement states as the first privilege that "on and after the appointed day a registered medical practitioner shall, save as in this Act mentioned, be entitled to practise medicine, surgery, and midwifery in the United Kingdom." Thus the privilege of practising medicine in the United Kingdom is conferred by the Act on registered persons alone in precisely the same way as the second privilege conveyed in the section—viz., that of recovering professional charges by process of law—is alone bestowed upon registered persons. The punishment of persons who commit breaches of this section and who practise without being registered is provided for in Section 40 of the Medical Act, 1858. An unregistered foreign doctor, therefore, practising in the United Kingdom would come under the restrictive penalties of these sections of the Medical Acts.

2. The Apothecaries Act, 1815, provides that persons who do not hold the registrable qualification—viz., Licentiateship of the Society of Apothecaries—and who nevertheless practise medicine shall be punished under the penal section, No. 20. This statute has been successfully employed for the punishment of unregistered and unqualified foreigners (including Italians) and others attempting to practise medicine in this country.

An unregistered foreign doctor, therefore, practising in England and Wales would come under the restrictive penalty of the Apothecaries Act, 1815.

The incorrectness of your statement cannot fail to have a gravely prejudicial effect on the manner in which the Government, i.e., the Privy Council, will regard the existing Medical Acts, and also directly compromises the value of any official letters which may be sent in the future by the General Medical Council to the Privy Council. Under these circumstances I shall be much obliged if you will kindly inform me as soon as possible what steps you propose to take to correct the erroneous impression conveyed by your letter, which has unfortunately now become public property by being published in the current volume of the Minutes of the Council.

I take this opportunity also of giving notice that at the next Session of the Council I shall move that a letter of rescission, withdrawing your letter of July 1st, 1897, be forwarded to the Privy Council.

Yours faithfully,
Victor Horsley.

Sir Richard Quain, Bart., M.D.,
President, General Medical Council.

In my opinion it is clear that a certain injury to the authority and reputation of the Council cannot fail to have been inflicted by the President's letter, and it is equally certain that we cannot obtain a *tabula rasa* until the Council meets and formally repairs damages by admitting that the letter sent to the Privy Council by the President was inaccurate.

However, by giving publicity to the matter and early contradiction to the President's statement, I think the profession will be able to prevent any injurious use being made of it during the five months that must elapse before the May Session.

Victor Horsley,
Direct Representative for England and Wales.

UNIVERSITY OF LONDON.

Meeting of Convocation.

There was a comparatively small attendance of graduates at the meeting of Convocation of the University of London held on Monday, the 17th inst., notwithstanding the fact that the agenda gave notice of a motion to approve of the London University Commission Bill, 1897, the passage of which would place the reconstitution of the University in the hands of a Statutory Commission. Whether from a feeling of indifference to the fate of the University or from weariness at the delays that have been encountered in securing a change already approved by a large majority in a full meeting of Convocation, or perchance from lack of interest in a scheme which does not in the opinion of some meet the real wants of educational London, it is yet not hopeful that so few should attend on such an occasion. For it might be inferred that even the compromise which was supposed to have satisfied the scruples of those members formerly opposed to any scheme, including the chairman of Convocation and Dr. Napier, whose election to the Senate was due to his antagonism to the proposed changes, had not aroused much fervour. Certainly it had not disarmed opposition, as was shown in the course of the proceedings when an amendment, moved by Mr. Littler, Q.C., and seconded by Mr. Fletcher Moulton, Q.C., which aimed at deferring a decision on the question until the whole of Convocation could be given the opportunity of expressing an opinion, received 42 votes as against 76 recorded on the other side.

The proceedings commenced by the presentation by Mr. J. B. Benson, LL.D., B.A., of the report of the Special Committee appointed on May 13th, 1896, "to prepare a memorandum to any Statutory Commission or to prepare amendments to the London University Commission Bill." The Committee reported that they had drawn up and presented amendments to the Bill of 1896 which was withdrawn and that they had met for the same purpose in regard to the Bill of 1897 but had not time to carry out their instructions. They also reported the proceedings of the conference which took place on Dec. 6th, 1897, between the senate and representatives of the institutions and bodies named in the report of the Cowper Commission. Dr. Benson's motion for the reception of the report was met by two amendments, regarded by some speakers as of a purely obstructive character, the one (not seconded) averring that the special committee had given no information of any proposed amendments to the Bill, and the other, which was duly moved, seconded, and rejected by a large majority, pointing out that as no Statutory Commission had been appointed there was no occasion for the Special Committee to present a report. These preliminary obstacles removed,

Dr. Benson then moved, in accordance with the recommendation of the Special Committee, "That this House accepts the scheme embodied in the London University Commission Bill, 1897." In his speech he pointed out in what respects the measure was the result of the compromise, which had secured for it far larger support than any previous Bill, and he considered the time had come for controversy to cease.

Mr. Blake Odgers, Q.C., B.A., in seconding the motion, stated that the measure secured three cardinal points—namely, that there should be one University and not two, that by it the standard of degrees would not be lowered and the interests of external students not prejudicially affected. He also thought that the time had come for finally settling the question and for closing controversy.

Mr. Littler, Q.C., B.A., in a vigorous speech contended that in so important a question it was only right that every member of Convocation should have the opportunity of expressing his opinion and that the vote of a small section of the graduates resident in London ought not in justice to be taken as representative of the views of the whole body. He therefore moved an amendment to the effect that before any decision was arrived at means should be taken to ascertain the views of all the members of Convocation.

Mr. Fletcher Moulton, Q.C., M.A., seconded this amendment, appealing to those present to do this act of justice to the large constituency who were unable to attend a meeting in London.

It was, however, pointed out that the Charter did not allow of such a "referendum," although of course it was open to any persons to unofficially obtain an expression of opinion on any subject of interest to Convocation.

Mr. T. B. Napier, LL.D., opposed the amendment and was at some pains to justify his changed attitude, affirming that the compromise was a just and reasonable one and that it safeguarded the interests of Convocation and the external students.

Mr. Silvanus Thompson, D.Sc., followed on the same side and laid stress on the fact that Convocation in the only mode legally open to it had on a previous occasion carried a resolution by a large majority in favour of the re-constitution of the university.

Mr. HEBER HART, LL.D., who supported the amendment, found it difficult to reconcile Dr. Napier's present declarations with loyalty to the cause he formerly championed.

Sir J. FITCH, M.A., in a brief but weighty speech, urged that were the amendment carried this scheme for the organisation of education in London would be indefinitely postponed; whilst he pointed out that the only legitimate way of obtaining the opinion of Convocation was at its meetings, just as in Cambridge and Oxford Universities, where on important questions members attended to record their votes from all parts of the country.

Mr. JOSEPH, LL.B., in support of the amendment, urged that there would be no more difficulty in obtaining the votes of provincial members on this question than there is at the election of senators and declared that this very question had been more than once decided by the return of members to the senate who had expressed themselves opposed to re-constitution.

A vote was then taken on the amendment, which was declared to be lost, and on a division there were—Ayes, 42; Noes, 76. The original resolution was then put and declared carried, the supporters of the amendment not voting. The report of the Standing Committee was then presented and the House shortly afterwards stood adjourned.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

A MEETING of the Council of the Metropolitan Hospital Sunday Fund was held on Jan. 14th at the Mansion House, when the Earl of STAMFORD presided. On the motion of the Hon. SYDNEY HOLLAND, seconded by the Right Hon. W. LIDDERDALE, the Committee of Distribution for the year was constituted as follows: The Lord Mayor, M.P., Sir Sydney Waterlow, Sir Savile Crossley, Sir Stuart Knill, Captain Cundy, Mr. Robert Grey, Mr. Herman Hoskier, Mr. F. H. Norman, Dr. Sedgwick Saunders, and Mr. Alfred Willett. The General Purposes Committee consisting of the following gentlemen was re-appointed: The Lord Mayor, Sir Sydney Waterlow, The Chief Rabbi, Archdeacon Sinclair, Canon Fleming, Canon Ingram, Prebendary J. F. Kitto. the Rev. Donald McLeod, the Rev. R. F. Horton, the Rev. J. H. Rigg, the Rev. Dr. Marks, the Rev. W. H. Harwood, Sir Henry C. Burdett, Colonel Francis Haygarth, Mr. Herbert Brooks, Mr. F. C. Carr-Gomm, Mr. A. L. Cohen, Dr. J. G. Glover. Dr. C. J. Hare, Mr. Albert G. Sandeman, Dr. W. Sedgwick Saunders, and Mr. Wakley.

It was arranged that the Special Committee for Surgical Appliance Orders and Hospital Letters should consist of any two Members of the Council acting with the secretary. Sir E. Hay Currie and Mr. Richard B. Martin, M.P., the honorary secretaries, were re-appointed as was Mr. H. N. Custance, the secretary. Messrs. W. H. Pannell and Co. were chosen as auditors of the Fund.

The Committee of Distribution met on the same day and agreed to issue their appeals to hospitals seeking to participate in the Fund within the next week.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an Inspection of the Witney Urban District, more especially in relation to the Disposal and Removal of House Refuse and Night Soil, by Dr. W. W. E. FLETCHER.—The small town of Witney (population 3110), in Oxfordshire, appears to have been for some time anxious to discontinue its system of public scavenging and to adopt instead by-laws imposing upon householders the duty of removal of excrement and refuse from premises. Application for by-laws in this sense was made by the Witney District Council to the Local Government Board, who refused sanction to the proposal until the question had been locally investigated by a medical inspector. Dr. Fletcher has no difficulty in showing how it is that the present system of public scavenging has come to be unsatisfactory. This system in Witney consists merely of an undertaking by the district council to remove the contents of any pails placed in the street by the householder before 9 A.M. The necessity of supplementing public scavenging of this sort by periodical inspections in order to prevent accumulations of refuse and excrement on the premises of careless householders appears not to have occurred to the district council; and hence many Witney folk, without hindrance from the sanitary authority, permit objectionable and recurring nuisances to arise near their dwellings. The remedy proposed by Witney, however, does not hold out much hope of amendment, and Dr. Fletcher, who takes this view of the case, recommends the adoption of a more efficient system of public scavenging side by side with adequate sanitary inspection. Dr. Fletcher draws attention to other grave sanitary defects in the town. In particular we learn from his report that the soil of the place is to a high degree porous, that the water-supply consists of shallow wells in this porous soil, and that near many of these wells privy cesspits and excremental accumulations abound. Warning of the danger attendant on these conditions has already been afforded by a serious outbreak of enteric fever. Unfortunately the necessity for amendment seems to remain in large measure unrecognised by the district council. A pure public water-supply, which obviously constitutes the most pressing need of the place and which apparently could be had at no excessive cost, is rejected on the ground of saving the rates—an economy which may well prove as extravagant as such attempts at saving generally are. So, too, with questions of sewerage. Witney being on the Thames watershed something has to be done with its sewage to save legal difficulties with the Thames Conservators. But so far the proposal to construct adequate works of sewerage within the town has met with strong and successful local opposition. It is clear that the multifarious insanitary conditions of the Witney Urban District call for serious and sustained efforts on the part of its district council and its medical officer of health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Burgh of Crieff.—During 1896 there were registered 116 births and 85 deaths, giving a birth-rate of 23 6 and a death-rate of 17 3 per 1000 of the population; the last census (in 1891) showed the population to be 4901. Dr. James Gairdner in his annual report mentions that 24 cases of infectious disease came to his knowledge during the year, comprising 2 of diphtheria, 9 of erysipelas, 12 of scarlet fever, and 1 of continued fever. He gives an unfavourable account of the condition of the slaughterhouse and devotes considerable space to showing that the melting of old lead into ingots is a business altogether unsuitable for being carried on in a populous locality. He found that fumes from these operations were deposited at a distance of 120 ft. from the workshop and contained appreciable although minute amounts of lead, tin, zinc, copper, arsenic, and manganese.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6944 births and 4432 deaths were registered during the week ending Jan. 15th. The annual rate of mortality in these towns, which had been 24·9 and 21·4 per 1000 in the two preceding weeks, further declined last week to 20·6. In London the rate was 22·9 per 1000, while it averaged 19·0 in the thirty-two provincial towns. The lowest rates in these towns were 12·2 in Huddersfield, 12·6 in Cardiff, 12·9 in Birkenhead, and 13·3 in Swansea; the highest rates were 23·7 in Plymouth, 25·3 in Liverpool, 28·9 in Norwich. and 29·6 in Wolverhampton. The 4432 deaths included 525 which were referred to the principal zymotic diseases, against 651 and 546 in the two preceding weeks; of these, 225 resulted from measles, 120 from whooping-cough, 72 from diphtheria, 42 from "fever" (principally enteric), 34 from diarrhœa, and 32 from scarlet fever. No death from any of these diseases was recorded last week in Wolverhampton; in the other towns they caused the lowest death-rates in Bradford, Plymouth, Portsmouth, and Nottingham, and the highest rates in London, Derby, Oldham, and Sheffield. The greatest mortality from measles occurred in London, Croydon, Brighton, Derby, Oldham, Halifax, and Sheffield; from scarlet fever in Huddersfield; from whooping-cough in Derby and Portsmouth. The mortality from "fever" showed no marked excess in any of the large towns. The 72 deaths from diphtheria included 44 in London, 6 in Birmingham, 4 in Cardiff, and 4 in Liverpool. No fatal case of small-pox was registered during the week under notice, either in London or in any other of the thirty-three towns, and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 3253, against 3619, 3572, and 3450 on the three preceding Saturdays; 215 new cases were admitted during the week, against 222, 273, and 239 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 700 and 533 in the two preceding weeks, further declined last week to 516, and were 255 below the corrected average. The causes of 55, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Bradford, Leeds, Hull, and in fifteen other smaller towns; the largest proportions of uncertified deaths were registered in Cardiff, Birmingham, Liverpool, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks from 18·6 to 24·3 per 1000, declined to 20·4 during the week ending Jan. 15th, and was slightly below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·7 in Leith and 15·8 in Paisley to 23·8 in Perth and 31·5 in Greenock. The 615 deaths in these towns included 19 which were referred to diarrhœa, 15 to measles, 11 to whooping-cough, 7 to scarlet fever, 3 to "fever," and 2 to diphtheria. In all, 57 deaths resulted from these principal zymotic diseases, against 73 and 76 in the two preceding weeks. These 57 deaths were equal to an annual rate of 1·9 per 1000, which was 0·5 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 15 and 14 in the two preceding weeks, rose again to 15 last week, of which 14 occurred in Glasgow. The 11 deaths referred to whooping-cough showed a further decline from the numbers recorded in recent weeks, and included 5 in Glasgow, 2 in Edinburgh, and 2 in Greenock. The fatal cases of scarlet fever, which had been 8 and 14 in the two preceding weeks, declined to 7 last week, of which 4 occurred in Glasgow, and 2 in Edinburgh. The deaths from diphtheria, which had been 3 and 9 in the two preceding weeks, fell to 2 last week, of which 1 was registered in Dundee and 1 in Paisley. The deaths referred to diseases of the respiratory organs in these towns, which had been 186 and 177 in the two preceding weeks, further declined to 158 last week, and were slightly below the number in the corresponding period of last year. The causes of 32, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 33·0 and 31·0 per 1000 in the two preceding weeks, rose again to 31·8 during the week ending Jan. 15th. During the thirteen weeks of last quarter the rate of mortality in the city averaged 24·6 per 1000, the rate during the same period being 19·4 both in London and in Edinburgh. The 213 deaths registered in Dublin during the week under notice showed an increase of 5 upon the number in the previous week, and included 12 which were referred to the principal zymotic diseases, against 13 and 18 in the two preceding weeks; of these, 6 resulted from "fever," 2 from diphtheria, 2 from whooping-cough, 1 from measles, 1 from scarlet fever, and 1 from diarrhœa. These 12 deaths were equal to an annual rate of 1·8 per 1000, the zymotic death-rate during the same period being 3·3 in London and 1·1 in Edinburgh. The 4 deaths referred to diphtheria exceeded the number recorded in any week since September last. The fatal cases of measles, which had been 1 and 5 in the two preceding weeks, declined to 3 last week. The deaths referred to different forms of "fever," which had been 6 in each of the two preceding weeks, declined to 2 last week. The 2 fatal cases of whooping-cough showed a decline of 2 from the number recorded in the preceding week. The 213 deaths in Dublin last week included 33 of infants under one year of age and 213 of persons aged upwards of sixty years. Five inquest cases and 3 deaths from violence were registered; and 69, or nearly a third, of the deaths occurred in public institutions. The causes of 22, or more than 10 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING DECEMBER, 1897.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during December, 1897, in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 9·9 per 1000 of the population, estimated at 4,463,169 persons. In the three preceding months the rates had been 13·3, 16·0, and 12·7 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in Hammersmith, St. George Hanover-square, Westminster, Marylebone, Hampstead, Stoke Newington, and St. Martin-in-the-Fields; while they showed the largest excess in Hackney, Bethnal Green, Poplar, Newington, Battersea, Woolwich, Lee, and Plumstead. One case of small-pox was notified in London during December, against 1 and 3 in the two preceding months; this case belonged to St. George Southwark sanitary area. No small-pox case was admitted into any of the Metropolitan Asylum Hospitals during December, and no patients remained under treatment at the end of the year. The prevalence of scarlet fever in London showed a further marked decline from that recorded in the two preceding months; this disease was proportionally most prevalent in Fulham, Limehouse, Mile End Old Town, Poplar, Newington, St. Olave Southwark, Battersea, Woolwich, and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 3507 scarlet fever patients at the end of December, against 3585, 3571, and 3731 at the end of the three preceding months; the weekly admissions averaged 272, against 350, 367, and 383 in the three preceding months. The prevalence of diphtheria in London also showed a further decline from that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, St. Pancras, Hackney, City of London, Poplar, Battersea, Lewisham, and Lee. There were 1066 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of December, against 1033, 1029, and 1042 at the end of the three preceding months; the weekly admissions averaged 151, against 155 in each of the two preceding months. The prevalence of enteric fever in London during the month under notice showed a further marked decline from that recorded in recent months; this disease was proportionally most prevalent in Islington, Stoke Newington, Hackney, St. Luke, Poplar, and Woolwich sanitary areas. The Metropolitan Asylum Hospitals contained 116 enteric fever patients at the end of December, against 173, 175, and 155 at the end of the three preceding months; the weekly admissions averaged 17, against 28, 26, and 23 in the three preceding months. Erysipelas showed the highest proportional prevalence in St. Giles, Clerkenwell, Bethnal Green, Rotherhithe, and Lee sanitary areas. The 25 cases of puerperal fever notified in London during December included 4 in Newington, 3 in Camberwell, 3 in Mile End Old Town, 2 in Islington, and 2 in Hackney sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the five weeks ending Saturday, January 1st, the deaths of 9131 persons belonging to London were registered, equal to an annual rate of 21·3 per 1000, against 15·6, 16·1, and 19·0 in the three preceding months. The lowest death-rates during December in the various sanitary areas were

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS OF LONDON—DECEMBER, 1897.

(*Specially compiled for* THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1897.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,463,169	1	1973	1360	—	288	4	25	564	—	4215	9·8	—	641	78	282	262	—	70	—	55	1388	3·2	9131	21·3	162
West Districts.																										
Paddington	128,161	—	55	34	—	5	—	1	9	—	104	8·6	—	1	2	8	2	—	1	—	—	14	1·2	192	16·4	143
Kensington	171,427	—	56	28	—	10	—	—	22	—	116	7·1	—	14	6	12	3	—	2	—	5	42	2·6	320	19·5	217
Hammersmith	106,959	—	40	12	—	4	1	—	9	—	66	6·5	—	3	2	2	1	—	2	—	2	12	1·2	207	20·4	193
Fulham	120,040	—	69	51	—	4	—	1	18	—	143	12·4	—	41	5	13	4	—	3	—	3	69	6·0	271	23·5	179
Chelsea	96,692	—	30	26	—	3	—	1	6	—	66	7·1	—	11	1	8	3	—	1	—	3	27	2·9	203	21·9	166
St. George Hanover-square	80,330	—	16	16	—	3	—	—	4	—	39	5·1	—	13	1	2	2	—	—	—	2	20	2·6	136	17·7	192
Westminster	53,027	—	11	12	—	3	—	1	6	—	33	6·5	—	11	1	4	3	—	2	—	1	22	4·3	116	22·8	186
St. James Westminster	22,576	—	8	2	—	2	1	—	2	—	15	6·9	—	4	—	—	—	—	—	—	1	5	2·3	37	17·1	132
North Districts.																										
Marylebone	140,808	—	25	21	—	10	—	—	24	—	80	5·9	—	3	1	5	9	—	1	—	2	21	1·6	270	20·0	159
Hampstead	77,275	—	16	13	—	1	—	—	4	—	34	4·6	—	4	—	1	6	—	—	—	—	11	1·5	125	16·9	174
St. Pancras	242,255	—	59	71	—	21	—	—	32	—	183	7·9	—	23	3	18	8	—	3	—	2	62	2·7	509	21·9	154
Islington	341,134	—	108	71	—	37	—	2	30	—	248	7·6	—	42	5	19	14	—	8	—	4	92	2·8	681	20·8	161
Stoke Newington	34,136	—	3	7	—	4	—	—	2	—	16	4·9	—	2	—	4	2	—	1	—	—	9	2·7	68	20·8	169
Hackney	216,698	—	117	102	—	23	—	2	22	—	266	12·8	—	34	3	25	39	—	3	—	3	107	5·1	476	22·9	173
Central Districts.																										
St. Giles	37,840	—	10	3	—	1	—	—	14	—	28	7·7	—	2	1	—	1	—	—	—	1	5	1·4	63	17·4	115
St. Martin-in-the-Fields	12,711	—	3	1	—	—	—	—	—	—	4	3·3	—	—	—	—	—	—	—	—	—	—	—	11	9·0	53
Strand	23,552	—	10	5	—	2	—	—	—	—	17	7·5	—	6	—	—	—	—	1	—	—	7	3·1	63	27·9	151
Holborn	30,493	—	6	12	—	2	—	—	3	—	23	7·9	—	3	—	—	1	—	1	—	—	5	1·7	68	23·3	196
Clerkenwell	66,162	—	27	27	—	5	—	1	13	—	73	11·5	—	8	1	5	9	—	—	—	—	23	3·8	160	25·2	162
St. Luke	41,279	—	17	10	—	5	—	—	6	—	38	9·6	—	2	4	4	6	—	1	—	—	17	4·3	123	31·1	152
City of London	30,228	—	7	17	—	2	—	—	2	—	28	9·7	—	—	1	3	—	—	1	—	—	5	1·7	65	22·4	120
East Districts.																										
Shoreditch	121,883	—	44	32	—	7	—	—	15	—	98	8·4	—	47	1	7	17	—	3	—	1	76	6·5	370	31·7	227
Bethnal Green	129,098	—	67	48	—	6	—	1	35	—	157	12·7	—	25	3	7	18	—	1	—	2	56	4·5	342	27·6	210
Whitechapel	79,724	—	45	18	—	6	—	1	7	—	77	10·1	—	5	1	1	5	—	1	—	1	14	1·8	156	20·4	146
St. George-in-the-East	47,917	—	21	9	—	3	—	—	11	—	44	9·8	—	12	1	2	5	—	3	—	—	23	5·0	137	29·8	179
Limehouse	58,508	—	34	14	—	3	—	—	9	—	60	10·7	—	2	—	1	7	—	—	—	—	10	1·8	116	20·7	188
Mile End Old Town	111,883	—	78	29	—	6	—	3	19	—	135	12·6	—	32	2	4	14	—	5	—	2	59	5·5	252	23·5	173
Poplar	169,811	—	115	83	—	20	—	1	21	—	240	14·7	—	31	3	17	21	—	8	—	3	83	5·1	372	22·8	168
South Districts.																										
St. Saviour Southwark	24,919	—	8	12	—	—	—	—	—	—	20	8·4	—	17	1	—	—	—	—	—	—	18	7·5	69	37·2	200
St. George Southwark	60,388	1	29	17	—	1	—	—	11	—	59	10·2	—	30	2	4	1	—	—	—	1	38	6·6	183	31·6	202
Newington	122,191	—	73	46	—	8	—	4	19	—	150	12·8	—	41	3	10	—	—	—	—	—	54	4·6	295	25·2	156
St. Olave Southwark	11,480	—	7	2	—	—	—	—	1	—	10	9·1	—	5	1	—	2	—	—	—	1	9	8·2	35	31·8	167
Bermondsey	85,629	—	35	20	—	6	—	1	12	—	74	9·0	—	24	5	4	5	—	4	—	1	43	5·2	207	25·2	189
Rotherhithe	40,643	—	21	2	—	2	—	—	10	—	35	9·0	—	—	1	—	1	—	—	—	1	3	0·8	64	16·4	106
Lambeth	300,048	—	150	63	—	26	—	—	40	—	279	9·7	—	50	3	21	12	—	3	—	4	93	3·2	593	20·6	120
Battersea	168,877	—	156	81	—	4	—	—	16	—	257	15·9	—	33	2	12	9	—	—	—	1	57	3·5	314	19·4	187
Wandsworth	196,612	—	105	82	—	7	2	—	20	—	216	11·5	—	5	3	12	5	—	1	—	3	29	1·5	289	14·3	108
Camberwell	257,575	—	102	107	—	16	—	3	24	—	252	10·2	—	35	5	27	9	—	6	—	1	83	3·4	518	21·0	156
Greenwich	178,367	—	60	61	—	10	—	1	29	—	161	9·4	—	6	2	6	12	—	2	—	3	31	1·8	304	17·8	110
Lewisham (excluding Penge)	86,152	—	18	40	—	4	—	—	11	—	73	8·8	—	5	—	7	1	—	—	—	—	13	1·6	120	14·5	111
Woolwich...	41,409	—	27	17	—	4	—	1	7	—	56	14·1	—	2	1	3	1	—	2	—	—	9	2·3	76	19·1	220
Lee	39,215	—	22	17	—	—	—	—	12	—	51	13·6	—	—	—	2	—	—	—	—	1	3	0·8	52	13·8	99
Plumstead	61,057	—	63	19	—	2	—	—	6	—	90	15·4	—	2	1	2	4	—	—	—	—	9	1·5	97	16·6	125
Port of London	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 45 cases of membranous croup.

† Including deaths from membranous croup.

9·0 in St. Martin-in-the-Fields, 13·8 in Lee, 14·3 in Wandsworth, 14·5 in Lewisham (excluding Penge), 16·4 in Paddington and in Rotherhithe, 16·6 in Plumstead, and 16 9 in Hampstead; the highest rates were 27·6 in Bethnal Green, 27·9 in Strand, 29·8 in St. George-in-the-East, 31·1 in St. Luke, 31 6 in St. George Southwark, 31·7 in Shoreditch, 31·6 in St. Olave Southwark, and 37·2 in St. Saviour Southwark. During the five weeks of December 1388 deaths were referred to the principal zymotic diseases in London; of these, 641 resulted from measles, 282 from diphtheria, 262 from whooping-cough, 78 from scarlet fever, 70 from enteric fever, and 55 from diarrhœa. These 1388 deaths were equal to an annual rate of 3·2 per 1000; no death from any of these zymotic diseases was recorded last month in St. Martin-in-the-Fields; in the other sanitary areas they caused the lowest death-rates in Paddington, Hammersmith, St. Giles, Rotherhithe, and Lee; and the highest rates in Fulham, Shoreditch, Mile End Old Town, St. Saviour Southwark, St. George Southwark, and St. Olave Southwark. The 641 fatal cases of measles were just double he corrected average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in Fulham, Strand, Shoreditch, Mile End Old Town, St. Saviour Southwark, St. George Southwark, Newington and St. Olave Southwark sanitary areas. The 78 deaths from scarlet fever were 43 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Kensington, Fulham, St. Luke, and Bermondsey. The 282 fatal cases of diphtheria exceeded by 41 the corrected average number; the mortality from this disease was highest in Fulham, Chelsea, Stoke Newington, Hackney, Poplar, Newington, Camberwell, Lewisham, and Woolwich sanitary areas. The 262 deaths referred to whooping-cough were 25 above the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Hackney, Clerkenwell, St. Luke, Shoreditch, Bethnal Green, and Poplar. The 70 fatal cases of enteric fever were 17 below the corrected average number; this disease was proportionally most fatal in St. George-in-the-East, Mile End Old Town, Poplar, and Bermondsey sanitary areas. The 55 deaths from diarrhœa were 13 below the corrected average number. In conclusion, it may be stated that the mortality in London from these principal zymotic diseases during December was nearly 30 per cent. above the average, owing principally to the excessive fatality of measles.

Infant mortality in London, measured by the proportion of deaths of children under one year of age to registered births, was last month equal to 162 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in St. Giles, St. Martin-in-the-Fields, Rotherhithe, Wandsworth, Greenwich, Lewisham, and Lee; and the highest rates in Kensington, Holborn, Shoreditch, Bethnal Green, St. Saviour Southwark, St. George Southwark, and Woolwich.

THE SERVICES.

NAVAL MEDICAL SERVICE.

THE following appointments are announced:—Surgeons: MacMahon to the *Excellent*; Nix to the *Victory*, additional for disposal; and Sheward to the *Excellent*.

ARMY MEDICAL STAFF.

Surgeon-Captain Winter takes over medical charge of troops and their families, Archcliffe Fort and Prison, Dover. Surgeon-Major Robinson has proceeded from Leeds to York. Brigade-Surgeon-Lieutenant-Colonel MacKinnon, D S.O., is transferred from the Regimental District at Reading to the Recruiting Staff in London.

The following medical officers have been ordered to proceed to Egypt:—Surgeon-Colonel Barrow, Surgeon-Major Barnes, Surgeon-Major Robinson, Surgeon-Major Stuart, Surgeon-Captain Marder, Surgeon-Captain Borradaile, Surgeon-Lieutenant Bliss, Surgeon-Lieutenant Cummins, Surgeon-Lieutenant Stallard, and Surgeon-Lieutenant Hopkins.

MILITIA MEDICAL STAFF CORPS.

Arthur Ernest Madge, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 1st Norfolk (Eastern Division, Royal Artillery): Mordaunt George Dundas, to be Surgeon-Lieutenant. 2nd West Riding of Yorkshire (Western Division, Royal Artillery): Lieutenant John Crossley Wright, M.B., resigns his commission, and is appointed Surgeon-Lieutenant; Surgeon-Lieutenant-Colonel H. Meade resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement. *Royal Engineers*: 2nd Gloucestershire (the Bristol): John Morgan Mortimer Thomas, late Surgeon-Captain, to be Lieutenant. *Rifle*: 1st Volunteer Battalion the Manchester Regiment: Robert Stuart Rodger, M B, to be Surgeon-Lieutenant. 3rd (the Buchan) Volunteer Battalion the Gordon Highlanders: Surgeon-Captain J. Stephen, M.D., to be Surgeon-Major; Surgeon-Lieutenant J. Middleton, M.B., to be Surgeon-Captain.

SANITARY CONDITIONS OF THE UNITED STATES ARMY.

The report of the Surgeon-General of the United States Army for the fiscal year ending June 30th, 1897, has just been issued and, so far as the health and sanitary condition of the troops is concerned, is eminently satisfactory. Statistics showed that for the year 1895 the health of the soldiers was better than in any former period in the history of the army and the rates of 1895 and 1896 are practically identical. The death-rate from all causes constituted 5 44 per 1000 of the strength—not much higher than that of the previous year and much lower than the average annual rate of 7·51 of the previous ten years. The corresponding rates from disease were 3 83, 3 55, and 5·10. The total number of deaths from disease was 104. Typhoid fever caused 17 of these deaths, disease of the heart 13, pneumonia 9, disease of the kidneys 8, alcoholism 7, tuberculosis 6. It will be observed that tuberculosis was the cause of fewer deaths than any other important disease. The Surgeon-General calls especial attention to the fact that great improvement has taken place in the sanitary condition of the coloured troops. Forty-seven cases of diphtheria were reported, but there was some doubt as to the accuracy of the diagnosis in many of the cases. Favourable results were obtained by the use of antitoxin and no deaths were reported from diphtheria. The admission-rate for all venereal diseases during the year was 78·08 per 1000 of strength and the non-efficiency 5·26. The admissions for rheumatic affections gave a rate for the year of 59·68 per 1000 of strength; the rate for the coloured troops being 71 26 and for the white troops 58 61. The admission-rate for malarial infections for the year was 83·08 and the rate of non-efficiency 1 65. The average weight and height measurements for the whole number of last year's recruits give the foreign-born the advantage over the native white in weight and chest measurement, although the latter is taller by half an inch. The mean height and weight of the recruits between the ages of twenty and twenty-four years were as follows: The mean height of the coloured recruit was 5 ft. 7 25 in.; weight, 10 st. 4 55 lb.; chest measurements, 36 31 in. at inspiration and 33 76 in. at expiration. The native white recruit was 5 ft. 7 76 in. in height; weight, 10 st. 3 47 lb.; chest measurements, 36 82 in. at inspiration and 33·93 in. at expiration. The foreign-born recruit was 5 ft. 7·11 in. in height; weight, 10 st. 3·98 lb.; chest measurements, 37·27 in. at inspiration and 34·32 in. at expiration. Of every 1000 accepted recruits 750·87 were natives of the United States, 674 26 white and 76·61 coloured; Germany furnished 74·53 and Ireland 74 30; England contributed 25 20, Canada 15·37, Sweden 11·67, Denmark 8 09, and Austria 7·16.

THE INDIAN FRONTIER EXPEDITION.

We have previously expressed our belief that, in spite of the fact that the Afridis had not yet tendered their submission, the neck of the extensive revolt on the part of the border tribes had nevertheless been broken. The news has of late been more hopeful and encouraging. Most of the tribes are surrendering or have already done so. General Jeffreys' force now occupies the heights commanding the Ambeyla Pass and the pass itself, and the tribes of that district have tendered their full submission. This is very satisfactory considering the seriously grave experience we had of their fighting qualities in that pass in 1865. There is still a good deal of "sniping" and irregular firing going on near Ali Musjid, where the enemy can be seen in force in the vicinity of the fort, but the attacks on the troops in the pass and valley of the Khyber are very feeble compared with what they have been elsewhere. The health of the troops continues to be good on the whole. The prospect is, as we have said, brightening, and we may hope that there will be an end before long to what has proved to have been one of the hardest and most arduous campaigns on record. The sufferings of the troops in some of the columns taking part in the late campaign were greatly increased owing to the want of water, and the breakdown of the animal and native transport, owing to the precipitous, slippery, and difficult nature of the ground, often formed a great obstacle which might have led to a big military disaster when the rear of the force was attacked, as it so often was. The latest telegraphic news from the Indian frontier is to the effect that 500 Maliks, representing all sections of the Afridis except the Zakha Khels, have arrived at Jamrud and are at once to have an interview with Colonel Warburton. The frontier trouble now looks as if it were in a fair way of settlement. The Zakha Khels, a powerful section no doubt of the Afridis, are now the only tribe that have not submitted. There should not apparently be any insuperable difficulty in securing the submission of this tribe by making them understand that the British Raj has not any idea of annexing their country or interfering with their independence.

THE PROPOSED INCREASE OF THE ARMY.

It is proposed to obtain Parliamentary sanction for the increase of the army by 15,000 men. We may therefore confidently expect that the War Office authorities will not only declare what changes they intend to introduce in the way of army re-organisation and reform, but also what changes are to be made in the army medical service. It is clear that a corresponding increase of the medical staff must accompany that in the strength of the army. It is notorious that the medical staff is at present much below its establishment and something must be done to restore the popularity of that service. Lord Lansdowne will shortly have to announce his intentions in this respect.

THE SOUDAN EXPEDITION.

There has been great activity manifested of late in sending reinforcements from Cairo to the Egyptian army in the Soudan and in the transport of troops from this country to Egypt in view of meeting any sudden or unexpected contingency. These changes have been apparently carried out rather with the view of being prepared for any aggressive movement on the part of the Kalifa's forces than for the purpose of any immediate advance on Khartoum. It was certainly time that the Egyptian forces in the Soudan were firmly strengthened by British troops. A very extended line of country is held by the Egyptians and some of the posts are weakly defended against any sudden or overwhelming attack of the Dervishes. The black battalions of the Egyptian force are very courageous troops and can be relied upon to give a good account of themselves. A number of military surgeons have left this country for Egypt and it seems likely that later more will be required.

ARMY MEDICAL SCHOOL, NETLEY.

The present session of the Army Medical School, Netley, will be brought to a close on Monday, Jan. 31st, when the prizes will be distributed by General Sir Henry Wylie Norman, G.C.B., G.C.M.G., C.I.E.

DEATHS IN THE SERVICES.

Brigade-Surgeon James Greig Leask, Army Medical Department (retired), aged sixty-five years. He joined the service in 1855, served in the Zulu Campaign, and retired in 1881.

MANCHESTER MEDICAL SOCIETY.—The annual meeting of the Manchester Medical Society was held on Jan. 12th in the society's reading-room at Owens College, Dr. Graham Steell, the retiring President, being in the chair. It was stated that there are now 375 members, an increase of 100 since the subscription for town members was reduced from £2 2*s.* to £1 1*s.* The following officers were elected for the year 1898:—President: Mr. G. A. Wright. Vice-Presidents: Mr. Collier, Dr. Godson, Dr. Harris, and Dr. Reynolds. Treasurer: Dr. Glascott. Secretary: Mr. Coates. Committee: Dr. P. Ashworth, Dr. A. Brown, Dr. J. G. Clegg, Dr. Edge, Dr. T. A. Helme, Dr. Milligan, Mr. Milner, Mr. J. E. Platt, Dr. Torrop, Dr. Wild, Dr. A. T. Wilkinson, and Mr. A. Wilson. Library Committee: Dr. Kelynack, Mr. J. W. Smith, and Dr. R. T. Williamson. Auditors: Dr. Goodfellow and Dr. Ledward.

Correspondence.

"Audi alteram partem."

THE SOCIETY OF APOTHECARIES AND MR. VICTOR HORSLEY.

To the Editors of THE LANCET.

SIRS,—In an address delivered by Mr. Victor Horsley and published in THE LANCET of Jan. 1st, two questions are raised affecting the Society of Apothecaries. The first question is whether the erasure of the name of a Licentiate from the list of the Society is equivalent to the cancellation and deletion of the licence or diploma granted to him. I am unable to say that it is so, and I gather that my opinion is shared by the legal assessor of the Medical Council. If it is equivalent it must be inferentially; I mean that this result is certainly not obtained by statutory enactment. The power of the Society to erase is conferred by the Apothecaries Act Amendment Act, 1874.

In a further speech delivered by Mr. Victor Horsley and reported in last week's *British Medical Journal*, p. 173, Mr. Victor Horsley, if correctly reported, makes the following statement which is not intelligible:—"They [the Society] obtained a Bill not very long ago called the Apothecaries Amendment Act, giving them power to strike persons off their list of Licentiates and *if that Act had been passed* they would have been placed on the same footing as any other body." But the Act *was passed*, and if it had not been the Society of Apothecaries would not possess the powers which they do.

The Fourth Section of the Act is as follows:—"It shall be lawful for the Master Wardens and assistants for the time being of the said Society of Apothecaries to strike off from the list of Licentiates of the said Society the name of any person who shall be convicted in England or Ireland of any felony or misdemeanour, or in Scotland of any crime or offence, or who shall after due inquiry be judged by the General Council to have been guilty of infamous conduct in any professional respect and the said Society shall forthwith signify to the General Council the name of the Licentiate so struck off."

The duties of the Society of Apothecaries under this section are, as will be seen, ministerial and not judicial, and under it the society, in cases of infamous conduct in a professional respect, can only erase from their own list a name already struck off the Medical Register. So far, then, as language goes there is no power given to the Society by this section to destroy the diploma of the person whose name has been erased from the list of Licentiates or to compel him to give it up for cancellation. No doubt this creates a difficulty, for (1) the person so erased retains his title though unable to recover his fees by legal process, and consequently (2) if capable of restoration he must be restored on the footing that his diploma has never been destroyed, and (3) he cannot be successfully proceeded against for unqualified practice.

I have said *if capable of restoration*, though having regard to the silence of the Medical Act, 1858, on the point I have always myself doubted the power of the Medical Council to restore. If, however, the Council can and do restore a name what is the Society of Apothecaries to do? They erase, as I have pointed out, to make their own list correspond with the Medical Register; if they refuse to restore (and they would absolutely refuse to do so unless the Council had previously restored the name to the Register) there would be the same confusion as if they were to refuse to erase. As a matter of fact, two names of Licentiates qualified prior to 1886 erased from and restored to the Medical Register have been restored to the Society's list of Licentiates on the footing of their old diplomas. Fresh legislation, in my opinion, can only meet the difficulty by assimilating the practice of the medical to that of the legal profession and providing for suspension of practice in cases with extenuating circumstances and absolute cancellation of the diploma in those where there are none.

In dealing with the second question I do not know to what particular statement or opinion ever made or given by me Mr. Victor Horsley is referring. I think he must be alluding to a statement which from time to time appears in the newspapers of the persons who have received the Society's diploma. This statement is not inserted by me, and I am not "the secretary of the Society." I have, in fact, nothing to do with the examining functions of the Society except as their legal adviser. I venture, however, to think that the point raised by Mr. Victor Horsley is of a somewhat academic character. The Society have certainly never meant or intended to assert that their diploma *without registration* enables the holder to practise medicine, surgery, and midwifery, but they certainly do assert that it does so *when registered*. Registration is such a necessary complement of obtaining a diploma or diplomas that the distinction drawn by Mr. Victor Horsley would, I think, be difficult of recognition by most persons, who would assume that the statement under discussion conveyed by implication the meaning which I have attached to it. If it is this statement to which Mr. Victor Horsley is referring, I may add that I have for entirely different reasons long felt an objection to it, and if the Society take my advice they will discontinue its insertion in its present form.

I have occupied so much of your space that I will not deal with the relations of the Society of Apothecaries and the Medical Defence Union, to which Mr. Victor Horsley refers (page 173 of this week's *British Medical Journal*), but were I to do so it would be found that they reflect no discredit on the Society. I should not have troubled you at all had I not been referred to by name, and I am still somewhat at a loss to know on what grounds my name has been mentioned. Any letters I have addressed to the Medical Council or otherwise have been official ones on behalf of the Society and not written by me as an individual.

In conclusion, sufficient allowance is not made for the exceptional position of the Society. Whatever they have done has been done without assistance and often in spite of opposition. They do not and cannot possess the power and the influence of the Royal Colleges. Nothwithstanding, their record past and present is excellent, and those who know most about their work will not disparage or depreciate what they have done for the medical profession.

I am, Sirs, your obedient servant,
JAMES RICHARD UPTON.
Society of Apothecaries, Jan. 15th, 1898.

INTERNATIONAL PHOTOGRAPHIC EXHIBITION, CRYSTAL PALACE, 1898.

To the Editors of THE LANCET.

SIRS,—The Royal Photographic Society is organising an exhibition which will be open at the Crystal Palace from April 27th to May 14th. In addition to the exhibits of photographs and apparatus of which such exhibitions usually consist a considerable area has been devoted to collections illustrating as fully as possible the many scientific applications of photography; amongst these x rays photographs play a large part. The committee are very anxious that the exhibition shall be thoroughly representative and shall illustrate the very large part which photography plays both as a recording agent and otherwise in so many scientific and manufacturing processes, and would ask any of your readers who may be able to help by the loan of examples of the application of photography to medicine or surgery if they would kindly communicate with me at 12, Hanover-square. I should be happy to forward anyone interested a copy of the preliminary prospectus and need hardly say that the committee are prepared to pay the carriage upon all exhibits which are invited and that there will be no charge whatever in connexion with these loan sections.

I enclose a copy of the preliminary prospectus and am, Sirs, yours faithfully,

R. CHILD BAYLEY,
Assistant Secretary.
12, Hanover-square, London, W., Jan. 15th, 1898.

"TRANSMISSION OF SYPHILIS TO THE THIRD GENERATION."

To the Editors of THE LANCET.

SIRS,—On reading the annotation with the above title in THE LANCET of Jan. 15th I was reminded of a case that occurred some years ago in my London practice. The father of the child in question was a young man who assured me in the most solemn manner that he had never had connexion before he married, and I had no reason to doubt him, and the mother, a primipara, was the daughter of respectable parents, her father having been a master mariner; her mother was still alive and had always been in the enjoyment of good health. The infant, however, rapidly developed symptoms of congenital syphilis which gave way to the usual mercurial treatment; but as the child got well the mother became affected, and when examining her throat I was struck by the peculiar appearance of her teeth, which were small and notched. In addition to the throat symptoms the woman had a number of brown marks on the skin, chiefly on the face, which disappeared when I treated the case as one of secondary syphilis and after a time she was restored to her usual health. The second child was not affected nor the third, though after the birth of each of them there was a recurrence of the throat symptoms in their mother. I thought, and am of the same opinion still, that this was clearly a case of transmission to the third generation of a disease that subsequently made its appearance in the grandmother, who appeared to have been infected by her first husband. I am, Sirs, yours faithfully,

Belvedere, Kent, Jan. 15th, 1898. W. T. GREENE.

THE PREVENTION OF HOSPITAL ABUSE.

To the Editors of THE LANCET.

SIRS,—Would any of your readers oblige me with information as to what institutions employ a paid inspector with a view to preventing out-patient abuse and also what institutions enjoy the services of honorary almoners for the same purpose? I remain, Sirs, your obedient servant,

Grosvenor-street, W., Jan. 17th, 1898. C. B. KEETLEY.

MODIFIED COW'S MILK.

To the Editors of THE LANCET.

SIRS,—In your review of a recent paper of mine on the Value of Modified Cow's Milk in Infant Feeding, contained in THE LANCET of Dec. 18th, 1897, I feel I have been misrepresented in one or two points. The reviewer states that in his opinion "some of the details given in this paper are ...... too strongly suggestive of an effort to improve upon nature or even to do away with the 'homely nurse' altogether." Again, he speaks of my "wholesale distrust of the provision made by nature for the needs of infancy." One of the first sentences of the paper in question reads as follows: "Maternal milk is the best food for infants and there is but little doubt that no food will ever be found which will fully supply its deficiency." In giving percentages I have only dealt in the most general way with averages. As a general rule we find that low percentages give the best results in this country. This system of feeding has proved the most successful that we have yet tried in America. Now that the Walker-Gordon Laboratory Company have opened a branch in the Trafalgar-building in London we hope soon to have an opportunity to compare the results obtained "on the other side of the water" with our own. Methods of infant feeding that are in use in England have never proved successful in this country, but now we hope to have our method prove successful over there.

I am, Sirs, yours faithfully,
Dorchester-street, Montreal, Jan. 4th, 1898. DAVID J. EVANS.

THE PREVENTION OF LARGE MAMMARY ABSCESSES BY EXPRESSION OF MILK.

To the Editors of THE LANCET.

SIRS,—In corroboration of the remarks made in THE LANCET by Mr. Walter G. Spencer and Dr. Warde I should like to say how thoroughly I agree with what they say. During my many years of practice I have never had a patient with a broken breast, but I have had many threatenings of abscess. One case I remember well. The patient had a severe rigor; the temperature was 103·4° F.; a hard and inflamed lump occupying half the right breast and intensely tender. The nurse, who had had twenty-five years' experience of monthly nursing, said she had never nursed a patient with a broken breast and she believed it was entirely the nurse's fault when it occurred, and under my directions she worked at this breast four or five times a day, rubbing it gently with hot oil towards the nipple for twenty minutes at a time and keeping on hot fomentations between the rubbings. The result was that the contents of the breast escaped through the nipple and the whole gradually subsided. These hard masses generally occur in the pendant portion of the breast, and I always, and particularly during the rubbing, enjoin the patient to lie on the opposite side so as to give the hardened portion of the breast more facility for relieving itself.

I am, Sirs, yours faithfully,

WILLIAM FAIRBANK,

Surgeon to the Windsor Infirmary, Surgeon to Her Majesty's Household at Windsor, and Surgeon in Ordinary to Their Royal Highnesses Prince and Princess Christian of Schleswig-Holstein.

SOUTH-WEST LONDON MEDICAL SOCIETY.

To the Editors of THE LANCET.

SIRS,—In the *British Medical Journal* of Jan. 15th is an account of the meeting of the South-West London Medical Society at which Mr. Carter read a paper on Legislation as a Remedy for Medical Grievances. As chairman of the meeting I am reported to have assured Mr. Carter that there was nothing discourteous in the remarks which Mr. Horsley made on Dec. 8th. It has been represented to me that my published remarks do not do justice to Mr. Horsley. I should be much obliged therefore, as I believe I stated in the most emphatic manner that Mr. Horsley had not made a personal attack on Mr. Carter, if you will kindly emphasise this point in your report. If you should publish Mr. Carter's address in full, as I hope you will, I think it only right that this should be made clear.

I am, Sirs, yours faithfully,

T. A. I. HOWELL.

West-hill, Wandsworth, S.W., Jan. 18th, 1898.

DELAY IN THE PAYMENT OF MEDICAL FEES AT CORONERS' INQUESTS.

To the Editors of THE LANCET.

SIRS,—As I find the coroner of my district invariably keeps me waiting for the payment of fees for evidence and post-mortem examinations, excusing himself from responsibility on the grounds that *he* has to wait before he gets them from the authorities, may I ask if (1) I could refuse to give evidence before payment; or (2) refuse subpœnâ; or (3) to whom should I complain in case of his persistent refusal? He has, I presume, to pay other witnesses at the time and why should I have to wait?

I am, Sirs, yours faithfully,

Jan. 17th, 1898. G. P.

*** (1) We do not think "G. P." should refuse to give evidence until paid. He can do this in a court of law, where the funds are at the disposal of the presiding officer, but a coroner's inquest is on a different footing. (2) It would be wrong to "refuse subpœnâ" for a case to come because of non-payment in the past. (3) The Lord Chancellor.—ED. L.

"THE UNQUALIFIED ASSISTANT AND THE GENERAL MEDICAL COUNCIL."

To the Editors of THE LANCET.

SIRS,—In reference to the important resolution of the General Medical Council on the above subject I should like to ask why there should be any outcry against the removal of the unqualified assistant. No other profession allows itself to be represented by shams; who ever heard of unqualified people representing the Church, the army, or the law? Why should the medical profession be the only one to encourage fraud and deception?

We all know why the majority of these men are not qualified; we all know well what they did with their time at university or college—they are failures, and as a rule deservedly so; as they have sown so should they reap.

I believe also that unqualified assistance is one of the chief causes of the overcrowding of the profession we hear so much about. Here in the West Riding of Yorkshire within two miles of my house are five medical men; each of these employs an unqualified assistant; each of these assistants does the work of a medical man, they are called "doctor" by the public, and are believed by the majority to be such; they act as "locum" during the holidays of their principals, and, in fact, take the places which qualified men ought to have; their principals employ them because they have more work to do than they can get through unaided. In conclusion, I think that all qualified men should rejoice that the time has at last arrived for imposture to be removed from *within* the ranks of the profession and should applaud and encourage the Council in their resolution.

I am, Sirs, yours faithfully,

Jan. 17th, 1898. ANOTHER M.B.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Imbeciles and Epileptics.

IN August last Dr. J. M. Rhodes, chairman of the Chorlton Union Guardians, and Alderman A. McDougall were appointed by the Chorlton and Manchester Joint Asylum Committee to visit various institutions in Germany, France, and Belgium for the care and treatment of imbeciles and epileptics to collect information with regard to their treatment and management. The importance of this question to Manchester is evident when we remember that the area of the Chorlton Union and of the old Manchester township is 13,345 acres, that the population of the area is 444,965, and that in the workhouses of Chorlton and Manchester there are close on 600 of these unfortunate people. In addition to these a large number of cases are now maintained in the county asylums by the two boards which would be provided for in any new building the joint committee should decide to erect. In the workhouses no proper and thorough classification of these patients is possible. Moreover, there are cases unsuitable for either the county asylum or the workhouse but for which the "various advantages of a special institution" would be desirable. Having in their report described the salient features and administrative methods of a number of the institutions visited the following recommendations are made by Dr. Rhodes and Mr. McDougall: (1) That of the epileptics and imbeciles, the mental and bodily sick—say 20 per cent.—should be provided for in pavilions similar to the Wilhelmina Augusta Pavilions at Alt-Scherbitz; (2) that those not physically incapable—say 80 per cent.—should be provided for on the colony plan, and that not more than thirty persons should be placed in each home; and (3) that provision should be made for those able to pay a proportionate sum towards their maintenance. In 1889 the International Congress on Public Assistance held at Paris, passed a resolution in favour of the colony system, and Le Congrès International de Médecine Mentale, passed a similar resolution. The reasons given for the recommendation of this system are (1) that under it the health, physical and mental, is improved, and (2) that the cost is less to the ratepayers. At Alt-Scherbitz there are 960 persons in the asylum and the authorities have wisely bought enough land, 760 acres. The whole cost per bed comes to £142, "a very moderate sum compared with the cost of the huge block asylums with which we are so well acquainted." The importance of buying sufficient land is strongly urged in the report. Small wards of ten or twelve beds as at Alt-Scherbitz and Uchtspringe are recommended. For those physically well though mentally weak and harmless the cottage home system is advised. At Alt-Scherbitz the cottages for twenty or thirty cases each have three day-rooms on the ground floor besides a small room for those who are actually suffering from an epileptic attack. This is strongly recommended as—to quote again from the report—"although the colony system allows for good classification, yet the three rooms enable the patients to still further classify themselves, and we are strongly of opinion that such provision is conducive to the quiet and contentment which we found to prevail among the patients."

The writers modestly regard this as only a preliminary report and believe that if the Local Government Board would send "three such gentlemen as Mr. Jenner-Fust, Mr. Downes, and Mr. Gordon Smith to visit and report on the asylums containing epileptics in Germany the information would be invaluable to the boards of guardians and also to the county councils."

The Infirmary Site.

A report has at last been received from the Joint Committee, consisting of six members of the City Council and six members of the Infirmary Board, appointed some time ago to consider the best method of providing additional hospital accommodation without encroaching on the open space now surrounding the infirmary. It is held by many, but not by all, that by an old agreement or understanding the infirmary authorities are debarred from utilising their land round the present building for its extension and that this agreement was broken by the erection some years since of the present out-patients' department and the nurses' home. Increased accommodation for in-patients has long been needed and various schemes for its provision have been brought forward only to be rejected. The infirmary authorities have been in the position of the ox when the dog was in the manger; the land was theirs but they were not to use it. This committee was to untie or cut the knot and the proposed method of doing it is curious. No provision is made for more beds but the surrounding streets are to be widened. Piccadilly, already fairly broad, is to be several yards wider. Portland-street and George-street, quite broad enough for the traffic, are to be made still broader. The only street that even seems to require widening is Parker-street at the back of the infirmary, but, as the *City News* says, it is "simply a roadway to the warehouses on one side of the street for carts and lorries to load or unload. It is never crowded or congested." To carry out these changes the nurses' home and the commodious out-patients' department erected at considerable cost must be swept away. By this comparatively small amount but by no more the open space will be increased. The infirmary railings will be moved further back, some of the statues on Piccadilly are to be placed within them, the infirmary is to be kept in a smaller cage, and the dust and noise of the streets—already quite near enough for the comfort of the patients—will be brought nearer. The work of the charity must necessarily be so much crippled that it seems as if by this scheme the complete removal of the infirmary from its present site is deliberately to be forced on the trustees. Dr. Renaud has written a long letter to the papers pleading with much graceful ingenuity the healthiness of the present building in spite of its long corridors and old-world arrangements and showing the ease with which 180 or 200 beds can be added to the present number by putting another storey on the three already existing, but though his chivalrous advocacy of the ancient ways may be admired, his advice is not likely to be followed. The infirmary site is far the best in the city and if the work to be done there is cut down, as it must be by this scheme, the best plan will be for the whole site to be sold and for the hospital to be taken to the suburbs and a small receiving house for emergencies with an out-patient department to be built as near the present position as possible. The cost would be considerable, but not so very much beyond the £286,000 proposed to be given for the slicing and maiming of the infirmary estate now contemplated. A site is wanted for the Free Library which has outgrown its present abode, and also for the Art Gallery, now most inadequately domiciled in the Royal Institution. They might well live together under the same roof in a building worthy of themselves and of Manchester. The open space would not be encroached on and the sale of their present property would enable the infirmary trustees to build a hospital in the suburbs equipped with the best appliances that science and experience have at present devised. But before anything can be done the scheme must be approved by the trustees and the City Council and it is by no means certain that those who declined to give a smaller sum for the 1200 acres of Trafford Park with all its possibilities of good to Manchester will feel disposed to pay £286,000 for between 12,000 and 13,000 yards, the purchase of which is not likely to benefit directly any one of its inhabitants.

Backward School Children.

An interesting meeting was held a short time ago under the auspices of the Manchester Association for Child Study, the chief subject for discussion being how to deal with backward children in our public elementary schools. Dr. Ashby thought that while the others were fairly well attended to there was a danger of our forgetting those with the backward brains, who, though they could not be expected to rival their more richly-endowed brothers and sisters, might at least be educated so as to lead good and useful lives. Miss Dendy, who was for some time a member of the Manchester School Board, noted that out of some 40,000 children in the Manchester schools 525 seemed more or less handicapped by mental incapacity. She thought that for all grades of these defective ones there ought to be special classes not in every school but in various centres and spoke of the good to be done by encouraging the dull and weakly ones, for many were backward only because they were absolutely discouraged. Dr. Kerr, the medical superintendent of the Bradford School Board, spoke of the excellent results that had followed the establishment in Bradford of special classes for the dull or defective children, and drew attention to the fact that "many children were kept from school altogether because of some physical defect from which they had once suffered or which might easily be cured." He thought, too, that the children in the special classes should have the advantage of two additional years in them so that they might have a chance of "holding their own in the battle of life." There can be no doubt that kindly sympathetic treatment is becoming generally known as the best means of strengthening these feeble-minded children and that the blundering harshness of an older day is almost gone.

Jan. 18th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow Drainage Scheme.

ANOTHER step towards the realisation of this extensive undertaking will shortly be taken as in the ensuing session of Parliament the corporation will apply for powers which if granted will ensure that the whole of the sewage of the city and burghs on the south side of the river will be conveyed to the purification works at Braehead by a double system of sewers. The quantity of sewage which will then be dealt with will, it is estimated, be about twenty-four million gallons daily.

Epidemic of Measles in Glasgow.

For some weeks measles has been very prevalent in Glasgow and more especially in the west-end of the city—a repetition of the experience which occurred twelve months ago. The absence of compulsory notification renders it impossible to state the exact number of cases, but the number of cases voluntarily notified to the authorities for the fortnight ending on the 1st inst. was 324, whilst the disease was accountable for twenty-one deaths.

The Health of Dr. Archibald K. Chalmers, of Glasgow.

Dr. Archibald K. Chalmers, the junior medical officer of health, has for some time been unable to attend to his duties on account of illness. He has recently been ordered to Algiers and it is anticipated by his medical advisers that the mild dry air of that place will soon restore him to his former vigour.

The late Dr. Mather of Glasgow.

A committee has been formed to promote some permanent memorial to the late Dr. George R. Mather, who for many years practised in the city and who is perhaps best known to the profession as the author of a life of William and John Hunter. It has been determined to erect a marble bust in some public place in the east-end of the city. A number of well-known citizens have interested themselves in the movement.

Glasgow Royal Asylum.

The annual meeting of qualified contributors was held on the 13th inst., Sir James Bell, Bart., being in the chair. The most interesting feature of the report was the announcement that the whole of the pauper patients with a few special exceptions had been removed from the asylum and that the directors were now devoting the accommodation thus vacant to the reception of private patients of the least affluent class. This has so far been accomplished without material loss to the revenue, though no less than 100 additional private patients had been admitted at the lowest possible rate of board. The visitor in lunacy, in drawing attention to the policy of the directors in this respect, speaks in high terms of the scheme as one by which deserving patients in straitened circumstances are saved from the stigma of pauperism. Of 384 patients 182 are received at a rate of £40 or under per annum. Mr. W. A. Parker, M.B., C.M. Glasg., one of the assistant medical officers, has been promoted to be senior assistant at Gartloch Asylum, and his position has been filled by the appointment of Mr. W. J. Orr, M.B., C.M. Glasg.

Glasgow University.

The following gentlemen are understood to be candidates for the vacant chair of Forensic Medicine: R. M. Buchanan, M.B. Glasg., Professor of Forensic Medicine in Anderson's College Medical School; Ebenezer Duncan, M.D. Glasg., physician to the Victoria Infirmary and President of the Glasgow Philosophical Society; Hugh Galt, M B. Glasg., D.P.H. Camb., assistant to the University chair; and John Glaister, M.D., Glasg., D.P.H. Camb., Professor of Forensic Medicine in St. Mungo's College. The patronage of the chair is in the hands of the Crown and the appointment is worth about £600 per annum. The number of students matriculated in Glasgow continues, as in other Scottish Universities, to decline. This falling off is most notable in the Arts faculty, but also to a less extent affects the medical students, who in 1896 numbered 621 and last year 565. The women students for the current session are entered at 256 and of these some 80 are in the medical faculty and are not included in the above figures. In 1889 the total of matriculated students was 2101; last year the number had fallen to 1533.

Hospital Sunday in Aberdeen.

Hospital Sunday took place on the first Sunday of this year and despite the inclemency of the weather the net result of the church collections was rather larger than last year, amounting to about £1200.

University of Aberdeen.

The Town Council of Aberdeen has voted £5000 to the University buildings extension scheme on condition that the same be completed. Aberdeen University Court has thankfully accepted the donation and remitted the condition to a committee for report. In regard to the students' union it has now been arranged that a "modest quencher" in the shape of a pint of beer shall be allowed at lunch to members.

Jan. 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Richmond Lunatic Asylum.

ON the 17th inst. a deputation representing the districts which contribute to the maintenance of the Richmond Lunatic Asylum waited on the Chief Secretary, Mr. Balfour, at Dublin Castle, for the purpose of urging that in the forthcoming Local Government Bill provision should be made for increasing the Treasury capitation grant for the support of the lunatic poor and from preventing the Dublin district from being compelled to support persons who became insane while inmates of the general hospital here or temporarily resident in the city though really belonging to other districts. The Chief Secretary received the Lord Mayor and members of the deputation with his usual courtesy and, as has been his custom recently, discussed the question in all its bearings. In the end, however, he explained that the grievance in Dublin was not exceptional as similar complaints had been made from the large centres in England and Scotland. He finally declined to introduce any provision to deal with the matter in the forthcoming Local Government Bill.

The Pembroke Committee for the Training of Workhouse Nurses.

The members of the above committee held their first meeting on the 14th inst., Mr. John Mulhall, of the General Prisons Board, occupying the chair. The secretary stated that excellent reports had been received from the six hospitals in England, Scotland, and Ireland as to the progress made by the probationers in training and that at least four of these probationary nurses would be available for employment in Irish union infirmaries in April. Moreover, that arrangements were in progress for the training of other nurses in the hospitals of Dublin, the curriculum to include a course of midwifery at the Rotunda, Coombe, or Hollis-street hospitals. The four nurses who will soon be available have been specially trained for duty in workhouse hospitals. It was decided to open a fund to be called the Irish Workhouse Nursing Fund and that the public be invited to subscribe to it.

Circular Saw Wound.

A patient suffering from an accident of a very shocking description was recently admitted to the Meath Hospital. A strong man, aged twenty-two years, while in charge of a large circular saw fell forward on it in such a way that it struck him between the eyes. On admission to hospital his face was found cut across from ear to ear, his eyes were both destroyed, while brain matter escaped through the wound in his skull. Notwithstanding the nature of his injuries the patient lived for nine days, a fact which was commented upon by the city coroner on the occasion of the inquest on the body.

County Monaghan Infirmary.

At the monthly meeting of governors of this infirmary held on Jan. 12th, Dr. J. Campbell Hall submitted his annual report for the year ending Jan. 5th, 1898. During this time there have been 547 intern and 2574 extern patients, a total of 3121. The diseases treated were of the usual class and point to no special climatic conditions during this period with the exception that some acute pulmonary affections showed a tendency to assume a mixed type and run an abnormal course, thus suggesting the continuance of influenza in a more or less modified form. All the surgical operations (which were more numerous this year than usual and some of them very formidable) ended successfully except one. Several new beds have been presented by friends of the charity.

Exceptional Weather in Ulster.

Not even the "oldest inhabitant" of Belfast can ever remember such extraordinarily fine weather in winter as has been experienced in that city and all over Ulster since the present year set in. There is a beautiful sunrise succeeded by warm dry days with a temperature outside rising often as high as 56° F. and followed by evenings and nights such as are experienced in spring. As a result people are wearing light clothes already, and there is plenty of cycling. Notwithstanding this mild weather there is a good deal of sickness and influenza is very prevalent.

Death of Mr. T. G. Millerick, L.R.C.P. & S. Lond.

Mr. T. G. Millerick, Dispensary Medical Officer, Waterville, Co. Kerry, died on the 11th inst. His death is attributed to a severe wetting he received the previous Friday whilst proceeding to attend a dispensary patient. The newspapers, referring to his death, describe him as a martyr to duty. The Cahirciveen Board of Guardians spoke in the kindliest terms of him and his untimely death—he was only thirty-three years of age—ought to impress on the public mind the risks run by members of the medical profession.

Jan. 17th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Gastro-enterostomy.

THE subject of gastro-enterostomy continues to form a matter for discussion at the Society of Surgery. At the meeting of Dec. 22nd, 1897, M. Tuffier announced that he had operated on three patients suffering from ulcer of the stomach which was far advanced. In all three cases there was considerable hæmorrhage and in two of them it remained unaffected by treatment. Two of the patients were strong men who were reduced to a state of extreme anæmia with profound cachexia; the third case was a woman who also suffered from peritonitis. In the first case the ulcer was situated on the lesser curvature and was adherent to the lower surface of the liver; in the second case it was close to the pylorus; and in the third case it was on the greater curvature in about its upper third. The ulcer in the first case formed, together with the liver, a hard mass closely resembling a new growth; the ulcer in the second case was sharply defined; but in the case of the woman there was peritonitis with yellowish fluid in the abdomen and the stomach was firmly adherent to the false ribs. In all three cases M. Tuffier performed gastro-enterostomy behind the transverse meso-colon. The first patient died and the post-mortem examination showed nothing but an ulcer on the inferior surface of the liver. The second patient, who had vomited a washhand-basin full of blood, left the hospital able to eat ordinary diet. The woman got well so quickly that after the fourth day she wanted to give up the milk diet upon which she had been living for the last three years. This operation does away with gastric retention and places the organ at rest. It is evident that it acts in this way, for relief is so rapid that the ulcer cannot have time to heal. Although gastric digestion continues after the operation the stomach contracts directly this digestion is far enough advanced and so passes the food on without having to struggle against the contracted pylorus. M. Tuffier also showed an "angiotribe" by means of which he had been able to perform two hysterectomies without using either ligatures or forceps. There was no hæmorrhage. At the meeting of Dec. 29th the discussion on gastro-enterostomy was resumed. M. Hartmann had operated on a man thirty years old who had suffered from profuse hæmorrhages. The post-mortem examination showed a simple erosion which resembled a scratch and could not have been diagnosed during life. In his own opinion the operation is not advisable for patients suffering from profuse hæmatemesis. Complete rest and low diet yield good results in most cases. Another very important point is the curative influence of gastro-enterostomy on ulcers in process of formation. This is indisputable. The cure is due to the fact of the organ being placed at rest. Doyen and Carle attach great importance to spasm of the pylorus, not only in cases of ulcer, but also in cases of excessive secretion of hydrochloric acid. M. Hartmann goes still further and agrees with Defontaine that surgical intervention is indicated in all cases of profound dyspepsia which are not benefited by medical treatment. He had performed an anterior gastro-enterostomy on a woman aged forty years who suffered from epigastric and vertebral pain four or five hours after eating with repeated attacks of vomiting. There was much wasting, the stomach was perfectly empty, the test meal showed an almost complete absence of hydrochloric acid, but there was no dilatation. Operation cured this woman, who gained in weight. It is quite certain that after an opening into the jejunum every process of gastric digestion is gone through. The organ is placed in a state of repose without being actually drained. M. Boutier agreed with these opinions. He considered that in every case of gastritis where the etiology was obscure operation would yield excellent results. M. Tuffier, in reply, said that he was astonished that anybody should confound a hæmorrhagic erosion with a simple ulcer. When an operation was undertaken for hæmatemesis following upon ulcer exploration of the stomach allows the operator to recognise the lesion and to make up his mind as to further operation. On the other hand, erosions are quite unrecognisable even by exploration; on opening the stomach one sees nothing, as in the case reported by Salzer and Hirsch. As for indications for operation, M. Tuffier considered that surgery should begin at that point where medicine failed; where there was vomiting or hæmatemesis careful examinations should be made and the symptoms studied before resorting to surgical interference in any case of grave dyspepsia. M. Tuffier prefers the method of von Hackler to any other. He closes the hole in the meso-colon by two stitches, attaching it to the stomach. so that there is no danger of the intestine slipping through He sutures the tissues in two layers, which is, he thinks, a better method than taking up the whole thickness of the wall at once as M. Hartmann does.

Reading through Opaque Substances.

The press has been greatly exercised about a so-called experiment in reading through opaque bodies, an experiment of which Dr. Ferroul, of Montpellier, affirmed the reality. The Academy of Science and Literature at Montpellier appointed a commission of inquiry the members of which were M. Bertin-Sans, in charge of the department of physics at the Faculty of Medicine; M. Guibal *bâtonnier*, of the Faculty of Law; M. Meslin, Professor of Physics at the Faculty of Science; and M. Grasset, Professor of Chemistry at the Faculty of Montpellier. These gentlemen went to Narbonne, where Dr. Ferroul had agreed that the meeting should be held. Three experiments had been prepared with every precaution and the two following were carried out. The subject had in the presence of the Commission (1) to read at a distance folded paper enclosed in a box along with two undeveloped photographic plates; and (2) to read a folded and sealed paper which one of the Commissioners should hold before her at any distance and for as long a time as she liked, without ever letting it go. These two experiments, made in the presence of and with the full consent of Dr. Ferroul, who in common with members of the Commission was ignorant of the contents of the paper, yielded an absolutely negative result.

Jan. 17th.

ROME.

(From our own Correspondent.)

Italy's "Foundling Shambles."

"UN vero macello dei esposti"—the phrase is not mine but that of Signor Plutino, the prefect of Avellino, chief town of the province of that name, within three hours east of Naples by rail. Avellino, like most Italian centres, has its "Brefotrofio" or foundling hospital, and also, like most of these, its "brefotrofio" is a model of mismanagement, presenting under the limelight of official inspection a state of things for which the only epithet is "inhuman." Last summer a thrill of horror ran through Italy (and indeed wherever the facts were published) on its being made known that the great foundling hospital of the Annunziata at Naples was really a "campo santo dei bambini" (a graveyard of infancy) with a death-rate of well-nigh 100 per cent.! Now it appears that that record is beaten by Avellino, where the foundling hospital actually attains the mortality of 100 per cent. Signor Plutino, whose letter to the Syndic of the town first drew attention to the "orrendo spettacolo" afforded by its "brefotrofio," was followed by the Councillor Signor Abetti who with the aid of the provincial medical authority tested the facts by personal inquiry. This gentleman says (I quote his very words): "La causa della mortalità che rappresenta il 100 per cento è dovuta esclusivamente allo scarsissimo numero di balie" (the cause of the death-rate representing 100 per cent. is due exclusively to the very scanty number of nurses); and then he proceeds to set forth the "death by starvation" which is the sure and swift portion of the little unfortunates whom a vicious society throws upon the tender mercies of the hospital. "Tutti i bambini affidati al baliatico interno sono irremissibilmente condannati a morte" (all the infants entrusted to the nursing process within are inexorably condemned to death)—such is the language of Signor Abetti's medical authority. The lay press has thrown open its columns to the revelations and I find in a leading Neapolitan journal, the *Corriere di Napoli*, that from May to December last sometimes as many as five infants a day were assigned to one single nurse (*cinque bambini ad una sola balia*) in the "brefotrofio" of Avellino! Loud and prolonged are the appeals made to the Government to institute something like the reforms now applied to the "Annunziata" at Naples, which, as I announced last summer, has had its previous administration suspended and its whole management placed under the Cavaliere Pucci, of Florence, a man of approved experience and ability in the control of infant hospitals. As if to shame the supineness of the authorities, central and local, in presence of such a scandal the public are proffering food and comforts to the little inmates of the "brefotrofio" and a well-known pharmaceutical firm of Naples (Giovanni Barbero and Co.) announces its readiness to contribute free of charge as many feeding-bottles as may be required, not only by Avellino, but by whatever other "brefotrofi" are similarly short of nurses. Such intervention has already made some small impression upon the death-rate in the Avellinese Hospital, but even my latest intelligence from that "campo santo dei bambini" presents a harrowing picture and still "dal brefotrofio escono i piccoli cadaveri, quattordici cadaverini su 18 esposti, morti sempre di fame e per mancanza d'ogni più elementare igiene" (from the hospital issue the little corpses, 14 out of 18 foundlings, dead invariably of hunger and through defect of every requisite of the most elementary hygiene).

Jan. 15th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the Second Examination of the Board in the subjects indicated at the meeting of the Examiners:—

Monday, Jan. 10th:

Anatomy and Physiology.—Walter Lister, Henry Lawrence Atkinson, and Harry Cole Alderman, Yorkshire College, Leeds; James Christopher Wadmore and John Chalmers Norton, University College, Bristol; Robert Alister L. Graham, and William John Hogg, Queens College, Belfast; John Llewelyn Prichard, Edward Giles Narramore, and Richard Henry Crompton, University College, Liverpool; Charles Cecil W. Mays, Firth College, Sheffield, and Mr. Cooke's school of Anatomy and Physiology; Arthur Wilson S. de Vine, Mason College, Birmingham; Arthur Hurrell Style, Cambridge University and St. George's Hospital; Edmund Henderson Hunt, Oxford University; Leslie Haden Guest, Owens College, Manchester; Philip Savill, University College, London; Herbert Stocker Harris and William Charles Mence, St. Thomas's Hospital; Percy Stanley Blaker, Medical College, Calcutta; and John Henry McAllum, Cambridge University and London Hospital.

Anatomy only.—Alexander Apfell Vernon, Long Island College Hospital, New York; and John Philip E. Henery, St. George's Hospital and Mr. Cooke's School of Anatomy and Physiology.

Twenty gentlemen were referred in both subjects and two in Physiology only.

Tuesday, Jan. 11th:

Anatomy and Physiology.—Richard Arthur Jones, Charing-cross Hospital and Mr. Cooke's School of Anatomy and Physiology; Samuel Jonathan D. Esser and Archibald Sinclair David, London Hospital; Thomas Hugh J. Ellis Hughes, George J. Smith Atkinson, Augustus de Morgan, William Sidney Page, and William Gordon Speers, St. Mary's Hospital; Ernest Shelton-Jones and Baltasar Rodil, Guy's Hospital; James Bernard Chalmers-Francis, Westminster Hospital and Mr. Cooke's School of Anatomy and Physiology; Stanley Coleman Jellicoe and Sydney M. Woolner Meadows, Middlesex Hospital; Robert Martin McQueen, St. George's Hospital; Malcolm Bell Hay, Frederick Kincaid Etlinger, and John Sherwood New, University College, London; George Eliott Cathcart, St. Bartholomew's Hospital; and Robert Sturgeon Cocke, King's College, London.

Anatomy only.—Fred Algernon Simpson, Cambridge University and St. Mary's Hospital; and Charles Crozier Tandy Magee, Melbourne University and London Hospital.

Seventeen gentlemen were referred in both subjects, one in Anatomy only, and two in Physiology only.

Wednesday, Jan. 12th:

Anatomy and Physiology.—Alexander Charles Newport, Charing-cross Hospital; Percy Francis Alderson, Middlesex Hospital; Edgar Dyke Smith, Frederic Ernest Taylor, and Ernest Beadon Dixon Adams, St. Bartholomew's Hospital; Daniel C. O'Connell Finigan, Berlin and Kiel Universities and St. Bartholomew's Hospital; Maurice Dunbar Wood, Thomas Thelwell Kelly, Thomas Richard Beale-Browne, Richard Denton Attwood, Emile John F. Hardenberg, and Robert Tilbury, Guy's Hospital; Victor R. Fowell Kroenig, and Cecil Edward Bulteel, King's College, London; Arthur Sydney Downton, William Henry Davidson, and Arthur Harold Williams, London Hospital; Clare Aveling Wiggins, St. Mary's Hospital; and Arthur de Visine Blathwayt, University College, London.

Seventeen gentlemen were referred in both subjects.

Thursday, Jan. 13th:

Anatomy and Physiology.—Arthur Hamilton Tovey, St. George's Hospital; Evelyn Charles Hepper and James Fenwick Robertson, St. Bartholomew's Hospital; William Percival Ker, Percy Stephen Mandy and James Lawson Whatley, Guy's Hospital; Maurice Willoughby Haydon, St. Thomas's Hospital; Charles Alfred Marsh and Baba Makham Singh Sodhi, London Hospital; Kenneth Hugh Bennett, University College, London; Harry Cecil Baker, Ernest Frederick Sall and William Rhodes Harrison, St. Mary's Hospital; Theodoor Domelá-Nieuwenhuis, Lausanne and Zurich Universities.

Physiology only.—Campbell Tilbury Fox, University College, London.

Fifteen gentlemen were referred in both subjects and one in Anatomy only.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman, having previously passed the necessary examinations, and having now attained the legal age of twenty-five years, has been admitted a Fellow of the College, viz.:—

Steward, Francis James, M.B., B.S. Lond., L.R.C.P. Lond., Guy's Hospital; date of Membership July 29th, 1895.

The following gentleman, having previously passed the necessary examinations and having conformed to the by-laws and regulations, has been admitted a Member of the College, viz.:—

Kinsey-Morgan, Augustus, Exams. for L.R.C.P. Lond., Guy's Hospital.

MEDICAL MAGISTRATES.—Mr. R. McNeill, M.D. Edin., D.P.H. Camb., of Oban, N.B., and Mr. Walter A. S. Bridgeford, L.R.C.P. Edin., M.R.C.S., of Boulder City, West Australia, have been appointed magistrates for the County of Argyll, and the East Coolgardie district, West Australia, respectively.

SOCIETY FOR THE STUDY OF INEBRIETY.—At a quarterly meeting held on Jan. 13th, the President, Dr. Norman Kerr, in the chair, Mr. W. L. Brown, L.R.C.P. Edin., read a paper on Inebriety and its Cure among the Ancients. The various modes of prophylaxis came under review. The true cure was stated to be remedial treatment for an abnormal mental condition.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the Directors of the society was held on Jan. 12th, Dr. Pollock, Vice-President, being in the chair.—It was resolved to distribute on Jan. 19th £1222 10*s.* among fifty widows, three orphans, and the five recipients on the Copeland Fund. Application for assistance was read from a widow for herself and son aged thirteen years, and a grant at the rate of £50 per annum was made to the widow and one of £12 per annum to the son. One member was elected and the death of one reported. The Christmas present amounting to £934 had been made on Dec. 20th to the widows and orphans on the Funds. A committee was appointed to draw up the report for 1897. The expenses for the quarter were £75 19*s.* 6*d.* The Secretary was desired to convey to the President, Sir J. Paget, Bart., the best wishes of the Directors for his health and happiness during the present year.

PRESENTATIONS TO MEDICAL MEN.—Mr. Tom B. Brooke, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., medical superintendent, River Ambulance Service, Metropolitan Asylums Board, has been the recipient of a cruet stand from the nursing and domestic staff of the service and also a marble clock from the male staff on the occasion of his leaving the service.—At a social meeting and presentation of prizes of the ambulance class of the Uddingston Ambulance Association held in the public hall on the 13th inst. Mr. R. Thomson, M.B., C.M. Aberd., of Uddingston, was presented with a case of surgical instruments as a token of esteem from the class.—Mr. John G. Havelock, M.D. Edin., Medical Superintendent of the Royal Asylum, Montrose, has been presented with a marble timepiece bearing the following inscription: "Presented to Dr. John G. Havelock, on the occasion of his marriage, by the staff of Montrose Royal Asylum, 18th January, 1898," as a token of esteem and regard.

NEWCASTLE ROYAL INFIRMARY.—It has been suggested that leasehold portions of the present site of the Newcastle Royal Infirmary should be surrendered to the corporation when the proposed new infirmary on the Leazes site is actually in course of erection, and a special meeting of governors of the infirmary was held on Jan. 4th for the purpose of considering the matter, Lord Ravensworth being in the chair. Mr. Riley Lord in the course of a long speech urged that no part of the £100,000 which had been raised should be used for building purposes, but that the subscribers should be asked to agree to its being made a trust fund, the interest of which should go towards the maintenance of the institution, the fund to be remembered as the Jubilee Trust Fund just as the proposed new infirmary would be remembered as the Hall Infirmary. Mr. J. Hall had promised £100,000 for the new building and £60,000 more could be raised by public subscription, as the 400 beds which it was intended to have would cost £400 each. In reply to some observations made by the chairman relative to the stability of the ground Alderman Stephens said that if the seams were near the surface there would be no difficulty in guarding against any danger, and if they were deep they would not interfere with the suitability of the site. Mr. Lord also added that high buildings were not contemplated and that it was intended to spread them over three or four acres. In the result a resolution authorising the eventual transfer of the land was agreed to.

Hambrook Village Hospital. — Dr. E. Crossman has resigned his appointment as medical director of the village hospital at Hambrook, Gloucestershire. The committee in accepting the resignation expressed their high appreciation of the services which Dr. Crossman had rendered since the foundation of the institution thirty years ago, and added that it was mainly due to his efforts that the "Victoria bed" for the free use of parishioners was endowed. Mr. F. W. Crossman, L.R.C.P. Lond., M.R.C.S. Eng., was appointed to the vacant post.

The late Mr. H. W. Randolph.—Mr. Henry Weech Randolph, M.R.C.S. Eng., L S.A., was buried at Milverton, Somerset, on Jan. 10th. The deceased, who was ninety years of age at the time of his death, obtained his qualifications from the Royal College of Surgeons of England and the Society of Apothecaries in 1830 and 1829 respectively, having been a pupil of Abernethy. Mr. Randolph was consulting surgeon to the Wiveliscombe Dispensary and in 1874 was President of the West Somerset branch of the British Medical Association.

The British Association.—A meeting of the local executive of the British Association was held in Bristol on Jan. 10th. It was mentioned that between £3000 and £4000 will be required in connexion with the forthcoming meeting of the association in Bristol, and the mayor is sending out an appeal to the citizens for this amount. Arrangements are being made for the proposed Biological Exhibition. Several excursions have been planned, amongst these being visits to Bath, where the mayor and citizens will entertain the visitors; Aust, Tortworth, where Lord Ducie will entertain a party; to the Severn Tunnel, Stanton Drew, Cheddar, Glastonbury, Stonehenge, Salisbury, Longleat, Raglan Castle, &c. There are also committees at Montreal and Toronto (at the former city Dr. Bovey and at the latter Dr. Macallum are the honorary secretaries), and it is expected that a considerable number of Canadian visitors will be present at the meeting.

Birkenhead Medical Society.—At a meeting of this society held on Jan. 14th, Dr. R. Sydney Marsden, President, being in the chair, Mr. H. Laird Pearson read a clinical note on the Treatment of Chorea by Large Doses of Arsenic, beginning with from fifteen to twenty minims. Mr. Pearson laid stress on the necessity of keeping the patient in bed and if vomiting occurred, as it occasionally did in about a week's time, of leaving off the treatment for forty-eight hours.—The President, Mr. Stansfield, Mr. F. Johnson, Dr. Blood, and Dr. Dixon took part in the discussion and Mr. Pearson replied.—Dr. Blood read a note on Ulceration of the Cornea in Females, showing the sympathy that exists between the genital system and the eye.—Mr. Stansfield, Mr. Shears, and Mr. Laird Pearson joined in a discussion and Dr. Blood replied.—Mr. Shears read notes and exhibited (1) a specimen of Intra-ocular Sarcoma and (2) two patients on whom he had performed Mules's Operation.—The President and Mr. Stansfield made remarks and Mr. Shears replied.

Diphtheria in London in 1897.—The prevalence of diphtheria in London during the fifty-two registration weeks of 1897 was, as shown by the returns, actually and relatively a good deal less than that recorded in the 53 weeks of the preceding registration year. In 1896 the 14,224 notified cases yielded an average weekly total of 268, and the 12,811 attacks in 1897 produced an average of 246 cases weekly. In 1896 the four-weekly periods showing largest records, taken in decreasing order, were September, October, and July, while in 1897 they were October, September, and November. In both years the lowest records were in April and May. In thirteen successive four-weekly periods of 1896 the notified cases were 915, 916, 902, 730, 777, 895, 1011, 1111, 866, 1169, 1336, 1119, and 1064. The various districts of London were, as was to be expected, very differently invaded by the disease. Ten districts last year had upwards of 500 cases notified in each and an aggregate of 6802 cases, whereas other ten districts had only 478 cases in all. The registered deaths attributed to diphtheria in the several quarters of 1897 were fewer than in 1896. The 2683 deaths in 1896 yielded a case mortality-rate of 18 9 per cent. The deaths fell to 2262 last year, and yielded a case mortality-rate of 17·7 per cent. Hence last year there was a fall both in the amount and the fatality of diphtheria in the metropolis as compared with 1896.

King's College Hospital, London.—The proceeds of Sir Squire Bancroft's recent reading at Lincoln's Inn, on behalf of this hospital, amounted to £122 11*s.*

Victoria Jubilee Nurses' Home at Barry.—At a meeting of the Executive Committee of this institution held on Jan. 11th the amended plans for the erection of the Victoria Jubilee Nurses' Home at a cost of £1500 were approved. It was reported that last year the Nursing Association was in debt to the extent of £100 and the accident hospital had a deficit of £150.

Contributions to the Bristol Medical Charities.—During 1897 the workpeople of Messrs. J. S. Fry and Sons, of Bristol, have contributed by weekly collections the sum of £681 9*s.* 2*d.* This sum has been divided amongst the medical charities of the city, £230 being awarded to the Dispensary, £151 to the Infirmary, £145 to the General Hospital, £57 to the Children's Hospital, and the remainder to various other institutions.

Oysters and Sewage.—Professor Kanthack, of Cambridge University, in a report to the Truro Corporation on samples of oysters taken from the foreshore at Malpas and beds lower down the river, has stated that in the former there was evidence of sewage contamination, but that no typhoid fever germs were detected. At the meeting of the Corporation held on Jan. 11th the Sanitary Committee recommended that the laying down of oysters on the foreshore at Malpas be prohibited.

Typhoid Fever at Camborne.—At a recent meeting of the Camborne District Council Mr. J. T. Thomas, L.R.C.P. Lond., M.R.C.S. Eng., the medical officer of health, reported that the epidemic of typhoid fever showed every sign of decreasing. There had been 29 cases notified since the last meeting of the Council, but only 6 of these were during the past week; there were 9 cases in the isolation hospital. A letter was read from the Local Government Board enclosing a letter from the steward of Mr. Basset, who owns a third of the town and a large area in the neighbourhood; this complained of the scavenging work and said that since the district council took office only one scavenging cart was kept, the result being that deposits of filth had accumulated. It further added that the greater part of the town consisted of occupiers of small houses who earned less than £1 per week, and the council attempted to make these people do their own scavenging or arrange for it to be done, a thing which they had neither the means nor the inclination to do. The clerk mentioned that Dr. Bruce Low had given him to understand that if the council did not do what was necessary for the cleansing of the district it would be done for them and the expense would be charged to them.

British Gynæcological Society.—The annual meeting of this society was held on Jan. 13th, Professor A. W. Mayo Robson, President, being in the chair. The reports of the treasurer and the editor having been read, the following gentlemen were elected officers for 1898:—President: Dr. H. Macnaughton-Jones, London. Vice-Presidents: Dr. G. G. Bantock, London; Professor J. W. Byers, Belfast; Dr. A. E. Cordes, Geneva; Dr. G. Elder, Nottingham; Dr. R. A. Hodgson, London; Mr. F. Bowreman Jessett, London; Dr. J. J. Macan, London; Professor W. L. Reid, Glasgow; Dr. C. H. F. Routh, London; Dr. F. F. Schacht, London; Dr. W. Travers, London; and Professor Hector Treub, Amsterdam. Treasurer: Dr. J. A. Mansell Moullin, London. Council: Mr. W. Armstrong, Buxton; Mr. E. Tenison Collins, Cardiff; Dr. A. Donald, Manchester; Dr. F. Edge, Wolverhampton; Dr. C. H. Gage-Brown, London; Dr. C. Godson, London; Dr. F. N. Haultain, Edinburgh; Dr. W. Balls Headley, Melbourne; Dr. P. L. Hebert, London; Dr. H. S. Howell, London; Dr. Skene Keith, London; Dr. R. Marsden Low, London; Mr. Christopher Martin, Birmingham; Professor A. W. Mayo Robson, Leeds; Mr. W. H. Newnham, Clifton; Dr. James Oliver, London; Dr. H. F. Powell, London; Professor A. J. Smith, Dublin; Dr. Heywood Smith, London; Dr. R. T. Smith, London; Mr. E. T. Smith, London; Dr. D. Thomson, London; Dr. John Wallace, Liverpool; and Dr. W. S. Wyman, London. Editor of Journal: Dr. F. F. Schacht, London. Hon. Secretaries: Dr. George Keith, London; and Dr. Arthur E. Giles, London.

DEVON COUNTY JUBILEE FUND.—Lord Clinton reports that the total amount of the first year's contributions to the Devon County Jubilee Fund is £6339. It is intended that a permanent hospitals endowment fund to commemorate Her Majesty's long reign shall eventually be established. Lord Clinton has just contributed a second donation of £50.

HEALTH OF CARDIFF.—At the meeting of the Cardiff Health Committee held on Jan. 11th Dr. Walford, the medical officer of health, reported that there were 5279 births in Cardiff during 1897, equal to a rate of 31 per 1000. The deaths numbered 2534, which was equal to 14·9 per 1000. The death-rate from zymotic diseases was 2·1 per 1000. There were 93 deaths attributed to violence and 186 inquests had been held.

ST. THOMAS'S (EXETER) RURAL DISTRICT.—Mr. Mark Farrant, L.R.C.P. Lond., M.R.C.S. Eng., the medical officer of health, in his annual report for 1897, stated that the population of the district was 26,890. The total number of deaths during the year had been 430, at the rate of 13·2 per 1000, the average for the whole of South Devon being 15·9. The births numbered 651, a rate of 24·2, the average for South Devon being 24·8.

HOSPITAL SUNDAY IN BRISTOL.—Hospital Sunday is to be observed in Bristol on Jan. 30th. The committee have decided that the Royal Infirmary, General Hospital, Children's Hospital, Eye Hospital, Eye Dispensary, Orthopædic Hospital, and the Lock Hospital shall share in the funds and the mayor has issued a circular to all the clergy drawing attention to the increasing usefulness of these institutions.

LARYNGOLOGICAL SOCIETY OF LONDON.—The following is the list of officers and council for 1898:—President: Mr. H. Trentham Butlin. Vice-presidents: Dr. J. W. Bond, Dr. A. Bronner, Dr. H. de Havilland Hall, Dr. Scanes Spicer, and Dr. T. J. Walker. Treasurer: Mr. W. J. Walsham. Librarian: Dr. J. Dundas Grant. Secretaries: Dr. Herbert Tilley and Dr. William Hill. Council: Dr. A. A. Kanthack, Sir F. Semon, Mr. W. R. H. Stewart, Dr. St. Clair Thomson, and Dr. P. Watson Williams.

SANITARY MATTERS IN ST. JUST, CORNWALL.—At a meeting of the St. Just Urban Council Mr. C. S Jago, M.R.C.S. Eng., L.S A., in presenting his annual report mentioned that in 1897 there had been three deaths from typhoid fever out of some twenty cases which had occurred, the majority of these having been caused by impure milk. Ten samples of water taken from wells of the district were analysed with the result that only two of these were found to be fit for drinking purposes. The Local Government Board wrote asking whether the council had yet fixed the date for the Infectious Diseases Notification Act to come into operation. A member proposed that the Act should come into force on Feb. 1st, but an amendment "that the matter be deferred to a more convenient season" was carried by the casting vote of the chairman.

LIVERPOOL MEDICAL INSTITUTION.—At the annual meeting of the institution held on Jan. 13th, 1898, the following list of office bearers, council, and committees was adopted:—President: W. Macfie Campbell, M.D. Edin. Vice-Presidents: K. A. Grossmann, M.D. Freib., A. C. E. Harris, M.B. Edin., R. S. Archer, M.D. Dub., and Henry Harvey, M.B. Edin. Honorary Treasurer: James Armstrong, M.B. Edin. Honorary General Secretary: J. M. Hunt, M.B. Glasg. Honorary Secretary to the Ordinary Meetings: W. Thelwall Thomas, F.R.C.S. Eng. Honorary Librarian: T. R. Bradshaw, M.D. Dub. Council: A. Barnard, M.B. Dub., C. T. Holland, L.R.C.P. Lond., T. D. Leigh, M.R.C.S Eng., G. P. Newbolt, F.R.C.S. Eng., W. Permewan, M.D. Lond., R. I. Richardson, M.B. Edin., R. Caton, M.D. Edin., E. A. Browne, F.R.C.S. Edin., Arthur Wallace, M.D. Edin., Leslie Roberts, M.D. Edin., F. H. Barendt, M.D. Lond., and Francis Johnston, M.D. Glasg. Pathological and Microscopical Committee: J. H. Abram, M.D. Lond., F. H. Barendt, M.D. Lond., R. A. Bickersteth, F.R.C.S. Eng., Rubert Boyce, M.B. Lond., A. W. Campbell, M.D. Edin., F. C. Larkin, F.R.C.S. Eng., C. Macalister, M.D. Edin., G. P. Newbolt, F.R.C.S. Eng., F. T. Paul, F.R.C.S. Eng., and C. S. Sherrington, F.R.S. Journal Committee: The President, the Editor, the Hon. Secretary to the Ordinary Meetings, the Hon. Secretary to the Pathological Section, the Hon. Librarian, Rubert Boyce, M.B. Lond., F. H. Barendt, M.D. Lond., T. B. Grimsdale, M.B. Cantab., Charles Lee, M.R.C.S. Eng., C. Macalister, M.D. Edin., G. P. Newbolt, F.R.C.S. Eng., and W. Permewan, M.D. Lond.

THE KILMARNOCK INFIRMARY.—The twenty-ninth annual report of this institution states that the number of patients treated during 1896–97 was 931. The total annual income was £3351 10*s*. 6*d*. The directors call attention to the yearly increasing financial need of the institution.

MASON UNIVERSITY COLLEGE, Birmingham, has recently been incorporated by the Mason University College Act, 1897, and the first meeting of the Court of Governors was held on Jan. 13th. Prior to the meeting the Right Hon. the Lord Mayor of Birmingham entertained the Governors at luncheon in the Council House, when the President of the College (the Right Hon. J. Chamberlain, M.P.) made an important speech on the subject of a Midland University.

ROENTGEN SOCIETY.—A meeting of this society was held on Jan. 11th at 11, Chandos-street, W., Professor Silvanus Thompson being in the chair. A paper on Practical X Ray Work was read by Mr. W. Webster, F.C.S. For a primary battery he recommended the "Holmes-Burke" type charged with nitrate of soda and sulphuric acid; a good secondary battery was, however, altogether the best for practical work. The best coils were those of English make. The one he used was known as a "Newton-Apps" and gave a twenty-inch continuous spark. He added a pneumatic buffer to regulate the "make and break," the sparking of which was thereby rendered almost infinitesimal. Mr. Webster then referred to the work done with vacuum tubes many years ago by Sir William Crookes and exhibited the first focus tube made by Mr. Herbert Jackson in 1894. In that same year Mr. Herbert Jackson experimented with small potassium platino-cyanide screens and demonstrated that wood and vulcanite were pervious to rays produced by the same tube; also that metals were impervious to certain rays and pervious in varying degree to others. By observing the bones in his fingers Professor Roentgen put the finishing touch to the work of the two Englishmen. Mr. Webster "conditioned" his tubes by alternate heating and cooling. By "condition" he meant an almost straw-coloured anode with a white-hot nucleus, without any blue or magenta phosphorescence behind the anode. The latter, if continued only for a few seconds, might destroy the tube. This he termed the electrical molecular spheroidal condition. Sometimes it was double and that gave the best penetration. Before he adopted the plan of heating the tube he never noticed any ill effects upon the skin. Since then his right hand, which had been affected with gouty eczema some twenty-four years previously, was attacked with dermatitis and the nails were shed.—A discussion followed in which the President, Mr. Ernest Payne, Dr. Walsh, Dr. Wolfenden, Mr. Wilson Noble, Mr. Trenthal, and Mr. Campbell Swinton took part.—In his reply Mr. Webster said that the "singing anode" indicated an active tube and good penetration.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BENSON, JAS. WALSH, L.R.C.P., L.R.C.S. Irel., L.M., has been appointed Resident Surgeon to the North Riding Infirmary, Middlesbrough, vice G. F. Longbotham, resigned.

BRIGGS, W. P., L.R.C.P. Edin., L.F.P.S. Glasg., has been re-appointed Medical Officer for the Allonby Sanitary District of the Wigton Union.

CRAWFORD, C. R. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fifth Sanitary District of the Tonbridge Union.

Crossman, Francis Ward, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Director to the Hambrook Village Hospital, vice Edward Crossman.

Curtis, H. J., B.S. Lond., F.R.C.S. Eng., has been appointed Surgical Registrar to University College Hospital, London.

Dobson, Arthur, M.R.C.S. Eng., has been appointed Surgeon to the Ilkeston Hospital and Honorary Lecturer and Surgeon to the Ilkeston Ambulance Association.

Forbes, Norman Hay, F.R.C.S. Edin., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Honorary Surgeon and Instructor to the Tunbridge Wells Volunteer Ambulance Corps.

Fraser, H. E., M.B., C.M. Edin., has been appointed Medical Superintendent of the Dundee Infirmary.

Gardner, W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Nunney District by the Frome Board of Guardians.

Gross, S., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant House Surgeon to the Salisbury Infirmary.

Harvey, F., M.R.C.S., has been appointed Public Vaccinator for the Second District of the St. Columb Major Union.

Jackson, Richard Arthur, M.R.C.S. Eng, L.R.C.P. Irel., has been appointed Medical Officer for the Kirbymoorside Union and Public Vaccinator for the District of Kirbymoorside.

Lucy, Reginald H., M.B. Edin., F.R.C.S. Eng., has been appointed Surgeon to the South Devon and East Cornwall Hospital, vice W. Paul Swain.

Melsome, W. S., M.A., M.D., B.C. Cantab., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Royal United Hospital, Bath.

McArthur, J. H., M.B., C.M. Glasg., has been appointed an Honorary Physician and Surgeon to the Hospital for Diseases of the Ear, Throat, and Skin, Sheffield.

Morris, Cyril George, L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer to the Royal United Hospital, Bath, vice W. H. Cooke, resigned.

Pickering, Harold J., L.D.S. R.C.S. Eng., has been appointed Assistant Dental Surgeon to the York Dispensary.

Preston, J. M. S., M.B., C.M. Edin., has been appointed Assistant Medical Officer to the New Bridge-street Workhouse, Township of Manchester.

Rigden, Geo., M.R.C.S., has been re-appointed a Medical Officer of the Canterbury Dispensary.

Rigden, Brian, M.R.C.S., has been re-appointed Assistant Surgeon to the Canterbury Dispensary.

Stiles, Harold J., M.B., C.M. Edin., F.R.C.S. Edin., has been appointed a Medical Officer to the Royal Hospital for Sick Children, Edinburgh.

Swain, W. Paul, F.R.C.S. Eng., has been appointed a Consulting Surgeon to the South Devon and East Cornwall Hospital.

Villiers, J. H. de, M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

Walker, J. S., M.D. St. And., F.R.C.S. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Stoke-on-Trent Rural District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Berry Wood Asylum, Northampton.—Assistant Medical Officer for five years, unmarried. Salary £150, increasing to £200, with board, lodging, washing, and attendance.

Bradford Children's Hospital.—House Surgeon (to Dispense). Salary £60, with board, residence, and washing.

Brixton Dispensary.—Resident Medical Officer for two years, unmarried. Salary £150, with furnished apartments, attendance, coal, and gas. Applications to the Secretary, Water-lane, Brixton, S.W.

Chelsea, Brompton, and Belgrave Dispensary, 41, Sloane-square, S.W.—Honorary Visiting Surgeon to the Western District.

Chelsea Hospital for Women, Fulham-road, S.W.—Clinical Assistant.

Children's Hospital, Nottingham.—House Surgeon (non-resident) for six months. Salary at the rate of £100 per annum.

Evelina Hospital for Sick Children, Southwark Bridge-road, London.—Senior Resident Medical Officer. Salary £70, with board and washing.

Hospital for Sick Children, Great Ormond-street, Bloomsbury, London.—House Surgeon for six months. Must be unmarried. Salary £20, with board and residence in the hospital.

Hull Royal Infirmary.—Junior Assistant House Surgeon for one year. Salary £40, with board and lodging.

Huntingdon County Hospital, Huntingdon.—House Surgeon for one year. Salary £50 per annum, with board and washing.

Manchester Hospital for Consumption and Diseases of the Throat and Chest.—Resident Medical Officer for the In-patient Department at Bowdon, Cheshire. Salary £60 per annum, with board, apartments, and washing.

Mercer's Hospital, Dublin.—A vacancy on the Surgical Staff.

Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £30 per annum, with board, attendance, and washing.

National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen-square, Bloomsbury, London.—Anæsthetist.

Rotherham Hospital and Infirmary.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

Royal Albert Hospital, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

Royal Hospital for Children and Women, Waterloo-bridge-road, London, S.E.—Anæsthetist and Registrar, non-resident. Salary £45 per annum.

Royal Hospital for Diseases of the Chest, City-road, London.—Surgeon.

Sheffield Royal Hospital.—Senior Assistant House Surgeon, unmarried. Salary 70 guineas per annum, with board (exclusive of wine and beer) and lodging.

Sunderland Eye Infirmary.—House Surgeon. Salary £150 annually (non-resident).

University College, London.—Assistant Physician.

Wolverhampton and Staffordshire General Hospital, Wolverhampton.—Assistant House Surgeon for six months. A small honorarium given, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

Barker.—On Jan. 8th, at Haxey, Lincolnshire, the wife of Chesman Barker, M.B. Lond., M.R.C.S., L.R.C.P., of a son.

Clark.—On Jan. 18th, at Ashbury Cottage, Honor Oak-road, the wife of Charles Alexander Clark, L.D.S., of London-road, Forest-hill, of a daughter.

Fletcher.—On Jan. 11th, at Luson, Wellington, Som., the wife of Surgeon-Lieutenant Wm. Fletcher, M.S. Corps, of a son.

Galletly.—On Jan. 14th, at Northwold, Norfolk, the wife of Wm. Gloag Galletly, M.B., C.M. Edin., of a daughter.

Starling.—On Jan. 18th, at Park-square, Regent's-park, the wife of Ernest H. Starling, M.D., of a son.

Wills.—On Jan. 15th, at Lower Seymour-street, Portman-square, W., the wife of W. A. Wills, M.D., of a son.

MARRIAGES.

Dempster—Howarth.—On Jan. 13th, at St. Margaret's, Westminster, William Thomas Dempster, M.R.C.S., L.R.C.P., of Winsley, South Croydon, to Nellie Hunter Howarth, third daughter of the late James Howarth, of Balham.

Hartnell—Fry.—On Jan. 12th, at Charlton Church, Dover, Edward Bush Hartnell, L.R.C.P., M.R.C.S., to Ada, daughter of Mr. Thos. Wickens Fry.

Havelock—Low.—On Jan. 18th, at Seaview, Monifieth, John G. Havelock, M.D., Medical Superintendent Royal Asylum, Sunnyside, Montrose, to Edith Margaret, third daughter of Mr. James F. Low, of Seaview, Monifieth, Forfarshire.

Turner—Dawson.—On Jan. 5th, at St. Jude's Church, South Kensington, by the Rev. Eardley Wilmot, vicar, Surgeon-Major W. Turner, A.M.S., to Jeannie Kemp, second daughter of Major R. E. Dawson, J.P. (late Suffolk Regiment), of Nohaville, County Westmeath, Ireland.

DEATHS.

Brookes.—On Jan. 16th, at 24, Flodden-road, Camberwell, Robert Charles Brookes, M.R.C.S. Eng., L.S.A. Lond., of 137, Westminster Bridge-road, aged 52 years, eldest son of the late Charles Brookes, M.R.C.S. Eng., L.S.A. Lond., of 137, Westminster Bridge-road. R.I.P.

Craigie.—On Jan. 11th, at Savile-row, John Hamilton Craigie, F.R.C.S., aged 55 years.

Dewar.—On Jan. 14th, at Hamilton House, Pembroke, Peter Forrest Dewar, M.B., C.M., aged 30 years.

Grayling.—On Jan. 16th, at his residence, Sittingbourne, Kent, John Grayling, M.D., in his 89th year.

Higgins.—On Jan. 14th, at Alfred House, Birkenhead, Charles Hayes Higgins, M.D., M.R.C.P. Lond., F.R.C.S. Eng., F.R.S. Edin., aged 86 years.

Leask.—On Jan. 16th, at Clarges-street, Piccadilly, Surgeon-Major James Grieg Leask, formerly of Aberdeen, in his 66th year.

Moses.—On Jan. 16th, at Bainton House, Sherborne, the residence of his nephew, Henry Moses, M.D., late of Bainton House, Reading, and Appleby, aged 80 years.

Rentzsch.—On Jan. 16th, John Sigismund, son of Sigismund H. Rentzsch, of The Firs, Waltham Cross, Herts, aged 6 months.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (24th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (26th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (27th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (29th).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (24th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. T. Bryant: Remarks on Rectal Surgery (illustrated by the drawings of the late Mr. Gowlland).

TUESDAY (25th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—Mr. A. Marmaduke Shield: Immunity and Latency after Operations for Reputed Carcinoma of the Breast (illustrated by 108 Tabulated Cases).

WEDNESDAY (26th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—Dr. H. Fox: The Treatment of Constipation.—Dr. B. Dawson: Physical Signs of Stomach Disease and their Relations to Diagnosis and Treatment.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Dr. S. Hyde (Buxton) will introduce a Discussion on the Treatment of Cardiac and Circulatory Affections by Baths, Climate, and Exercises.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—4.30 P.M. Council. 5 P.M. Paper: Mr. J. H. Wathen (Clifton): On Local Effects of Iodoform. Cases will be shown by Dr. Savill, Mr. W. T. Freeman, Dr. Walsh, Dr. Abraham, and others.

THURSDAY (27th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-sq., W.).—8 P.M. Card Specimens: Mr. Hartridge: (1) Foreign Body lodged in the Eyeball; (2) Rupture of Choroid with extensive Retinal Pigmentation following Severe Concussion of the Globe.—Mr. Lawford: Newly Developed Vessels on the Retina. 8.30 P.M. Papers: Mr. S. Stephenson: Epithelial Xerosis of the Conjunctiva.—Dr. A. Brener: The Functions of the Rods and Cones of the Retina.—Mr. M. Davidson and Mr. T. Collins: The Localisation of Foreign Bodies in the Eye and Orbit by means of Roentgen Rays (with illustrative cases).

FRIDAY (28th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Dr. W. P. Herringham: Sudden Death in Rheumatic Fever due to Myocarditis. Mr. F. C. Abbott: Two Cases of General Peritonitis due to Unusual Causes—(1) Gangrenous Intussusception of Small Intestine; (2) Strangulation of a Meckel's Diverticulum by Itself.—Dr. S. West: Case of Serous Effusion of Fifteen Months' Standing treated by Incision.—Mr. J. Hutchinson, jun.: Internal Strangulation of Loop of Small Intestine by a Fibrous Ring detached from an old Hernial Sac, Operation Recovery.

BRITISH LARYNGOLOGICAL RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION (Medical Society's Rooms, 11, Chandos-st., Cavendish-sq., W.).—3 P.M. Otology:—Mr. F. Marsh: Notes of Five Cases of Cerebral Abscess due to Ear Disease.—Dr. D Grant: Case of Otitic Extra-dural Abscess (with patient). Paper:—Mr. C. A. Ballance: Some Lessons in the Diagnosis and Treatment of Intracranial Complications of Otitis Media gleaned from Fatal Cases; Discussion in which Dr. Hill, Dr. Milligan, Dr. Grant, and others will take part. Mr. St. George Reid: Case of Traumatic Rupture of the Tympanic Membrane. Laryngology, &c.:—Exhibition of Cases by the President, Mr. Wyatt Wingrave, and Dr. F. Spicer. Dr. F. C. Ewing: Case of Recurring Parotitis in a Healthy Child.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

TUESDAY (25th).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4.30 P.M. Dr. H. Campbell: On Disorders of the Nervous System Characterised by Widespread Muscular Wasting.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Ferrier: Lecture.

ROYAL INSTITUTION.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

GROSVENOR CRESCENT CLUB (15 Grosvenor-crescent, Hyde Park-corner).—8.15 P.M. Mrs. Scharlieb: Women in the Medical Profession.

WEDNESDAY (26th).—WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Beddard: Heart Disease due to Alcobol.

SOCIETY OF ARTS.—8 P.M. Mr. T. Potter: Fireproof Construction of Domestic Buildings.

THURSDAY (27th).—CHARING-CROSS HOSPITAL.—4 P.M. Dr. Galloway: Demonstration of Dermatological Cases. (Post-graduate Class.)

ROYAL INSTITUTION.—3 P.M. Prof. Dewar: The Halogen Group of Elements.

FRIDAY (28th).—ROYAL INSTITUTION.—9 P.M. Prof. C. L. Morgan: Instinct and Intelligence in Animals.

SATURDAY (29th).—ROYAL INSTITUTION.—3 P.M. Prof. P. Geddes: Cyprus.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

THE NEGRO DEGENERATING IN THE UNITED STATES.

AN article recently appeared in the *New York Medical Record* on the Physical Degeneracy of the Negro. It appears to be an incontrovertible fact that since the abolition of slavery the negro has sadly retrograded from a health point of view. The *New York Medical Record* says: "The race problem in the south seems destined to be settled according to natural laws unless something is done and done soon to save the negro from the results of his own vices and neglect of elementary hygiene laws. Dr. Johnson, of Brunswick, California, himself a coloured physician, has collected the figures of the vital statistics of nearly 300 towns in the Southern States, which show that the death-rate of negroes is double that of whites in the same country; and not only this but that the birth-rate is smaller among the coloured than among the white population." This degeneracy is attributed to carelessness in manner of living and dissipation—characteristics of the negro since his emancipation. In the days of slavery he was looked after well, as it was naturally the object of his owner to keep him in good physical condition. When he was liberated he was like a child let out from school; he had not learned the necessity of self-restraint and he plunged into vice and dissipation. Previously also to its emancipation the negro race enjoyed a comparative immunity from many of the diseases of the white man; for example, tuberculosis and insanity were almost unknown among its members. Now it is stated that the coloured man is liable to contract all the diseases from which the white man suffers. Dr. Matas, of New Orleans, who has made this subject a special study, says that the American coloured man at the present time differs in nearly every respect from the African negro, and that in their proneness to contract disease the black and white inhabitants of the States are on about the same plane.

ARROW POISON IN WEST AFRICA.

Three French naval surgeons, MM. Le Dantec, Boye, and Bereni, have been exploring the extensive region which lies between the River Niger and the French colony of Dahomey, and some account of their observations has appeared in the *Archives de Médecine Navale*. They found that the use of poisoned arrows is by no means so extensive as it once was owing to the native races becoming acquainted with the superior efficacy of firearms, but the primitive weapons are still the only ones employed by the Tchabéens, the Baribas, and the Bokos, who inhabit the above-mentioned tract of country, a region almost unknown to Europeans. The bows and arrows used by these three tribes are of exactly the same kind, but there are slight differences in the poison, although in Dahomey, as in all parts of Central Africa, the basis of every arrow poison is always an extract of strophanthus. Towards Cape Colony, however, the natives poison their arrows with venom of serpents. Persons wounded by arrows poisoned with strophanthus begin to develop toxic symptoms in from eight to ten minutes after being struck. They become convulsed and death ensues in about thirteen minutes from stoppage of the heart and respiration. Experiments made with the extract showed that fowls were quite unaffected by even ten times the dose which was fatal to a guinea-pig.

ARTIFICIAL RESPIRATION IN SUPPOSED DEATH FROM HANGING.

The value of "First Aid" instruction given to members of the police force was well exemplified by a case which came before the magistrate at Braintree Police Court on Jan. 1st. A dealer named Edward Quilter was charged with attempting to commit suicide by hanging himself on the previous day. He was found by his wife in a shed, and a neighbour cut him down apparently lifeless. A policeman who was called in used various artificial means of respiration, and after forty minutes Quilter began to breathe normally, though he was unconscious for twelve hours. On recovering he said he knew nothing of what had happened. It would be interesting to know how long he had remained suspended and also the exact position of the rope round the neck. Presumably it lay over the thyroid cartilage, in which position it has been shown that life may be prolonged for a considerable period The constable is certainly to be commended for the perseverance with which he persisted in the performance of artificial respiration.

"SUNSHINE RECORDS."

To the Editors of The Lancet.

Sirs,—In The Lancet of Jan. 1st you give some "sunshine records" of our home health resorts. May I add my record for this place during the ten weeks ending Dec. 18th as it beats that of Hastings by three hours, viz., 223·4 hours, the monthly record being: October, 137; November, 55·4; December to 18th, 31.

I am, Sirs, yours truly,
Robert Bruce, M.R.C.S. Eng., D.P.H.
Milford-on-Sea, Hants, Jan. 4th, 1898.

A QUESTION OF FEES FOR EVIDENCE AT INQUESTS.

To the Editors of The Lancet.

Sirs,—I should feel greatly obliged if you or some of your readers would give me the benefit of advice. I am a resident medical officer in a Poor-law infirmary in the county of Middlesex. The coroner refuses to allow me fees for professional evidence and post-mortem examinations. Am I entitled to a fee? All Poor-law officers that I know get inquest fees. If I am entitled to a fee how can I claim it? What should be the method of procedure? Thanking you in advance,

I am, Sirs, yours faithfully,
Jan. 18th, 1898. Very Poor and Lawless.

*** We believe that our correspondent cannot recover a fee.—Ed. L.

DEATHS UNDER ANÆSTHETICS.

To the Editors of The Lancet.

Sirs,—Could you tell me the number of deaths that have occurred within the last few years from anæsthetics? and of these deaths do you know the number of cases where the anæsthetic was given for dental operations? I am, Sirs, yours faithfully,
W. H. Gilmour, L.D.S. R.C.S. Eng.
Rodney-street, Liverpool, Jan. 14th, 1898.

*** No more recent numeration of deaths under chloroform has been made than that published by The Lancet (The Lancet and Hyderabad Commissions on Chloroform; London: Bedford-street, W.C.), which brings the lists up to 1891. In this the deaths are classified and the number occurring during dental operations given. Professor Gurlt has published the statistics for Germany (Verhandlungen der Deutschen Gesellschaft für Chirurgie. Berlin, 1897, p. 212).—Ed. L.

THE CERTIFYING AND DETENTION OF LUNATICS.

A case of great importance not only to medical men but to the community at large came before the Croydon bench of magistrates on Jan. 5th. A young man had been handed over to the medical superintendent of the infirmary that the condition of his mind might be ascertained. This patient apparently should have appeared before the magistrates upon Jan. 5th but upon their taking their seats the clerk mentioned that he had been set at liberty. Mr. Wilson, the medical superintendent, was present and said that he had examined the patient. He had brought him to the court on Jan. 3rd and had told the clerk he was unable to certify him as a lunatic, whereupon the patient had been set at liberty. The clerk said he did not understand what Mr. Wilson was going to do and the magistrates said that the patient had been ordered on Dec. 22nd to be detained for a fortnight and he did not see how it was that he had been released. Mr. Wilson said that he could not certify unless he was satisfied from his own personal observation. He took into consideration facts communicated by others, but unless he was satisfied in addition he could not certify. The magistrate said that if that was the law the law must be altered, for medical men were very diffident in acting in such cases though they were ready enough to run other risks on behalf of their patients. Mr. Wilson said that no risk accrued to him, for as the medical officer of a union he was protected by law. It seems to us that the fault in this case lay not so much with the medical authorities as with the legal. An infirmary is not a prison, and we do not see how the patient could have been detained except by the use of force, which would have been illegal.

THE ELIMINATION OF BACTERIAL TOXINS BY MEANS OF THE SKIN.

To the Editors of The Lancet.

Sirs,—My practical experience as a hospital physician for over forty years and my own personal experience enable me to endorse Dr. Alfred Salter's paper in The Lancet of Jan. 15th on the Elimination of Bacterial Toxins by Means of the Skin. His conclusion—viz., "The artificial encouragement of sweating no doubt assists in the elimination of toxin by way of the skin leaving less behind to poison the tissues"—has been fully borne out in my case. Some fifteen years ago I had a severe attack of gouty cystitis and urethritis which confined me to bed for over two months. After turning the corner I had profuse night sweats, waking up after a short sound sleep reeking with moisture, perhaps twice or thrice in the night. I then stripped off my under-garments and nightshirt, had a good rub down, drank some fluid refreshment, and slept again; but the relief in the morning after these sweats was most marked—I felt fresher and better and on the way to recovery. I noticed also a peculiar odour about the sweat. My treatment of acute rheumatic fever is to blanket the patient, encourage sweating by hot fluids and Dr. Basham's drink of nitrate of potass with lemon juice given warm, and the more profuse the perspiration the quicker the patient recovers. Similarly in phthisical sweats. The practical point is to change the garments, rub the skin dry and keep it clean, so that no reabsorption takes place, giving at the same time liquid or semi-solid nutriment.

I am, Sirs, yours faithfully,
Alexander Wallace, M.D. Oxon.,
Jan. 17th, 1893. Physician, Essex and Colchester Hospital.

MORE UNQUALIFIED PRACTICE.

We are glad to see that at Kettering County Court a woman has been awarded £40 damages and costs against a herbalist's assistant who had so negligently set her broken arm that she was permanently disabled. Medical evidence was adduced to show that had the injury been properly treated no permanent damage would have resulted. We suppose it is the duty of the Legislature to protect foolish people as far as possible, and in some instances they do it—for example, people are not allowed to go on to thin ice in the public parks; but we are still waiting for a decision as to whether under Clause 6 of the Medical Act of 1886 it is penal for anyone not properly qualified and registered to practise medicine or surgery for gain. Possibly on the analogy of the cases of attempted suicide it might be as well to punish the patient as well as the quack.

A CURIOUS STORY.

To the Editors of The Lancet.

Sirs,—I should be pleased for the expression of your opinion on the following case. A London consulting physician has a country house in a village in my district, where he frequently spends the week-end, Christmas and Easter holidays, &c. When last here there were indications of an approaching epidemic of influenza. He wrote out a prescription which he handed to a small grocer in the village, telling him to have it made up at a chemist's; this is now sold in the village as the "fever mixture," and people who have symptoms of influenza purchase a bottle which they take. I believe there are also sold in the village Dr. R——'s aperient pills and Dr. R——'s diarrhœa mixture. I have no reason to suppose that Dr. R—— has any pecuniary interest in the sale of these mixtures, but I should be obliged if you would let me know if this is in accordance with the recognised laws of medical ethics and what steps should be taken to put a stop to it. I may say that I am on friendly terms with the aforesaid Dr. R——. I am, Sirs, yours faithfully,
Jan. 14th, 1898. M. C.

*** Dr. R—— should be written to and the possible ill effects of his conduct, which he has certainly not foreseen, should be pointed out to him.—Ed. L.

SAUCE FOR THE GOOSE AND GANDER ALIKE.

Before Mr. Lushington at Bow-street on Jan. 14th a solicitor's clerk appeared to two summonses charging him with having falsely pretended to be a solicitor, contrary to the provisions of the Solicitors Act, 37 and 38 Vict., cap. 68, sec. 12. Mr. Humphreys, on behalf of the Incorporated Law Society, said that the defendant acted as clerk to a solicitor and he appeared at a police-court and acted as a solicitor. For the defence it was stated that the defendant had served his time as an articled clerk, but it was not suggested that he was on the Rolls. He had attended the Court by direction of his principal, merely to obtain an adjournment of the cases for a short time to allow of the latter's being present to conduct them. It was submitted that no one was defrauded. Mr. Lushington said that if these were the defendant's instructions he had not kept to them, but had acted as a solicitor. He would be fined £5 for each offence, with £3 3*s*. costs; in default, fourteen days' imprisonment. Mr. Humphreys said that he wished to add that the Incorporated Law Society interested themselves in these cases, *not for the benefit of solicitors, but for the protection of the people* who were liable to be defrauded by unauthorised practitioners.

The attitude taken by the Incorporated Law Society with regard to the legal profession and the public is the one which we wish could be taken by the medical profession as represented by the General Medical Council. Whether the existing Medical Acts enable such steps to be taken or not is a point we do not now discuss—while we allow at once that the legal body has an entirely different constitution to the medical body. But if the legal profession can protect itself from the encroachment of irregular practitioners and claim at the same time to be acting not selfishly but for the public good, surely the medical profession ought to be able to do the same.

A QUEER COLLEAGUE.

WE learn from the *West Cumberland Times* of Jan. 12th, that the following were elected officers of the Wyndham Mines Friendly Benefit Society at the recent annual meeting:—Chairman, Mr. D. Jamieson, Egremont. Committee, Messrs. A. Cook, J. Kinsella, W. Graham, J. Ingram, M. Mossop, Egremont; R. Blake, St. Bees; J. Fisher, Wath Brow; and G. Dawson, Cleator Moor. Joint Secretaries, Messrs. Joseph Irving and W. T. James, re-elected; the medical officer, Mr. Braithwaite, Egremont, re-elected. It was also resolved, says the same account, that in the case of a bonesetter being required Mr. Wilson, of Aspatria, should be engaged and that his fee should be paid out of the funds of the club. We presume that this resolution will lead, or has led, to the immediate resignation of Mr. Braithwaite, seeing that it is incompatible with the duties of a medical man, as well as with the dignity of the profession to which he belongs, that he should publicly figure as the colleague of a quack. In our opinion he even risks his position on the Medical Register by so doing.

A QUERY AS TO UNNECESSARY INQUESTS.

To the Editors of THE LANCET.

SIRS,—I should be glad if you would favour me with an opinion on the following case. A person (a male) falls down twice in the street apparently in a fit; is carried home, seen, and attended during life by a medical man and dies within a short period. An inquest is then held with the idea of determining whether the deceased might or might not have fractured his skull in the act of falling. There was no scalp wound or other evidence that he had fallen with undue violence nor were there any suspicious circumstances connected with the case. I submit, therefore, that these conditions, coupled with the fact that in the possible contingency of a fracture the discovery would be one rather of medical interest than legal import, as clearly nobody would be to blame, rendered an inquest quite unnecessary; and I further submit that it was open to the medical man in attendance, in the event of misgivings, either to ask the friends of deceased for a post-mortem examination in the absence of suspicious circumstances or to represent to the coroner his views of the case. The necropsy is said to have disclosed death from apoplexy.—I am, Sirs, yours faithfully,

Jan. 18th, 1898. S.

⁂ In the particular case instanced by our correspondent the inquest might have been unnecessary. We do not know if he is familiar with all the facts and our knowledge is limited to what he tells us, but as a general rule an inquest in a doubtful case is to the benefit of the relatives and therefore of the community.—ED. L.

A PROFESSOR OF CLINICAL NURSING.

THE *Nursing Record* states "that the University of Texas has formed a Nursing Department, and has recognised the head of the Nurse Training School as one of the professors of the University with a chair of Clinical Nursing. The lady in question is in future to teach not only the pupil-nurses but all the medical students at the University Hospital in the details of nursing. She has to give both lectures and bedside instruction, and there can be no doubt that the new departure will be of the greatest importance to the Medical Department as well as to the nurses."

THE TREATMENT OF CHRONIC PROSTATITIS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers kindly suggest any remedy that they can confidently recommend for the treatment of chronic prostatitis? My patient has suffered for some years and has tried a variety of remedies with little or no permanent good result. He seems to be worse in cold and damp weather, and then complains of frequent attacks of dull aching pain referred to the lower end of the rectum accompanied by tenesmus and frequent calls to micturate. He also suffers from some dysuria which appears to be more or less of a nervous origin. I am, Sirs, yours faithfully,

Jan. 7th, 1898. MEDICUS.

⁂ Our correspondent knows well the obstinate nature of the disease, but we notice that he considers the dysuria not to be of organic origin.—ED. L.

WOOLLEN UNDERCLOTHING.

We have received from the British Hygienic Woollen Company, of Leicester, samples of their woollen underclothing. We have had the articles in question—which are well and carefully made—tested and they have been found extremely comfortable. The seams are made with selvedged edges which facilitates repairing and causes the goods to wear longer. The goods are, wherever practicable, shaped in the process of manufacture, which is an obvious advantage as it saves cutting out. The goods we have found to shrink very little when washed.

"MR. HALL HAINS'S DEFENCE FUND."

To the Editors of THE LANCET.

SIRS,—Will you kindly insert enclosed list of additional subscriptions? I am, Sirs, yours faithfully,

HERBERT CARRE-SMITH,
Hon. Secretary and Treasurer to the Fund.

3, Turnham-green-terrace, Chiswick, W., Jan. 18th, 1898.

	£	s.	d.		£	s.	d.
Amount previously acknowledged	94	8	0	Mr. Henry T. Butlin, F.R.C.S. Eng.	2	2	0
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Mr. Arthur Roberts, M.D. St. And.	0	10	6				

◆

Dubitans.—There is nothing to show that B's diagnosis was actuated by any desire to do a fellow practitioner an injury. And whatever B may have meant our correspondent's statement shows the diagnosis to have been wrong, so that the mischief must have recoiled upon B. With regard to B having applied for a post in another's occupation we think that "Dubitans" should make certain that he knew the appointment to have been already made elsewhere when he applied for it before he brings any charge against him. If B tried to supplant our correspondent exactly in the manner that has been described to us he behaved in an unprofessional manner, but not, we think, in a manner of which the General Medical Council could take official notice.

Colliery Surgeon.—For reasons of expediency it may be well for our correspondent to follow the example of his predecessor and his neighbours, but we see no other reasons for such wholesale generosity.

A. B. C. should consult a medical man who will be able to tell him whether any operative measures should be taken. We do not recommend medical practitioners or suggest treatment.

M.R.C.S.—We consider the publication in a lay paper of such a "medical opinion" distinctly regrettable, particularly as the medical man gives his address.

Mr. J. W. Moody is thanked for his interesting communication. Would it be possible to get a pathological opinion upon the thrombus?

C. H. has not enclosed his name and full address.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 20th, 1898

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
Jan. 14	30·45	S.	...	47	47	44	44	45	Overcast
" 15	30·57	S.E.	...	53	46	43	43	45	Overcast
" 16	30·67	N.E.	...	43	41	37	37	38	Overcast
" 17	30·46	S.W.	...	46	46	34	34	34	Foggy
" 18	30·38	S.W.	...	69	53	34	44	46	Foggy
" 19	30·32	S.W.	0·04	58	56	45	49	51	Cloudy
" 20	30·32	S.W.	...	55	54	51	51	52	Overcast

During the week marked copies of the following newspapers have been received: *Eastern Morning News, Manchester Guardian, Kidderminster Shuttle, Durham Chronicle, Nottingham Guardian, East Anglian Daily Times, Western Morning News, Cape Times, Times of India, Hull News, Pioneer Mail, Huddersfield Chronicle, New York Tribune, Glasgow Herald, Leamington Chronicle, Wolverhampton Chronicle, Somerset County Herald, Sheffield Telegraph, Liverpool Daily Post, West Briton Advertiser, Evesham Journal, Architect, Essex Telegraph, Cambridge Express, Builder, Grimsby News, Leeds Mercury, Essex County Chronicle, Birmingham Gazette, Brighton Gazette, Yorkshire Post, Bucks Herald, Norwich Mercury, Harrogate Advertiser, Portsmouth Times, Bristol Mercury, Hereford Times, Wellington Journal, Bath Chronicle, West Cumberland Times, Sanitary Record, Baker's Times, City Press, Hertfordshire Mercury, Reading Mercury, Local Government Chronicle, Surrey Advertiser, Local Government Journal, Eccles Advertiser, Weekly Free Press and Aberdeen Herald, Mining Journal, Public Health Engineer, Glamorgan Free Press, Shrewsbury Advertiser, Leek Times, Loughborough Monitor, Pembroke Dock Gazette, &c., &c.*

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A Clinical Lecture

ON

THE OPERATIVE TREATMENT OF CLEFT PALATE.

Delivered at St. Mary's Hospital on Nov. 22nd, 1897,

By EDMUND OWEN, M.B. LOND., F.R.C.S. ENG.,

SENIOR SURGEON TO THE HOSPITAL AND TO THE CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.

GENTLEMEN,—As you have lately seen me operate upon several patients with cleft palate I have thought it well to take this opportunity of making some practical observations upon the subject of cleft-palate operations in general and upon certain of these cases in particular.

Anatomy.—In early fœtal life the mouth and the nasal fossæ constitute one continuous cavity and somewhere about the eighth week a maxillary process grows horizontally inwards from each lateral wall of the oro-nasal cavity with the view of forming a separation between the two parts. If these lateral processes growing inwards through the whole width of the future nasal floor and, growing equally, failed to meet, the cleft in the palate would extend fore and aft through the exact median line. But as a matter of fact the very front of the hard palate is not developed from the inward-growing maxillary processes but from a column of mesoblastic tissue which descends from the frontal region in conjunction with the anterior part of the nasal septum and with the median part of the upper lip. Sometimes this descending process loses its way and forms an illicit connexion with the tip of the nose, where, with the prolabium and that part of the alveolar process which contains the germs of the central incisor teeth, it constitutes a hideous projection. In such a case there is a complete median cleft of the soft and hard palate and a double hare-lip. If, however, the piece of the alveolar process with the two central incisors could be thrust backwards into its proper position the wide, front part of the palatine cleft thus greatly narrowed would be found to bifurcate, each branch of it running forwards and outwards between the central and lateral incisors of its own side somewhat after the form of the capital letter Y. A more common variety of cleft of the hard palate is that in which the median fissure runs outwards and forwards on one side only—that is, like a letter Y with one arm broken off. This defect is commonly but not always associated with a single hare-lip.

Effects of cleft palate.—Obviously an infant with a cleft palate cannot draw nourishment from the mother's breast. And it not infrequently happens that the fact of the mother noticing the eager and futile endeavours of her child to feed himself has so depressing an influence upon her that her milk dries up and she is unable to supply any even by a breast pump. In these circumstances there is nothing for it but to attempt to rear the child upon artificial human milk. I say "attempt" because a large proportion of such children sink from imperfect nutrition.

"Little and often" is a good way of artificially feeding infants with cleft palate, and during the feeding it is well to have the infant sitting straight up so that the milk may pass easily towards the stomach and have no inclination to escape by the nasal fossæ and nostrils. The milk may be conveniently given by an old-fashioned slipper-bottle with a giant teat which has a hole on the under surface. Thus as the infant sucks the teat fills the palatine cleft and as he compresses the teat in sucking the milk is directed downwards. Or, if the large teat does not work well the milk may be given by a spoon passed well back over the tongue, the child, of course, being kept upright. But in the most favourable circumstance the cleft-palate infant does not flourish, for the child is under the double disadvantage of being brought up by hand and of not being able to take his artificial food conveniently. Unfortunately, however, because the infant does not flourish he is too apt to be "tried" with one patent food after another, each mess proving more unsatisfactory than that by which it was preceded, until in a condition of dietetic bewilderment and gastro-intestinal irritability he well-nigh or actually falls a victim to inanition.

Diagnosis.—It is scarcely necessary to discuss the question of diagnosis of cleft palate. But when the defect is confined to the soft palate it not infrequently escapes detection. The mother brings the infant saying that he does not thrive and that some of the milk escapes by the nostrils. If the practitioner gives a mere casual look at the mouth he will probably fail to discover that the velum is fissured. He should in all such cases depress the tongue by a spoon or spatula and make a thorough inspection. I have met with several cases in which this cause of an infant's want of nutrition had not been recognised or suspected.

When to operate.—If the cleft be confined to the soft palate and the infant is in a satisfactory state of health the operation may be done within a few months of birth. But if the hard palate be also implicated I am at present content to wait at least another year lest the infant should receive a fatal shock from the necessarily severe operation. I am not sure that it is necessary thus to wait before attempting to close the entire cleft, but I am at present inclined to think the delay expedient and if the cleft is a wide one I am convinced that it is discreet. The tissues at this early date are little more than protoplasmic and the infant's power to resist shock must be extremely feeble. I am not satisfied that the risks of the operation in these circumstances are outweighed by the gain of the early closure.

However wide a cleft of the hard and soft palate may be I prefer to operate upon the entire cleft at once rather than divide the operation into two parts, one for the hard palate and one for the soft. Indeed, it is necessary freely to detach the muco-periosteum of the back of the hard palate before one is able to bring the edges of the adjoining part of the soft palate into apposition, and similarly the hinder part of the cleft in the hard palate cannot be closed without loosening the anterior part of the soft palate. Thus in either instance going a step further and dealing with the remaining part of the cleft adds so little to the time expended over the operation and to the shock inflicted upon the patient that in every case it is worth trying for. Nothing succeeds like success and in a large proportion of cases both parts of the cleft when thus dealt with are entirely and permanently closed at the one operation.

Preparations.—To operate on a case of cleft palate when the child is obviously out of condition is to court failure. As a rule the subjects of the defect are thin and miserable-looking and therefore unsuited to bear the loss of blood and the shock which are inseparable from the operation. The first thing to be done is to inquire as to the food and feeding. It too often happens that the children are being brought up on unwholesome patent foods, condensed milk, or such like messes. For this fresh cow's milk and water must be substituted, the milk being treated after the manner which renders it as close an imitation of human milk as possible. Above all people, children require "fresh" food—living food, as it were—not stuff which is shipped in tins or kept in boxes or bottles in a druggist's or a grocer's store.

If a child is in poor condition I advise his being rubbed over with olive oil—regularly massaged in front of the fire—after his warm bath before being put to bed. He should, moreover, sleep in a long flannel nightdress or in pyjamas. I confess that I am a great believer in cod-liver oil for ill-nourished children and I am disappointed when I am told that a weedy, cleft-palate child cannot take it—that it "always disagrees with him." It is a peculiar fact, however, that it agrees perfectly well with many a child who "cannot take it" provided that he does not know that it is being given to him. Most children like sardines—which, by-the-by, is about the only tinned food which is good for them. And when I want to give a child cod-liver oil without his knowing it I advise that as soon as a sardine-box is opened the cotton-seed oil in which the dainty fish are packed be emptied out and that the box be filled up with fresh cod-liver oil. Put on the plate with sardines children take the oil splendidly. From time to time fresh cod-liver oil may be added to the sardines and duly dispensed upon the breakfast plate.

The next thing to be done is to see that there are no carious teeth, enlarged tonsils, or adenoids. Carious teeth should be extracted or cleaned and filled. Enlarged tonsils should be amputated and adenoids cleared away. Some time ago I saw it recommended that enlarged tonsils and adenoids should be dealt with *after* the palatine cleft has been operated on. Such practice appears to me to be injudicious, especially when one sees how greatly in the ordinary way children improve in health, strength, and appearance when the clearance has been effected. Moreover, the crypts and crevices of enlarged tonsils and postnasal growths are likely to be haunted by curds of milk or shreds of food which, decomposing, may set up harmful irritation. It should be a rule never to operate on a cleft palate until the mouth and teeth, fauces and pharynx are brought to as wholesome and healthy condition as possible.

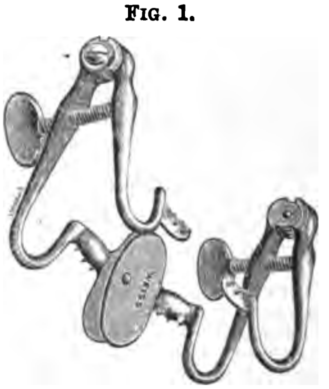
I think, too, that if the surgeon can have the choice he should undertake the operation in fine, warm weather so that the child can the sooner be taken out of doors. Nevertheless, a cleft may be successfully closed in bad, wintry weather with a low barometer. But even in these circumstances the less the child is kept in bed or confined to his bedroom the better. Change of room and fresh air are very necessary. A tented cot and a hot, stuffy bedroom or ward are to be avoided.

Position.—The best position for the child during the operation is upon his back with the head hanging over the end of the table, so that the blood, instead of finding its way into the larynx or stomach, may sink into the nasopharyngeal dome and, welling up by the mouth or nostrils, may find harmless escape. This position, however, is not without its disadvantages as it sometimes causes embarrassment to the respiration. You will remember the case of that young woman on whom you saw the operation for a cleft a few weeks ago. She had a short thick neck and a rather large thyroid body. I mentioned before the operation began (as you remember) that I did not envy Mr. Henry Davis his post of anæsthetist in that case, and, sure enough, when I was half through the operation the breathing (which had throughout been unsatisfactory) silently ceased. Having brought her head up, however, hooked forward the tongue by the finger in the pharynx, and started artificial respiration she recovered, and I was enabled to finish the operation, which in due course proved perfectly satisfactory. For a fat-necked patient the over-extended position of the head is not usually convenient; still, it should be tried in every case. But it must not be assumed that this inverted position precludes the possibility of blood entering the stomach or larynx; if the child bleeds freely the flow cannot be completely controlled even by position and persistent sponging. A few months ago I was thus operating on a delicate, bleeding child with Mr. Manser at Tunbridge Wells and after the child was put to bed a large quantity of blood was vomited. And you will remember that little boy on whom I was operating in this theatre three weeks ago, how freely he bled and how anxious he made us because some blood had welled up and found its way into his larynx and windpipe. Indeed, that boy was so bad that I called for the tracheotomy instruments with the intention of letting air into the windpipe and of endeavouring to fish out a clot. Just at that moment, however, he took a gasp, expelled a good deal of congealed blood from the larynx and so far recovered that we were enabled to finish the operation. Though I have on other occasions seen children in an equally critical condition when being operated on for cleft palate I have, I am thankful to say, never seen the crisis end fatally. But I would like to enforce these points—first, that when the patient is in the head-downward position there may be serious trouble with respiration and that if hæmorrhage is free danger of blood going the wrong way is not entirely got rid of. Still, this risk is far less than it would be if the child were lying flat on his back. It not infrequently happens that when the surgeon thinks and says that the case with which he is about to deal will be a simple and short affair contingencies arise during the operation which show him that he was greatly mistaken, whilst, on the other hand, if he has had a prolonged and anxious operation which he has finished with difficulty and left with gloomy forebodings the result turns out most happily. It is wise not to prophesy. The operator can never know how the gag will work, how the child will take the anæsthetic, how he will breathe, to what extent the operation will be impeded by bleeding, how the stitches will run, and so on.

Anæsthetic.—Chloroform answers well given first on a napkin and then by a Junker's apparatus. When once the operation is started very little of the vapour is wanted; the narcosis should not be deeper than is needed to keep the child quiet. Sometimes when the operation is a long one I ask the anæsthetist to allow the child partly to recover in order that we may be sure that the narcosis is not needlessly deep. In my experience there is no operation in which the need of a skilled anæsthetist is more marked than in that of the closure of a wide cleft palate in a delicate child, especially when the difficulty is increased by profuse bleeding.

The gag.—A perfect gag has yet to be invented. I think that I have tried almost every gag in the market and I find that I get on best with one which is called after its ingenious inventor, "Smith's gag." A disadvantage in connexion with it is that it is sometimes very difficult to keep it in place, the plates slipping forward from their bearings on the teeth and worrying the surgeon in perhaps the most important stage of the operation. In the last case on which you saw me operate I found Smith's gag quite useless, most of the boy's molar teeth having fallen out or having been extracted in preparation for the operation. I had at home, however, a Smith's gag in which the usual plates had been replaced by bars which carried minute spikes which can slip into interdental crevices or into the toothless gums and there take a firm hold (Fig. 1). On the next occasion of my having this boy into the theatre I therefore used this gag and it answered perfectly. Messrs. Weiss makes these modified gags. Before inserting the gag it is well to pass a large looped suture through the tip of the tongue so that it can be pulled out of the mouth and kept under command. Without this tether the tongue is apt to slip back beneath the lingual plate of the gag and bulging up behind it to hinder the operation on the soft palate. When the tongue is pulled out and the gag is securely fixed in its place the child is lifted towards the end of the table and his head allowed to fall gently backwards. As soon as it is seen that he breathes well in this position the thick mucus which has by this time collected about the cleft may be gently sponged away and the operation begun.

FIG. 1.



Smith's gag modified by the substitution of spiked bars in the place of the dental plates.

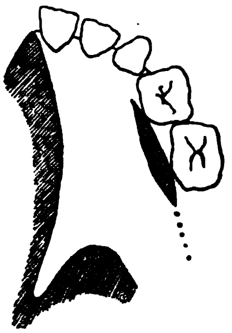
The operation.—With a pair of long, mouse-toothed forceps one side of the soft palate is held and steadied and is transfixed with the palate knife. Then by cutting backwards a thin strip is removed through the entire thickness of the soft palate and uvula. This strip being still held by the forceps the knife is made to travel forwards so that a continuation of the strip may be peeled from the side of the cleft at the front of the velum and along the side of the hard palate. If there is not much bleeding the surgeon continues the incision round the front of the cleft and backwards along the other side, removing the strip if possible in one piece. When this strip is afterwards laid out in position it will be seen that the part which came from the soft palate and uvula is much thicker than the paring from the hard palate which is sometimes but a very thin covering from the edge of the bone. Whilst the assistant is pressing a sponge into the cleft to arrest the bleeding it is well for the surgeon just to examine the strip or strips which he has just removed, so that he may assure himself that a serviceable raw edge has been left along both sides of the entire cleft. If by chance he should not have removed the strip entire it is quite possible that there would be some part of the edge not vivified and there it would be impossible to secure union.

As a rule the palate knives which are supplied by the instrument makers are too thick in the back and clumsy. The best knives for the purpose are old toasil bistouries which have been often ground; they have a long cutting edge and a thin back. Tenotomy knives are ill-adapted for the purpose.

The sponges used during the earlier stages of the operation should be of about the size of a pigeon's egg, but they should not be squeezed up into a ball. Being torn off a rather firm, new, honeycomb sponge they should be large enough to swab up the blood from the pharyngeal dome and at the same time to exert pressure against both sides of the cleft at once so as to check the bleeding. The operator must take care that the sponges which he and his assistant are using are safely fixed in the holders or, hitching against the edge of the cleft, they are apt to get adrift. Excellent holders for the purpose are the steel ones with locking jaws designed by Mr. Lund. They may be got at Weiss's.

The next step in the operation is to make a cut about three-quarters of an inch long close to the inner side of the molar teeth of each superior maxilla (Fig. 2). Passing through to the bone, they divide branches of the descending palatine arteries, so it is well to pause and keep up firm pressure against them with a sponge on either side of the roof of the mouth.

FIG. 2.

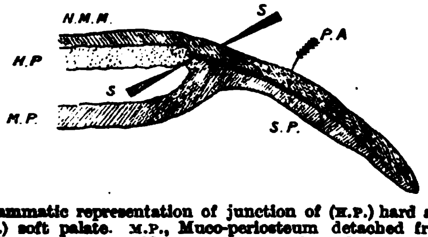


Cleft of hard and soft palate (left side) showing line of incision along alveolar process, with dotted line in which incision may have to be extended.

By means of raspatories of various curves introduced through the lateral incisions the muco-periosteum is detached from the hard palate. The higher the pitch of the roof of the mouth the more extensive the area of these flaps and the greater the probability of their median borders being brought together without tension. Indeed, in some cases of high roofs the flaps when brought down and drawn inwards are found to be so slack that not only their bare edges but even a slight portion of their raw upper surface can be brought together for suturing. This, of course, increases the chance of securing prompt union.

The great advantage of detaching the muco-periosteal flap by working inwards with the raspatory through the alveolar incision is that one can dispense with the rectangular knife which used formerly to be employed for starting the separation of the flap from the border of the cleft. And thus the surgeon can be certain of making use of the whole thickness of the muco-periosteum near the cleft, of which he could not be when he was working outwards with the knife. Moreover, as the flap is detached by a blunt rather than by a cutting instrument there is less bleeding. But when the muco-periosteum has been thus detached it is generally impossible to induce those parts of the flaps which have been brought down from the horizontal plates of the palate bones to come together in the middle line without tension. This is due to the fact that they are continuous with the velum, which is very firmly connected with the posterior border of the hard palate. In the substances of the velum is a strong fibrous foundation or *aponeurosis* which, attached to the border of the hard palate, receives part of the insertion of the tendon of the tensor palati as well as attachments of the levator palati and palato-pharyngeus (Fig. 3). And in order to get the half of the velum and the hinder part of the muco-periosteal flap to the middle line this aponeurosis must be disconnected from the bony arch. The success of the operation upon the cleft depends very largely upon the thoroughness with which this disconnexion is effected. The best way of doing it is by using a pair of scissors bent upon the flat almost to a right angle. One blade is passed between the detached muco-periosteum and the under surface of the back of the hard palate and the other is passed through the cleft and over the back of the velum where it springs from the posterior border of the hard palate. Thus between the blades are placed the thin layer of mucous membrane which is continued on to the back of the velum from the floor of the nasal fossa and the aponeurosis of the soft palate with that part of the spreading tendon of the tensor palati which is inserted into the under surface of the horizontal process of the palate bone. When this scissor cut has been made the whole sheet of muco-periosteum and velum hangs loose and after a little more sponging the flaps are ready for suturing. Perhaps eight or ten sutures are required for their secure adjustment and it matters little, I think, of what material they are composed. Personally I use nothing but silver wire, which has been so prepared that it is soft, tough, and flexible, and well chosen horsehair, which has been rendered aseptic and has been soaked in hot water to increase its pliability. Some operators prefer silk, others silkworm gut, but I have always found silver wire and horsehair answer every requirement. Silk I should have thought would be likely to soak up discharges and to swell, but, as I say, I have no practical experience of it in these operations.

FIG. 3.



Diagrammatic representation of junction of (H.P.) hard and (S.P.) soft palate. M.P., Muco-periosteum detached from hard palate. N.M.M., Mucous membrane from floor of nares. P.A., Aponeurosis of soft palate. S.S., Blades of curved scissors about to cut through aponeurosis.

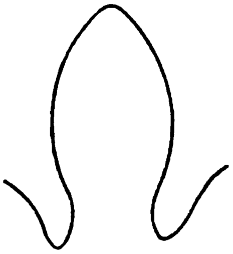
As the sutures are being inserted in the muco-periosteal flaps, beginning near the incisor teeth and working backwards, it will probably be found that as the flaps are drawn together in the neighbourhood of the junction of hard and soft palate there is so much tension that if the silver sutures were twisted up either the wire would break or it would cut its way through the flap. It is necessary, therefore, to prolong the incisions which have already been made through the alveolar muco-periosteum backwards through the halves of the velum, so that the edges of the flaps may be adjusted along the middle line entirely free of tension. The course which this prolongation would take is shown by the dotted line on Fig. 2. The incisions thus freely made cut through the aponeurotic insertion of the tensor palati and the chief part of the insertion of the levator palati as well as of the palato-pharyngeus. Many branches of the descending palatine arteries being thus divided there is some more bleeding, but as a rule it soon stops under pressure. When the flaps are adjusted these lateral cuts sometimes look unpleasantly large, especially if a wide cleft demanded a considerable drawing inwards of the flaps; often the gaps are so wide that they serve for the introduction of small scraps of sponge held in slender forceps for removing the last of the clots or of the fluid blood from the naso-pharynx. Sometimes the incisions have to be made so freely that the flaps look as if they would not improbably slough on account of their lateral blood-supply. As a matter of fact, however, they do not slough unless a septic inflammation attacks the wounded tissues, their vascular supply being exceedingly rich.

With regard to tightening up the silver sutures this is best done by the ordinary torsion forceps, as the operator can thus see exactly what he is doing, which would not be the case if he were making the twist with his fingers. And as in the course of the operation he may be called upon to tighten up this suture or that it is necessary that he should know in which direction he should make the twist. The wire sutures should always be twisted from left to right, as in dealing cards.

But even when septic inflammation and localised sloughing do occur, the operation does not necessarily prove a hopeless failure. Some part of the cleft is generally closed and healthy granulation tissue arises in due course and effaces some portion of the cleft.

As I have shown elsewhere, the cause of the septic inflammation in the case of failure to secure primary union of the flaps is the unwelcome cultivation of staphylococci in the area of operation. Let me here tell you of a case on which I operated last spring which was temporarily wrecked by the incubation of staphylococci. From the notes of this case, which were kindly supplied by Mr. Templeton, F.R.C.S Eng., I find that the child, a boy, was five years old when I operated on him on May 26th. The cleft involved the soft palate and the back of the hard, being ¾ in. broad and 1¼ in. long (Fig. 4). Within a day or two of my operating on the cleft the temperature went up and the boy was covered with a punctiform (septicæmic) rash. The wounds were covered with thick muco-pus and the suturing broke down entirely. A fortnight after the operation the wounds looked clean and the child's general health was good, so I arranged to perform the operation again the following week, hoping that the child had established in himself an immunity against another staphylococcic attack. On June 16th, therefore, with knife, raspatory, and scissors, I brought the freshened edges of the flaps together and adjusted them by wire sutures. The operation turned out a success, the child being sent home three weeks later with the cleft completely closed.

FIG. 4.



Actual size of cleft which broke down after first operation but was successfully closed three weeks later. (After a sketch by Mr. Templeton.)

I venture to think that the report of this case will prove interesting to surgeons who are in the habit of operating on cleft palates—that is if, as I suspect is probable, every now and then they suffer the keen disappointment of seeing a carefully executed operation ruined by septic inflammation. Hitherto it had been my custom in such circumstances to send the child away into the country and to operate some months subsequently, but in this instance I was anxious to see if the septic outbreak had not rendered the child temporarily immune against further attack of a like nature. So soon, therefore, as the effects of the local storm had passed away I re-did the operation and I shall certainly adopt this course should circumstances at any future time suggest it. In private as well as in hospital work it will be an advantage to make the second attempt when the child is well broken in and amenable, and in private when the nurses are still in the house and the child has become accustomed to them. I think it not improbable as time goes on that a child on whom a staphylorrhaphy is to be done will have an artificial immunity established in him by the injection of anti-staphylococcus serum. But for my own part I shall be unlikely to have recourse to it. I shall still be content to let the children run the chance of septic inflammation rather than court unknown risks. And, as a matter of fact, now that I am very strict in the carrying out of the simple preliminary methods of asepsis to which I referred at the beginning of this lecture I rarely find the line of suture breaking down or the wounds becoming coated with that foul, stringy muco-pus which used formerly to be a not infrequent herald of a more or less complete failure and disappointment.

WEST CORNWALL INFIRMARY AND DISPENSARY.—The annual meeting of the West Cornwall Infirmary at Penzance was held on Jan 19th under the presidency of Prebendary Hedgeland. The report stated that 145 in-patients had been treated and the institution was practically working at the full available capacity. The accounts showed an expenditure amounting to £842 and receipts amounting to £749; there was an adverse balance of £93. The committee had received £600 from the late Mr. J. C. Wren and £500 from Mr. W. E. T. Bolitho.

IDIOPATHIC DILATATION OF THE COLON,

ILLUSTRATED BY A CASE IN WHICH THE ENTIRE RECTUM, SIGMOID FLEXURE, AND DESCENDING COLON WERE EXCISED.

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OF late years there has crept into medicine the term "idiopathic dilatation of the colon." This term has been applied to certain morbid conditions in which a few common clinical manifestations appear to have given expression to varied and possibly diverse pathological states. Whatever may be the structural changes which give rise to this dilatation of the bowel the clinical phenomena included under the term are more or less definite and unvaried. The main features are these. The colon, and especially the lower part of it, is enormously dilated. It is tympanitic and distended with gas to a degree that in some instances almost surpasses belief. The patient suffers from certain mechanical effects of this distension and notably from shortness of breath, palpitation of the heart, œdema of the legs, and possibly albuminuria. The patient may be unable to move and the difficulty of breathing may be such that the face and extremities become livid. Marked constipation is usually a conspicuous feature, while vomiting and troublesome hiccough are not uncommon. The particular term "idiopathic dilatation" is based upon the assumption that the distension of the bowel is not due to any obstruction in its lumen. It is therefore necessary to exclude from the present category all cases of dilatation of the colon due to volvulus, to the impaction of fæcal masses or foreign bodies, to the lodgment of concretions, and to the existence of stricture of any type. In like manner would be excluded examples in which the colon or rectum has been narrowed or occluded by the pressure of a tumour having its origin without the bowel wall.

In dealing with this present subject it will be well to inquire first of all into the circumstances under which portions of the alimentary canal become dilated in the absence of any obstructive cause, and in the second place to consider what conditions may underlie certain of the reported cases of "idiopathic dilatation of the colon." With regard to the first matter it may be said at once that any part of the alimentary tube may become dilated without there being the least obstruction in its lumen. At one time it was supposed that whenever the stomach was dilated there was some obstruction at the pylorus which prevented the escape of the gastric contents and allowed the organ to be dilated by the gaseous products of decomposition. In like manner in marked tympanites of the bowel it was loosely assumed that the bowel was distended with gas which could not escape owing to some obstruction in the distal part of the canal. These assumptions have long since been shown to be without foundation. Obstruction in the lumen of the intestine is not the most ready means of inducing meteorism. Interference with the innervation and blood-supply of the bowel wall will cause a much more speedy tympanites. In animals the ligaturing of the main mesenteric vein is followed by quite intense meteorism and one of the most extreme examples I have seen of tympanites of the small intestine in the human subject was due to thrombosis of the superior mesenteric vein.

From a clinical point of view it is desirable to recognise most fully that distension of any portion of the alimentary canal may be entirely disassociated from any obstruction in the lumen of the tube. Certain phases of "idiopathic dilatation" immediately suggest themselves. One of the most interesting is provided by the condition known as "ballooning of the rectum." Here on introducing the finger into the anus the rectum is found to be apparently dilated to its utmost. It may be dilated in the same way as one speaks of the iris as dilated, but it is certainly not distended, and the term "ballooning," which suggests extreme inflation with gas, is entirely misleading. The ballooned rectum is not distended with gas, but its condition is due to some phase of paralysis. If two fingers be introduced into such a rectum so to allow gas to escape the ballooning remains the same. It is the muscular wall of the gut which is at fault and not its contents. On the other hand, if the patient be anæsthetised the ballooning vanishes. This ballooning is met with in many conditions. It is often associated with stricture of the lower colon, with tumours about the pelvic brim, with conditions indeed which may, through pressure, effect the innervation and blood supply of the terminal part of the gut. I have met with a very marked example of "ballooning" in an old man who was suffering from what proved to be a fatal attack of sub-acute perityphlitis. Those who are concerned with the physiology of idiopathic dilatation of the bowel may well commence with the study of ballooning of the rectum.

Idiopathic dilatation of the colon of moderate degree is well seen in what may be termed masked peritonitis. Indeed, a little inflammatory focus within the abdomen (and without the pelvis) is a common cause of persisting dilatation of bowel. As an example of masked peritonitis I may take such a case as the following. An abdominal section—such as the removing of a diseased vermiform appendix—is performed. For a day or two all goes well and then appear the phenomena of masked peritonitis. There is great distension of the epigastric region due apparently to dilatation of the transverse colon. The patient is very frequently sick and can retain little or nothing in the stomach. He has obstinate and often most persistent hiccough. There is no pain or next to none, no tenderness of the abdomen, and no board-like hardness of the abdominal muscles. The abdomen may be perfectly soft in all parts, there is no rise of temperature, the bowels respond to enemata and to such an aperient as calomel, but the dilatation of the colon, the irritability of the stomach and possibly the hiccough persist. After the bowels have acted there is some little diminution in the epigastric distension, but it is only temporary. The symptoms may last for many anxious days and at last end in recovery. It may be mentioned that in this condition no drug answers so well as strychnia administered hypodermically.

As regards the stomach it is needless to say that certain forms of dilatation of that organ are described in which there is no evidence of any obstruction of the pylorus. There is a good deal to suggest that some forms of rapid dilatation of the stomach may depend upon nerve influences which have their starting point in some infective or inflammatory process. In one of the two fatal cases of "acute gastric distension" described by Dr. Fagge a sloughing abscess was discovered behind the duodenum after death. Acute dilatation of the stomach of the ordinary type is said by Dr. Clifford Allbutt to only occur as the sequel of certain acute and debilitating diseases such as acute rheumatism, active forms of pulmonary tuberculosis, malignant endocarditis, and septicæmia. I have seen acute dilatation of the stomach follow upon severe and extensive contusion of the abdomen from which the patient ultimately recovered and in which there was no evidence that there was at any time an obstruction of the pylorus. So far, then, it may be safe to say that in certain portions of the alimentary canal extensive dilatation may occur which is independent of any obstruction in the lumen of the tube. To such forms the somewhat vague term "idiopathic" may, with a scarcely less vague reason, be ascribed.

When we turn to the series of clinical cases which are collected under the title of "idiopathic dilatation of the colon" it is evident that we have to deal with conditions which are much less ephemeral than the casual states of distension to which allusion has just been made. An examination of this collection of cases at once raises the question as to how far they are accurately described by the term "idiopathic." Certain of the reported examples are, as Dr. Hale White[1] has pointed out, apparently instances of extreme fæcal accumulation. In a case under the care of Dr. Bristowe,[2] for example, the patient, a girl aged eight years, had had no action of the bowels for seven weeks before her admission into hospital. She had always been the subject of constipation and at her death the entire colon was found to be enormously distended with fæces to a point within two inches of the anus. In another case[3] selected by Dr. Hale White the patient was a man, aged twenty-eight years, who had been always constipated and who had had several attacks due to fæcal accumulation. The distension of his abdomen was enormous and there was œdema of the legs, pelvis, and scrotum. The colon had a diameter of from 6 in. to 8 in. and contained no less than fifteen quarts of fæcal matter.

When the other cases come to be examined it is at once evident that they can be divided into two classes. In one series of cases the patients are adults, are mostly males, and are over fifty years of age. In the other series of cases the patients are children and symptoms of abdominal trouble have been more or less apparent from birth.

I do not propose to discuss in this paper the cases of dilatation of the colon met with in elderly subjects beyond to venture the remark that the idiopathic nature of the dilatation is not by any means made manifest. In certain of the cases the dilated bowel—practically always the sigmoid flexure—was much hypertrophied and it is evident from such hypertrophy that it had been engaged in overcoming some obstruction. The history of these cases suggests that the habitually overloaded sigmoid flexure hanging down in the pelvis had become bent upon itself at its meso-colic extremity so that the distal end of the loop had become occluded by kinking. The account of habitual constipation, of previous attacks attended with absolute obstruction and immense distension, the circumstance that during such attacks enemata are unavailing and the condition of the parts found after death strongly support this suggestion. Indeed, one might go so far as to say that the majority of the examples of so-called "idiopathic dilatation of the colon" occurring in elderly subjects appear to be examples of simple dilatation of the bowel above an imperfect but definite obstruction. With regard to the cases of "idiopathic dilatation of the colon" in children it appears to me that they have even less claim to the title "idiopathic" than have the instances just disposed of.

The evidence obtained from the perusal of these cases very strongly suggests that the great majority of them at least depend upon a congenital narrowing of the lower extremity of the large intestine. At the end of this paper I have given an account of a small child who exhibited in a marked degree the features of "idiopathic dilatation of the colon" as shown by the enormous distention of the abdomen, the obstinate constipation, the hypertrophy of the lower part of the colon and the practical failure of all purgative measures. The case indeed may be taken as a quite typical example of the trouble described under this questionable title. In the present instance the patient was treated by operation and the whole of the bowel below the transverse colon removed together with the anus. The child made an easy recovery. The examination of the bowel, however, made it evident that the distension was not "idiopathic" but was due to a congenital narrowing, regular and uniform in degree, of the lower end of the colon. Indeed, the rectum and sigmoid flexure were found to be defective in length and to be represented by a narrow and contracted tube of uniform calibre.

On turning to the recorded cases one finds that such a condition has been noticed as a congenital defect in other parts of the intestine and the narrowing has been found to involve now and then a considerable extent of bowel.

Dodd,[4] for example, gives an account of a male infant who lived for twelve weeks suffering all that time from much intestinal distress. The necropsy showed that the ascending and transverse parts of the colon were throughout but little larger than an ordinary lead pencil. In another instance Atkin[5] discovered the rectum and colon of a child who lived for two days to be no larger than an ordinary quill.

On reviewing the recorded cases of "idiopathic dilatation of the colon" in children the following particulars call for attention. Osler[6] narrates the histories of three cases occurring in young children. One was a boy, aged ten years, who was thin but who presented an enormous abdomen. He had attacks of abdominal pain with vomiting. Peristaltic movements were visible through the parietes. Frequent washing out of the bowel with a long tube led to some slight relief. Laparotomy had to be performed. There was no stricture; the sigmoid flexure was 18 in. in circumference; the cæcum was half this size and the bowel progressively increased in size from the cæcum to the sigmoid flexure. The distended bowel was folded upon itself, but not so as to cause any obstruction. An artificial anus was established. In another case a boy, aged three years, who had been troubled with constipation from birth, presented after death an enormously dilated colon which held fourteen pints of water. The greatest dilatation was about the sigmoid flexure. Death had been due to acute colitis. The third case was that of an infant, aged seven months, whose abdomen was much distended and whose bowels never acted unless an injection was given. If the injection was not administered daily the swelling of the abdomen increased and the child vomited.

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[1] Clifford Allbutt's System of Medicine, vol. iii., p. 968.

[2] Brit. Med. Jour., vol. i., 1885, p. 1085.

[3] Dr. Peacock's case—Transactions of the Pathological Society of London, vol. xxxiii.

[4] THE LANCET, June 11th, 1892, p. 1299.

[5] THE LANCET, Jan. 31st, 1885, p. 203.

[6] Archives of Pediatrics, 1893, p. 111.

Walker[7] records the case of a child who died from emaciation and exhaustion at the age of eleven years. Since a few weeks after birth enlargement of the abdomen had been noticed and this continued to increase as the child grew up. There was persisting constipation. At the necropsy the transverse and descending colon measured 23 in. in circumference and looked "like a large leg and thigh." The commencement of the cæcum and the distal end of the sigmoid flexure are described as normal. The diaphragm was so pushed upwards that its dome was only two and a half inches from the supra-sternal notch.

Formad[8] gives an account of a man, aged twenty-nine years, whose abdomen was so enormous that he was exhibited under the title of the "balloon man." The condition was congenital and death was due to sudden syncope. The colon was as large as that of an ox. Marked constipation had been the symptom during life.

Rolleston and Haward[9] record the case of a boy, aged twelve years, who had suffered from distension of the abdomen and very troublesome constipation since he was two months old. On one occasion the bowels had not acted for nine weeks. The boy when seen was much emaciated, the abdomen was of enormous size, and through the thinned parietes peristaltic movements could be seen. The abdomen was in all parts tympanitic. He had repeated obstructive attacks and in one of these he died. The colon was found at the necropsy to be of enormous size. The distension mainly concerned the descending colon and sigmoid flexure. The rectum is said to have been of normal size. The colon was much hypertrophied. Rolleston and Haward refer in their paper to certain other cases of "congenital idiopathic dilatation of the colon."

Instances of early death—within eighteen months of birth—in cases associated with extreme dilatation of the colon are given by Hirshsprung[10] and Oestreich.[11]

All these cases have certain very striking features in common. Distension of the colon and obstinate constipation have been noticed practically from birth; the distension has been extreme and has mainly involved the lower sections of the colon; the wall of the dilated bowel has been greatly hypertrophied; movements of the hypertrophied coil have been visible through the parietes; relief of the bowel has been effected almost solely by enemata. Certain secondary conditions, such as catarrh and ulceration of the distended gut, with possible tearing of its walls in extreme cases, have been noted. All the cases, except perhaps one in which an artificial anus was established, appear to have ended fatally. The general circumstances of these cases do not seem to be consistent with the idea of an "idiopathic dilatation of the colon." The very prominent feature in every example of the trouble has been some obstruction in the lower part of the large intestine. The conditions presented are not comparable with those met with in idiopathic dilatation of other parts of the alimentary canal to which attention has been directed. In the case which is here reported there was a distinct, even, and extensive congenital narrowing of the lower extremity of the colon. The symptoms produced were most typical and entirely agreed with those detailed in the reported examples.

I venture to think that there is strong evidence to support the suggestion that all cases of "idiopathic dilatation of the colon" in young children are due to congenital defects in the terminal part of the bowel, that there is in these cases an actual mechanical obstruction and that the dilatation of the bowel is not idiopathic. The marked hypertrophy of the distended gut suggests in the most emphatic way that there is an obstruction to be overcome and such hypertrophy is quite inconsistent with the conception of an "idiopathic" dilatation of the bowel. I am not aware of a previous instance of the treatment of this condition by a radical operation.

An illustrative case.—A little girl, aged five years and nine months, was brought to me on Jan. 5th, 1897. She was the daughter of perfectly healthy parents, was living in a country district under favourable conditions and had been all her life the subject of the most anxious and careful attention. She was suffering from severe constipation which was becoming almost insurmountable and which was attended by frequent attacks of intestinal obstruction. The child was frail and delicate looking, her face was pallid and she was thin almost to emaciation. The abdomen was of enormous size and was distended like a balloon. It was everywhere uniformly tympanitic and exhibited precisely the condition described under the title of idiopathic dilatation of the colon. Through the thinned parietes an enormous coil of intestine, evidently colon, could be seen. It appeared to occupy almost the whole abdominal cavity. It was the seat of certain visible peristaltic movements which, however, were occasional only. The tongue was foul and the breath was offensive. The appetite was excellent. The bowels never acted naturally and a motion was only obtained by passing a rigid tube some ten inches beyond the anus and then administering an enema. There was considerable pain in the abdomen. The anus was very small and a digital examination without an anæsthetic was quite impossible.

The history given was as follows. The child was born in March, 1891. Two days after birth vomiting commenced and continued off and on for several days, the bowels ceased to act and some distension of the abdomen became evident. Aperient medicine had no effect and relief was ultimately obtained by enemata. Like attacks, marked by vomiting, absolute constipation and distension of the abdomen, occurred in July, August, and September of the same year. At the end of 1891 there was a very severe attack, in which the patient's life seems to have been in danger. The distension of the abdomen became excessive and permanent, the bowels only acted after enemata and when enemata failed vomiting and increased distension appeared until relief was obtained. Aperient medicines proved to be valueless and were finally quite abandoned. Massage and other measures were tried but without effect. In August, 1894, relief of the bowel was attempted by means of enemata given through a long rigid tube passed some ten inches into the bowel. This measure was so successful that for ten months the child had only two or three obstructive attacks although the distension of the abdomen persisted and remained very considerable. In July and November, 1895, there were severe and alarming attacks of intestinal obstruction which finally yielded to enemata by means of the long tube. Up to this time there had been comparatively little complaint of abdominal pain. In 1896 the child began to suffer from cramping pains in the abdomen which increased in severity as time went on and which were evidently due to disorderly peristaltic movements in the now much hypertrophied bowel. Gurgling and bubbling sounds could be heard in the abdomen and sounds as of the dropping of water. The attacks of obstruction became more frequent and were of longer duration. The distension of the abdomen became enormous and when the distension was at its maximum the child was unable to move. Enemata, no matter how administered, were now losing their effect, no aperients could be tolerated, and the condition of the child when she came under my notice was certainly very deplorable.

I performed laparotomy on Jan. 13th, 1897, opening the abdomen in the median line below the umbilicus. There immediately presented a gigantic coil of colon which looked and felt like the adult stomach and which appeared to fill up the whole of the abdomen. This coil was at once emptied of its gas through a small incision. The wall of this intestine was smooth and much thickened by hypertrophy and the actual diameter of the collapsed loop was eight inches. It was this coil which had practically alone caused the distension of the abdomen. Further examination showed that the lower part of the bowel corresponding to the rectum and sigmoid flexure was represented by a straight solid-looking tube about the size of an adult's forefinger and some eight or nine inches in length. This tube was without sacculation and its longitudinal muscular coat was very marked. It was of uniform diameter. It was provided throughout with a short meso-colon. There was scarcely a trace of fat within the abdomen and as a result the blood-vessels of the intestine were easily identified. The left colic artery, much increased in size, went to the dilated loop of the colon, while the sigmoid branch of the inferior mesenteric artery ran to the narrowed tube below the dilatation. The junction between the dilated gut and the narrow tube was quite abrupt. I enlarged the little opening I had made into the colon and introduced the finger to examine the interior of the great pouch. Its walls were smooth and a flap-like fold of mucous membrane occupied the orifice that led into the narrow tube. This opening readily took the forefinger. The fold of mucous membrane may have contributed to certain of the obstructive attacks and may explain the retention of certain enemata. In examining the parts, however, it appeared more probable that the attacks of obstruction would be due to bending or kinking of the bowel at the point where the tube and the great sac joined. The length of the narrowed part of the bowel corresponded to the length of tube which experience had shown was necessary to produce any emptying of the great pouch. The even contraction of the lower part of the bowel may have been in some degree due to the constant use of this tube. I passed a gum-elastic tube of large calibre through the anus and along the narrowed rectum well into the interior of the dilated bowel. The tube measured twelve inches. I had some hope that if it would be kept in position for some time the distension would be relieved and a more normal action of the bowels would be possible. I closed the opening I had made into the descending colon, but brought the suture line into the centre of the parietal wound so that an artificial anus could be established at any moment. This fixing of the bowel would, I hoped, tend to prevent it from becoming kinked or bent. The wound in the parietes was then closed in all but its central parts.

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[7] Brit. Med. Jour., vol. ii., 1893, p. 230.

[8] Annals of the Universal Medical Sciences, vol. i., 1893.

[9] Transactions of the Clinical Society of London, vol. xxix., p. 201.

[10] Annals of the Universal Medical Sciences, vol. i., 1893.

[11] Berliner Klinische Wochenschrift, 1893, p. 852.

For some days the abdomen remained free from distension and the child from pain. Some fæcal matter was passed, but in due course the tube became blocked and could not be freed; another tube could not be properly introduced, the child felt the worry of a foreign body in the bowel, and at the end of seven days the use of the tube was abandoned and an artificial anus established in the centre of the median wound. Through this artificial opening all the motions were passed for the next nine months. Practically nothing came by the rectum. The distension was relieved and the child was free from the continued spasmodic pains. There was, however, some difficulty in keeping the artificial anus open, as there always is with such openings when made as the present one was made. This necessitated the introduction for so many hours each day of a bent rubber tube which kept the orifice quite patent but which occasioned the child a good deal of distress. In October, 1897, I resolved to attempt the excision of the colon from the splenic flexure to the anus, as this appeared to afford the only possible prospect of giving complete relief to what was still a distressing condition.

The second operation was performed on Oct. 29th. By means of an elliptical incision in the skin I isolated and removed the artificial anus, entering the abdomen on each side of the opening. The orifice in the colon I closed by a series of substantial sutures. I found that the gut, which had at one time been so enormously distended, was now of more moderate dimensions, and its point of juncture with the narrow tube which represented the lower part of the colon was still abrupt. The narrowed tube had shortened somewhat as the result of removing the distension. The dilatation of the colon extended up to the splenic flexure. Beyond that point the colon was practically normal, although it had evidently been to some degree distended and still showed some hypertrophy of its walls. The colon on the right side was normal and the whole of the greater bowel had a very free meso-colon. Having found that I could bring the left extremity of the transverse colon to the anus I isolated and ligatured the left colic artery and having clamped the bowel divided it at the splenic flexure. I then isolated the sigmoid artery and the superior hæmorrhoidal vessels and ligatured them. The absence of fat in the retro-peritoneal tissue rendered this proceeding very simple. At the same time I ascertained that the distribution of the middle and right colic arteries was normal. I then excised the gut representing the descending colon, the sigmoid flexure, and the upper part of the rectum. I divided the bowel low down in the pelvis below the entrance of the superior hæmorrhoidal artery. A few bleeding points made manifest by the excision required ligatures. The child was now placed in the lithotomy position and having made an elliptical incision around the evidently narrowed anus I proceded to remove the anus together with the lower and remaining portion of the rectum. The separation of the rectum from the slender vagina was a somewhat tedious matter. The middle hæmorrhoidal vessels were secured and the lower end of the rectum removed without difficulty. I returned to the abdominal cavity and brought the transverse colon down to the anus where I secured it by a series of close sutures. The gut was conducted into position by four pressure forceps which were passed into the abdomen through the hole in the perineum. The operation was concluded by closing the wound in the abdomen without drainage.

The child made a speedy and excellent recovery. No sedative of any kind was needed as little pain was complained of. She was once sick. The only complication was represented by some suppuration between the new rectum and the vagina. This was no doubt due to accidental infection of the tissues while drawing the transverse colon into place. As soon as the child began to run about again this discharge ceased entirely. It is probably safe to conclude that the patient will in due course obtain control over the new anus. Be that as it may it was clear that the condition previous to the second operation was not consistent with other than a very short life.

It is quite clear that in this particular instance the dilatation of the colon was due to a congenital narrowing of the lower extremity of the bowel as represented by the segment supplied by the inferior mesenteric artery. This narrowed part exhibited no structural change. The specimen is in the Museum of the Royal College of Surgeons of England. Little idea of the immense degree of dilatation of the colon can be gathered from the preparation as it now appears. The junction of the narrowed portion with the dilated part is not so abrupt as it appeared to be before the intestine was removed. At this point of junction there is no mechanical obstruction and no disease of either mucous or muscular coats. In mounting the preparation the structures which formed the anus have been removed.

Wimpole-street, W.

A CASE OF COMPLETE REMOVAL OF A MULTILOCULAR CYST OF THE PANCREAS; RECOVERY.[1]

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I WAS asked by Mr. Manley Sims to see the subject of the following notes on Oct. 5th, 1897. The patient, a married woman, forty-five years of age, had first noticed a swelling in the abdomen about seven months earlier, her attention having been drawn to the part by a slight tenderness. She stated that the swelling had grown very rapidly. By palpation with one hand behind and the other over the front of the abdomen the growth was easily felt in the left loin. It appeared to be from five to six inches in diameter and of a more or less uniformly rounded shape. Its greatest bulk was below the costal margin, but it was freely moveable and could be pushed with particular ease upwards and backwards until about three-fourths of it were overlapped by the ribs. The percussion note over the upper part of the anterior and outer aspects of the growth was dull, over the lower and inner parts the note was resonant. The percussion note was slightly duller over the ordinary position of the spleen than over the neighbouring lung tissues, this impaired resonance being quite separate from the abnormal dulness over the tumour in the abdomen. The right kidney was palpable and appeared to be of normal size and somewhat moveable. The tumour had no connexion with the pelvis. Mr. Sims had repeatedly examined the urine and had invariably found it free from albumin and sugar. In all other respects the patient was perfectly healthy and there was no history of any injury. During her first pregnancy she suffered from severe eclampsia. The child lived, and two other children were born without trouble of any kind. The patient had lost flesh to some extent but she was very well nourished and had been doing her best to reduce her weight. The family history threw no light on the nature of the tumour.

I believed the growth to be renal. I thought it was solid, and I inclined to the opinion that it was a sarcoma. It was arranged that another consultation should take place a month or six weeks later, and that in the meantime the patient would not take violent exercise or expose herself to any avoidable risk of injury. The patient was also seen by Dr. Champneys and Mr. Frederick Treves with Mr. Sims, and early in November we all met in consultation. The tumour was not larger then; if anything, I thought it smaller and more mobile than before. It was much softer and there was little doubt that it contained fluid. The patient had increased in weight by four pounds. I at once gave up the diagnosis of sarcoma, and we all agreed that the growth was most probably a hydronephrosis, although it was remarked that the diagnosis was not absolutely certain and that the possibility of the tumour being a neoplasm was an additional reason for recommending operative treatment. I have to thank my fellow consultants for allowing me to mention their names in connexion with this case; that we should all four have been at fault is sufficient evidence of the difficulty of making a correct diagnosis. On the assumption, then, that we had to deal with a hydronephrosis the risks of removal of the kidney and the risks of leaving it alone were placed before the patient and her friends, and it was decided that it should be removed.

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[1] A paper read before the Medical Society of London on Dec. 13th, 1897.

On Nov. 9th, in the presence of Mr. Manley Sims, I opened the abdomen by a vertical incision about two inches to the left of the middle line and ascertained that the right kidney was of normal shape, size, and consistence, quite smooth on its surface, and slightly more mobile than usual. The tumour was larger than I had supposed and more irregular in outline. The transverse colon lay in front of it. Above the colon the tumour was covered by peritoneum and connective tissue. In cutting down on the growth I seemed to divide one layer of peritoneum only. Apparently the tumour presented itself outside—i.e., to the left of—the lesser sac of the peritoneum. The kidney was afterwards found immediately behind the cyst and the lesser sac of the peritoneum was not opened. A very thin-walled and obviously multilocular cyst was exposed, some of the loculi being of a deep venous blue colour and others almost white. The tumour had more the appearance of one of those rare congenital cystic degenerations of the kidney than anything else I had seen in this part of the abdomen. After enucleating the anterior part of the growth I aspirated and drew off about three-quarters of a pint of dark porter-like fluid and on pushing the cannula into another cyst a few ounces of opaque, straw-coloured, almost white fluid were extracted. Having secured the puncture opening made by the trocar, I enucleated the tumour until I was able to bring the bulk of it outside the abdominal walls. The smooth surfaces of the cysts were easily shelled out of the connective tissue, but the lines of union of the cyst were firmly adherent and had to be separated by scissors. In enucleating the base of the growth I noticed that the tail of the pancreas was closely adherent to its inner surface. As in the case operated on by De Wildt and referred to by Mr. Doran[2] it was only when the pancreas was seen that the true nature of the tumour was discovered, De Wildt's case having also been mistaken for a hydronephrosis. As the tumour was very multilocular and appeared to have solid portions in it which, however, afterwards proved to be small cysts, and as its growth seemed to have been rapid, I thought it was probably of a malignant nature, and I considered it wiser to remove the tumour, if possible, than to drain it, especially as the exposed pancreatic tissue appeared to be quite healthy. The tail of the pancreas to the extent of about two inches was intimately connected with the tumour, but part of the attachment was by connective tissue only. The growth had developed from the upper and posterior surface of the pancreas and a considerable portion of the cystoma had still to be enucleated from the back of the loin pouch. During the necessary manipulation a cyst burst in the deepest part of the growth and several ounces of dark-coloured fluid escaped. This was caught in my hand or in sponges by my assistant, Dr. Andrew Elliot, so that very little, if any, soiled the tissues. The posterior part of the attachment to the pancreas was so intimate that the pancreatic tissue had to be divided in order to get the tumour away. There was no pedicle, but when the connective tissue union between the gland and the tumour was separated by making traction on the latter the pancreatic tissue was drawn forward so as to form a kind of cone and through it I passed a double ligature. The two ligatures were carefully interlocked and tied, one on each side of the transfixed piece of tissue. The growth was then cut away and I noticed a very large vessel about the size of the radial artery in the tied portion of pancreatic tissue. Numerous ligatures of fine silk were applied to the divided attachments of the cysts which had been temporarily secured by pressure forceps. When all hæmorrhage appeared to be arrested the parts were allowed to drop into their proper position at the back of the abdomen and it was then immediately obvious that there was very free hæmorrhage. This was at once arrested when the parts were again drawn forwards, the traction being sufficient to occlude the vessels. Obviously it was not wise to transfix and tie large pieces of tissue and for a short time I feared I should fail altogether to stop the bleeding. It was with the greatest difficulty that I managed to see the parts in a sufficiently relaxed condition to discover and secure an artery in the pancreatic tissue which spouted freely close to the portion tied by transfixion. The securing of this vessel reduced the hæmorrhage, but some oozing continued until, with a needle on a handle, I passed a continuous suture over another portion of raw pancreatic tissue from which the oozing seemed to come. By these means the bleeding was arrested so thoroughly that when I had inserted the sutures in the abdominal wall and had ascertained that the spleen and left kidney were present and apparently normal the divided tissues were still very dry. I therefore closed the abdominal cavity without drainage. I carefully noted that in case there should be evidence of an accumulation of any kind in the course of convalescence it would be very easy to drain the cavity from which the tumour had been removed through the back of the loin close to the twelfth rib.

During the first forty-eight hours after the operation the patient had a good deal of discomfort from flatulence and towards the end of the first week she seemed more feeble than patients who have undergone an abdominal section usually are. The highest temperature was 102° F., recorded on the second night after the operation, and it was never above 100° after the eighth day. After the third week the temperature was normal. The highest pulse was 106, recorded the night after the operation. The urine passed in the first sixteen hours contained albumin, more in the first specimen than later. Since then the urine has been free from albumin. Sugar has not been detected in the urine and there have been no signs of diabetes. There has been at times some tenderness in the situation of the tail of the pancreas which has been aggravated by the administration of food and relieved by antispasmodics. Otherwise convalescence has been uninterrupted. Mr. Shattock has kindly sent me the following description of the tumour, in which he finds "no evidence of malignancy": "A thin-walled cyst which was removed from the pancreas; it measures about six inches in its chief diameter and is multilocular. Some of the larger compartments communicate with certain of the lesser by circular, sharply-defined apertures, due probably to atrophy of the intervening partitions. The interior of many of the cavities is blood-stained from hæmorrhage. During the operation much of the fluid was withdrawn by aspiration from two of the chief loculi; that from one was quite clear, that from the other blood-stained. The somewhat ropy, dull-brown mixture of the two was found to be strongly amylolytic when tested on starch solution."

This case illustrates very well some of the features of pancreatic cysts. As in many of the others on record the nature of the tumour was not recognised before the operation. Indeed, it seems to me that a positive diagnosis could only have been made by withdrawing some of the fluid and examining it. This proceeding should never be resorted to except in cases in which an exploratory operation is not permissible on account of the debility of the patient. To put a trocar into an abdominal tumour of unknown nature may lead to dangerous hæmorrhage or to the escape of fluid into the peritoneal cavity, with the possibility that the escaping fluid may be intensely irritating. An exploratory puncture may also lead to the diffusion of septic matter or of malignant disease previously encapsuled, and there is in addition the risk of injury to important structures. In the case of pancreatic cysts, for instance, the stomach and colon have been found so flattened on the front of the tumour as to give a dull note on percussion and the stomach has actually been perforated in aspirating one of these cysts. Any one of these dangers is of sufficient importance to outweigh all the advantages to be gained by puncture and to determine a decision in favour of performing an exploratory operation except under the most exceptional circumstances. Moreover, in the case I have related there is a strong probability that if a certain diagnosis of pancreatic cyst had been made by an exploratory puncture or by other means drainage through the loin might have been considered the proper treatment and it is fairly certain that drainage would have done no real good in the case of a tumour with so many loculi. The error in diagnosis may therefore be looked upon as a fortunate circumstance in this case. I think there can be no doubt that when a pancreatic cyst has been diagnosed and drainage has been decided on the opening into the cyst should be made from the loin if the tumour presents in that position on either side. But the diagnosis should first be verified by abdominal section. Drainage through the loin is easy and as the cyst contracts it naturally falls backwards and closes on the opening, whereas if the cyst be attached to the lips of an incision in the anterior abdominal wall and drained thus it must form a long, and perhaps a funnel-shaped tube across the abdomen, difficult to drain and possibly a source of other troubles as it contracts. Some of the drained cases are reported as being cured in a few weeks; but others have taken a very long time to heal or a permanent sinus has been left, and in one case[3] malignant disease developed around the orifice of the sinus.

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[2] A paper read before the Medical Society of London on Dec. 13th, 1897. See THE LANCET of Dec. 18th, 1897, p. 1591.

A characteristic feature of these tumours is the liability to hæmorrhage into them. Before I saw the case just related the patient had been taking much exercise on horseback and the character of the fluid in the cysts showed clearly that hæmorrhage had taken place into some of the loculi. There can hardly be a doubt that the rapid increase in the size of the tumour was due to repeated hæmorrhages and that the extreme tenseness of the cyst at my first examination which made me think it was a solid growth was caused by a recent escape of blood. Pancreatic cysts have very frequently been associated with injuries, and it has been supposed that they are retention cysts caused by obstruction of a duct from inflammatory contraction of its walls. But Senn showed that very little dilatation followed experimental obliteration of the duct and that a part of the gland physiologically separated from the main duct underwent simple atrophy. He and Cathcart have suggested that these cysts are due to rupture of the tissue of the gland, the formation of an adventitious membrane and the continued escape of blood and pancreatic secretions into the cyst thus formed. It is difficult to imagine how such a tumour as that which I removed could have formed in either of these ways. The existence of many loculi in the growth and the fact that some of the smaller loculi grew from the inside of the wall of larger ones are I think inconsistent with either of these modes of development. It seems to me that the tumour which I show, and which I have presented to the museum of the Royal College of Surgeons of England, is a true neoplasm.

Another question is suggested by the consideration of these cases. If pancreatic cysts are caused by an accidental laceration of pancreatic tissue followed by the effusion of blood and pancreatic secretions into an adventitous sac there must be some risk that a surgical wound of the organ may also give rise to a cystic development. It seems to me, therefore, that a patient should be cautioned particularly to avoid exertion and excitement for a prolonged period after the pancreas has been wounded during an operation. A recognition of the possibility of such a development might lead to a favourable prognosis if there should appear to be a recurrence of a pancreatic cystic growth which had been removed. Simple drainage would be the obvious treatment, and it is a question whether it would not be wise in all cases to drain the wound after such an operation as I have described.

This case is the only one of pancreatic cyst that I have seen with the exception of that related by Mr. Doran. His report and the reports of similar cases indicate that in many instances the complete removal of such cysts is quite impossible. Moreover, single cysts have frequently been cured by drainage. Obviously it would not be right under these circumstances to attempt to enucleate every pancreatic cyst, and it seems to me that those which are directly due to injuries must be specially unsuitable for complete removal. When the tumour is multilocular, however, and when it is connected with the pancreas by a comparatively small surface, it would appear to be proper treatment to effect a complete excision. In each case the decision as to which course to adopt should be reserved until the abdomen is opened. There can be little doubt that as my patient has recovered from the operation, complete removal of the tumour in her case was more satisfactory than a partial excision with drainage would have been. In a debilitated patient, on the other hand, an operation of this kind would be a very dangerous and probably an unjustifiable one.

These cysts are very rare. Dr. Hale White has recorded[4] that in the years 1883 to 1894, both inclusive, nearly 6000 post-mortem examinations were made at Guy's Hospital and that pancreatic cysts were found in only four cases. One of these was a case of hydatids, so that there was only about one case of pancreatic cyst in every 2000 necropsies. My colleague, Mr. Doran, has given us a most interesting *résumé* of the published records of cysts of the pancreas which have been treated by operation.[5] He tells me that he has found some 112 cases and that the tumours were completely removed in about a dozen only of these, the others being drained. The exact number of complete excisions is uncertain because in one or two instances the report does not state definitely whether the removal was complete or partial. My case seems to be the second case reported of complete removal of one of these cysts in this country, Mr. Clutton's in the St. Thomas's Hospital Reports, 1893, being the first. Most of the recorded cases of complete removal have recovered, but the operation hardly seems so safe as might be inferred from this fact. Trouble in arresting hæmorrhage has been met with frequently, and my case is interesting as showing that although I had very serious cause for anxiety on this score all hæmorrhage from the divided pancreatic tissue was completely arrested. The chief difficulty was to see and manipulate the parts—a difficulty which I have frequently encountered in dealing with hæmorrhage in the pelvis.

My friend Dr. Malcolm Mackintosh has made an interesting report[6] which indicates one termination of such a case as that I have related when the tumour is not treated surgically. The case was one of severe illness, commencing suddenly almost immediately after the patient, an apparently healthy man, had lifted a heavy sack. Symptoms began with "pain at the lower border of the ribs on the left side in the line of the nipple." This was followed by fever (102° F.), dyspnœa, dulness of the base of the left lung, distant respiratory murmur, diminished vocal fremitus and resonance, with slight cough and scanty expectoration. A coarse crepitus was heard over the whole of the dull area at the end of inspiration. After three weeks in bed the man got well and resumed work. During the illness there was no condition pointing to the necessity for examining the urine for the presence of sugar, and this was not done. Five months later the patient was seized with headache, backache, and pain in the left loin, with a temperature of 102° F. and a feeble pulse beating 120 to the minute. Four days later the whole of the base of the left lung both in front and behind was dull on percussion and the apex beat was displaced to the right of the sternum. The presence of fluid in the pleura was diagnosed. Next day sugar was found in the urine, and for four days from 140 to 200 ounces of urine loaded with sugar were passed in the twenty-four hours. The upper part of the abdomen could not be satisfactorily palpated owing to distension of the hollow viscera. On the twelfth day of the illness fifteen ounces of odourless, reddish-brown fluid were removed from the left pleural cavity, but without relief, and the patient died two days later. The post-mortem examination showed recent pleuritic adhesions over the base of the left lung. The whole of the organs occupying the left half of the abdomen were matted together by old strong adhesions. Below and behind the spleen a large fluctuating mass was discovered "containing about two pints of thin, sticky, slimy-looking fluid, none of which, unfortunately, was preserved for examination. The cyst was multilocular. ...... The pancreas was almost entirely destroyed, the only trace of it that could be found being a small piece of pancreatic tissue in the upper and posterior part of the wall of the cyst." The other organs appeared healthy. Dr. Mackintosh inclined to the belief that "a previously existing pancreatic cyst had taken on inflammatory action which spread to the tissues in the vicinity."

The fluid in some of these cysts is very irritating. Dr. Churton recorded[7] that although "the finest needle of a small exploring syringe" was used in aspirating a pancreatic cyst "a circumscribed peritonitis appeared to result" from the puncture. Mr. Cathcart[8] used a hypodermic syringe to explore one of these cysts, and almost immediately the contents of the tumour flooded the peritoneal sac, giving rise to intense pain. In my case, the cyst walls were very thin, and a blow might easily have caused a rupture and effusion of the contents into the connective tissue around, followed by inflammatory symptoms, possibly of an obscure or misleading character, like those in the case I have just quoted. Under such conditions a correct diagnosis could be made only by an exploration of the abdominal cavity, and this was certainly not justified under the circumstances described by Dr. Mackintosh.

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[3] THE LANCET, Aug. 8th, 1891, p. 291.

[4] THE LANCET, Dec. 26th, 1896, p. 1805.

[5] Brit. Med. Jour., Dec. 18th, 1897, p. 1779.

[6] THE LANCET, Oct. 24th, 1896, p. 1149.

[7] Transactions of the Clinical Society of London, vol. xxvii., p. 246.

[8] Edinburgh Medical Journal, 1890, p. 17.

The possibility that a tumour may be a pancreatic cyst would therefore appear to be a special reason for carefully considering whether it is practicable to cure it by surgical means and for making an exploratory incision at an early stage of the disease in cases of doubt.

Portman-street, W.

ON REST, SLEEP, AND WORK AND THE CONCOMITANT CHANGES IN THE CIRCULATION OF THE BLOOD.

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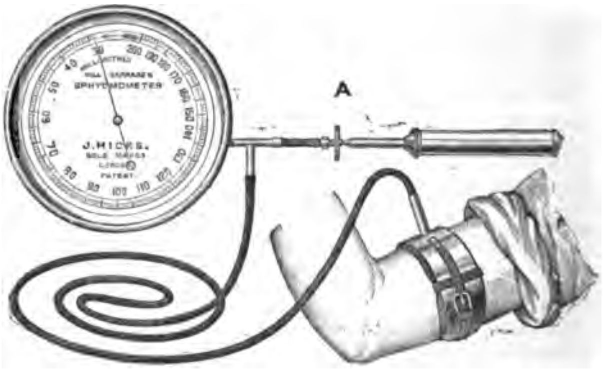
IN a recent number of the *Journal of Experimental Medicine* Howell[1] has published some plethysmographic tracings. These tracings are of great interest since they were taken continuously during the whole period of a night's sleep. Preparing for the ordeal and to ensure the certainty of sleep overtaking him by previous late hours and hard muscular work he succeeded, in spite of the discomfort caused by enclosing his arm in the plethysmograph, in sleeping for some five hours. The tracings show that the arm expanded as sleep supervened reached the maximum of expansion in the course of the first hour or so and remained expanded throughout the whole period of sound sleep. It was only when the waking state was near that constriction of the limb became again evident. If, however, the awakening was partial and the professor, after a period of drowsiness, sank once more into sleep constriction failed to appear and the arm remained expanded. These experiments, confirming the previous records of Mosso,[2] prove that there is during sleep a determination of blood into the limbs. Taken in conjunction with the observations of Kennedy,[3] Durham,[4] Hughlings Jackson,[5] Mosso, Hutchinson and Elder,[6] and others on the cerebral circulation they support the conclusion that sleep is associated with a condition of cerebral anæmia. In children "during sleep the mean intracranial tension seems to be lessened, the fontanelle sinks and its pulse-wave is small." In adults with defects of the cranial wall the same observations have been repeatedly made. The pia mater and fundus oculi exhibit enlargement of the veins, arterial and capillary anæmia. Moreover, abundant evidence exists derived from experimental observations, which prove that sleep in animals is associated with cerebral anæmia. Tarchanoff's[7] experiments on puppies may be specially mentioned. After trepanning the cranium he observed the condition of the pia mater both in the waking and sleeping state. Tarchanoff estimates that the arterial pressure in dogs falls from 30 to 50 mm. Hg during sleep. Regarding these well-established and striking facts Howell, like many others, is inclined to believe that sleep is caused primarily by the diminution of cerebral blood-supply which results from the relaxation of tone in the vaso-motor centre and the consequent fall of the arterial pressure. Fatigue of the vaso-motor centre is supposed to be induced by the constant in-streaming of sensory impulses during the day's activity. These impulses produce reflex pressor effects and keep up a constant excitement of the centre. When the centre is exhausted the tone of the blood-vessels relaxes, the arterial pressure falls, the brain becomes anæmic, and sleep ensues. I myself[8] have maintained somewhat of a similar view. In my book on "The Cerebral Circulation" it is stated that "the vaso-motor centre is the hub around which turns the wheels of a man's active mental life." I have shown that if the compensatory effect of the vaso-motor tone be deficient the blood is determined under the influence of gravity to the dependent parts and the circulation through the brain becomes in the erect posture deficient. My opinions were strengthened by those of George Oliver,[9] who from the results of arteriometer measurements has concluded that the diameter of the radial artery is markedly diminished in the erect posture during fatigue.

Unfortunately the readings of the arteriometer are, as H. Barnard, J. H. Sequeira, and I[10] have recently demonstrated, somewhat vitiated by the amount of distension of the venæ comites arteriæ radialis. If these veins be congested they may become larger than the radial artery. In such case the instrument does not give the true diameter of the artery. To gain further insight into this question I have been recently studying the effect of rest, sleep, and work on the arterial pressure. The observations have been made on healthy children and young adults by means of the Hill-Barnard sphygmometer. This instrument records with accuracy and is extremely simple and easy to use. By its means I have recorded my own arterial pressure hour by hour and from day to day. The instrument consists of: (1) a leathern armlet inside which is fastened a flaccid rubber bag; (2) a force-pump provided with an escape valve (A); and (3) a pressure gauge graduated in millimetres of mercury. In using the instrument the method is as follows: (1) the armlet is strapped firmly round the upper arm; the rubber bag is thus brought into close contact with the skin; (2) the exit tube of the rubber bag is connected by means of a T-tube with the pump and the pressure gauge; and (3) the pressure is raised within the rubber bag and gauge by means of the pump until the point is found where the index of the gauge exhibits the maximal cardiac pulsation. This point indicates the mean arterial tension. In taking the observations the right arm should be used as it gives the larger pulsation since in right-handed people the right brachial artery is the larger. The arm should be placed in a passive, half-extended position with the armlet in the same horizontal plane as the heart. The latter precaution is essential to avoid the hydrostatic effect of gravity which would otherwise introduce error into a series of comparative readings. When the mean pressure within and without the brachial artery is the same the wall of the artery is at the systole and diastole of the heart able to oscillate with the greatest freedom. Thus, theoretically, the maximal oscillation is an accurate index of the mean arterial tension. It is proved to be so by simultaneous records of arterial pressure being taken in the dog by means of the sphygmometer on the one hand and the mercurial manometer on the other hand. The instrument can in adults be applied, but not so well, to the leg just above the ankle or in children round the thigh. It is easy to determine by observations taken in subjects in the sitting position, both from the ankle and from the upper arm, that the arterial pressure in the former place is higher than in the latter by the height of the hydrostatic column of blood which separates the two points. This is an excellent proof of the accuracy of the instrument. The records taken by the sphygmometer in the waking and sleeping states prove that in the latter condition the arterial pressure falls very



Hill-Barnard Sphygmometer.

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[1] Howell: Journal of Experimental Medicine, vol. ii., 1897, p. 313.

[2] Mosso: Ueber den Kreislauf im Gehirn, 1881; Die Temperatur des Gehirns, 1894.

[3] Kennedy: Dublin Journal of Medical Science, 1877.

[4] Durham: Guy's Hospital Reports, vol. vi., 1860, p. 149.

[5] Hughlings Jackson: Medical Times and Gazette, 1862.

[6] Hutchison and Elder: Edinburgh Hospital Reports, vol. iii., 1895, p. 280.

[7] Tarchanoff: Archives Italiennes de Biologie, tome xxi., 1894, p. 318.

[8] Cerebral Circulation, 1896, p. 148.

[9] George Oliver: Pulse Gauging, 1895, p. 15-32.

[10] L. Hill, Barnard, and Sequeira: Journal of Physiology, vol. xxi., 1897, p. 147.

decidedly. This is shown by the following typical result. At 11 A.M. when in full activity the pressure in one individual, when taken in the sitting posture, averages from 120 to 125 mm. Hg and the frequency of the heart beat 64. Asleep in bed at 11 P.M. the pressure averages from 90 to 95 mm. Hg and the pulse rate 60. At first sight it would appear that such result is confirmatory of the view that sleep is occasioned by cerebral anæmia, but on further examination it becomes evident that the fall of the arterial pressure is concomitant with sleep rather than that it is the cause of sleep. From personal observations made from hour to hour throughout the day it has become clear that the fall of arterial pressure is invariably associated with warmth and rest in the horizontal posture. Even in the sitting posture such a fall may occur given the conditions of rest and warmth. Moreover, when lying awake in the morning the fall of pressure is as great as when lying sleepy at night; that is to say, so long as the subject remains quiet and in the recumbent posture.

It is possible to sit working in the morning and to find one's pressure as low as it is registered to bo when sitting overcome with sleepiness in the evening. The following results taken from typical days bear out these statements:—

Example I.

Time.	Condition.	Position of body.	Arterial pressure.	Pulse-rate.
			mm. Hg.	
7.0 A.M.	Awake, warm in bed.	Horizontal	96	62
7.3 A.M.	Sitting out on side of bed.	Sitting	108–110	64
7.5 A.M.	After walking a few steps.	Sitting	115–120	64
7.30 A.M.	Dressed; sitting quiet.	Sitting	105	64
11·45 A.M.	Working by fire.	Sitting	103	64
8·45 P.M.	Resting by fire; sleepy.	Sitting	103	64
10.30 P.M.	Warm and drowsy in bed.	Horizontal	95	64

Example II.

9.30 P.M.	Awake in bed.	Horizontal	108	60
11.0 P.M.	Sound asleep.	Horizontal	105	—

The arterial pressure, like the pulse-rate, is more affected by muscular activity than by any other cause except perhaps by mental excitement. Tnat this is so is shown by the following observations:—

Example III., to indicate Result of Mental Excitement.

Time.	Condition.	Position of body.	Arterial pressure.	Pulse-rate.
			mm. Hg.	
1.30 P.M.	Before lunch; quiet.	Sitting	103–106	64
4.30 P.M.	Engaged in discussion and excited.	Sitting	130–140	84

Example IV., to illustrate Mental Quiet.

1.30 P.M.	Before lunch; quiet.	Sitting	103–105	64
4.45 P.M.	Quiet after mild exercise.	Sitting	103	74

Example V., to illustrate Mental Excitement.

8.40 P.M.	Reading an exciting book at a great rate.	itting	125	80

Example VI., to illustrate Mental Quiet.

8.50 P.M. (following day).	Resting; talking quietly; unexcited.	Sitting	108	64

Example VII., to illustrate Result of Muscular Activity.

11.0 A.M.	Reading; quiet.	Sitting	98	64
11.10 A.M.	After running 400 yards fast; panting.	Sitting	120–130	100
11.20 A.M.	Resting.	Sitting	110–115	100
11.30 A.M.	Resting	Sitting	100–103	96
12.30 P.M.	Resting.	Sitting	90–95	80

After a short period of mild exertion, such as is caused by the act of standing up or lying down, the pulse-rate is accelerated momentarily by 10 or 15 beats. It rapidly returns to its former rate on resuming a position of rest. After a period of severe exertion the pulse-rate, as is well known, takes an hour or more to return to its normal rate. Example VII. shows how rapidly the pressure returns to its normal level. In twenty minutes this was accomplished whilst the pulse-rate was still high. Ultimately, as is always the case after muscular exertion, the pressure reaches a level lower than normal. As regards the normal activity of a working day, records taken from observations upon myself show that my tension in the morning is usually from 120 to 130 mm. Hg, while on a holiday it averages from 105 to 110 mm. Hg. On returning home in the evening after a hard day's work my tension at 6 P.M. is from 130 to 140 mm. Hg, while at the same time on a holiday it is from 115 to 120 mm. Hg. In the case of a mechanic, whose pressure is normally when at work at about 4 in the afternoon about 130 mm. Hg, after working all day long in fog and gas and feeling nervously strained I found that his tension had risen to from 140 to 145 mm. Hg. While the fall of arterial pressure is always concomitant with sleep the feeling of mental or bodily strain seems to be as constantly accompanied by high tension. Records have been made both by Mr. Soltau[11] and myself on the arterial pressure in individuals at intervals of a few minutes while they slowly sank into sleep. My wife has made similar observations on myself. No change of arterial pressure occurs; that is to say, the pressure is as low while the subject lies quiet and warm as when fast asleep. This being so it is not possible to ascribe the causation of sleep directly to the fall of pressure.

It may be at this stage useful to summarise the facts which are known concerning sleep. 1. *Respiration.*—(*a*) The number remains unaltered per minute; the movement becomes shallow and thoracic in type. (*b*) The amount of inspired air per minute is lessened by from half to two-thirds. (A man awake in bed inspired 5 6 litres per minute; asleep 1·75 litres per minute.[12]) (*c*) The output of CO_2 is diminished by from half to two-thirds. (A man resting and on moderate diet has a day's output of 533 grammes and a night's output of 395 grammes. A man on moderate diet doing nine hours work has a day's output of 856 grammes and a night's output of 353 grammes.[13]) 2. *Circulation.*—(*a*) The blood congests in the limbs; (*b*) the venous system is engorged; (*c*) the arterial pressure falls; (*d*) the pulse-rate diminishes; and (*e*) the velocity of blood-flow decreases. 3. *Temperature.* The temperature falls during the night. The production of heat is estimated to diminish by from half to two-thirds. 4. *Nervous system.*—(*a*) The blood-flow through the brain is diminished; (*b*) the acidity of the cortex decreases; (*c*) the excitability of consciousness to external stimuli steadily decreases during the first one to two hours of sound sleep, after that period the excitability rapidly becomes almost as great as it is towards the end of sleep;[14] and (*d*) consciousness alone seems to be abrogated during sleep. The nerves and the special senses continue to transmit impulses and produce reflex movements. (Tarchanoff evoked reflexes from the lumbar cord of puppies as easily when asleep as awake. Any sense stimulus produces changes in the circulation of the sleeping man.)

It is obvious that the metabolism of the body is greatly reduced during sleep. This is only an extension of what happens during rest. From the recuperative effect of sleep it is clear that metabolism is greater than katabolism. In reference to these facts the more important mechanical theories which have been put forward concerning the origin of sleep may be examined.

1. *Chemical theories.*—(*a*) It has been held that sleep is owing to the collection of chemical fatigue products within the brain—e.g., lactic acid,[15] poisonous alkaloid substances[16]; and (*b*) that exhaustion of the store of intra-molecular oxygen is followed by sleep.[17] Consciousness has been supposed to depend on the atomic vibrations produced by the formation

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[11] I am indebted for some of the observations on arterial pressure during sleep to the kindness of Mr. Harold Barnard and Mr. A. B. Soltau.

[12] Mosso: Archiv für Physiologie, 1878, p. 448.

[13] Pettenkofer and Voit: Zeitschrift für Biologie, 1866, Band ii., S. 459. E. Smith: Philosophical Transactions, 1859, vol. cxlix., p. 715.

[14] Kohlschutter: Zeitschrift für Rat. Medicin, 1863, 1869.

[15] Preyer: Ueber die Ursache des Schlafes, 1897. Obersteiner: Allegemeine Zeitschrift für Psychologie, Band xxix., S. 224, 1872.

[16] Errera: Sur le Mécanisme du Sommeil, Bruxelles, 1895.

[17] Pflüger: Archiv für die gesammte Physiologie, Band x., S. 468, 1875.

of CO_2. Experiment fails to offer any support for these theories. Lactic acid when injected fails to produce sleep. It has been shown by Nabarro and myself[18] that the consumption of O and the production of CO_2 in the brain is as compared with that in the muscles very small.

2. *That sleep is due to cerebral anæmia.*—This theory, based on the analogy between sleep and the conditions of anæsthesia or coma produced by cerebral anæmia, has been most widely accepted. A dog may be rendered stupid and somnolent by ligaturing all the cerebral arteries[19] or by reducing the number of blood corpuscles to one-thirtieth of the normal—e.g., by bleeding and injecting serum in the place of blood withdrawn.[20] On the other hand, it has been shown in this paper by observations on arterial pressure that a fall of pressure is equally associated with bodily rest as with sleep. Howell himself found from the time he took up his position on the bed and attempted to sleep that the arm began to swell. Since the arterial pressure is as low when lying in bed in the waking state in the morning as in the sleepy state in the evening it is not just to ascribe the causation of sleep to the fall of arterial pressure. We might with as much reason ascribe sleep to the fall of temperature or to the diminution of the output of CO_2, both of which are equally concomitant either with rest or sleep. Moreover, the fall of pressure is by no means great enough to produce a state similar to that found on ligaturing the cerebral arteries. Normal sleep is neither coma nor syncope and the analogy between the three states is false. It must be borne in mind that the vaso-motor centre is made for the brain and not the brain for the vaso-motor centre. When the brain is excited to activity the arterial pressure is raised; when the brain is lulled to rest the arterial pressure falls. These changes in the circulation follow on the stimuli which arouse or soothe the brain, they are secondary to, not primary causes of, the cerebral activity. If the vaso-motor mechanism be damaged and the carotid arterial pressure is neither maintained during changes of posture nor does it respond to the needs of the brain, a pathological condition arises owing to the deficiency of the blood flowing through the brain. The cerebral circulation can, however, be enormously reduced before such a pathological condition is set up. Thus I have found frequently in dogs that no symptoms arise after ligaturing at one and the same time both carotid and both vertebral arteries. The collateral circulation through the anastomosis of the superior intercostal arteries with the anterior spinal artery has proved sufficient for the needs of the organ. Likewise in the monkey no symptoms arise after ligatures have been simultaneously applied to one carotid and one vertebral artery. It is of importance to remember that experimental and histological evidence has failed to demonstrate the existence of any cerebral vaso-motor nerves. It has been abundantly shown that the cerebral circulation passively follows every change in aortic and vena cava pressures.[21] Sleep cannot therefore be caused by any local constriction of the cerebral blood-vessels. More than this the application of a hot bottle to the feet, which is supposed to cause a determination of blood from the brain, is experimentally found to produce no noteworthy effect on the arterial pressure. Similarly cold compresses applied to the head prevent the onset of fatigue, but are experimentally found to produce no effect on the cerebral circulation.[22] The effects which result from these agencies are nervous and not vascular in origin. Similarly, no connexion is to be traced between the manifold cures for insomnia and the circulation. Thus insomnia may be equally well relieved by cold compresses to the head as by hot bottles to the feet. In most of us the horizontal position induces sleep, while others may when sitting up feel sleepy, but be cursed by insomnia the moment they betake themselves to bed. Babies are lulled to sleep by warmth—thus it is the habit of nurses to hold them, if wakeful, in front of the fire. Lord Monboddo, on the other hand, stripping himself naked, paced the room with the window open and then returned to his bed and to sleep.[23]

The expansion of the limbs during rest and sleep is to be ascribed to very simple causes. The return of blood from the veins is normally maintained by (1) the compressive action of the muscles; (2) the action of the respiratory pump; and (3) the constant change in the position of the limbs. Normally when the veins of a limb are examined they are found to be soft and not congested with blood. If, however, a limb be kept in one fixed posture the turgescence of the veins increases; this is markedly so if the limb be held for some minutes in the dependent position. In profound sleep the depth of the respiratory movement diminishes and the limbs remain flaccid and motionless; thus the venous return is impeded. At the same time owing to the cessation of external stimuli, the condition of warmth, and the horizontal posture the rate of the heart is lessened and vaso-dilatation occurs. As the waking state is neared the turgescence of the limbs is lessened owing to the increased tone of the muscles and to the restlessness of the sleeper. Each movement or deep respiration expresses the blood and produces a lessening in the volume of the arm. This is shown to be so by the examination of Howell's tracings. Since each movement of the body momentarily raises the vena cava pressure the brain is congested thereby, for the cerebral circulation passively follows every change in vena cava pressure. The flushing of the brain is secondary to the external stimuli which provoke the movements of the body, accelerate the heart, and increase the vaso-motor tone. At the same time these stimuli may awake the dormant consciousness. Carefully reviewing all the above facts we must, I think, conclude that the anæmia of the brain is caused by rest of the body and the cessation of powerful objective and subjective stimuli. It is the cessation of the latter that produces sleep.

It is to be remarked in reference to the analogy between the conditions of anæsthesia and sleep, which is often insisted upon, that while the administration of chloroform produces a pronounced fall of arterial pressure ether is followed by but a small fall and gas and oxygen by no fall whatever. Thus it is evident that it is not essential that the arterial pressure should fall in order to create a state of anæsthesia. These observations on anæsthesia have been taken by H. Barnard and myself by means of our sphygmometer.[24]

3. The remaining theories of sleep are based on histological evidence. It is held possible that the nerve-cell processes or dendrites are contractile and by pulling themselves apart break the association pathways and so sleep ensues.[25] In support of this we have the recent but not by any means fully substantiated observations that the dendrites are thrown into beaded contractions in morphia narcosis. These contractions are compared to those produced by anæsthetics on the pseudopodia of rhizopods.[26] Ramon y Cajal[27] holds, on the other hand, that the neuroglia cells are contractile and as sleep supervenes they expand so as to interpose their branches as insulating material between the association dendrites. Against these theories may be placed the fact that consciousness alone is abrogated in sleep. The sense organs and the nerves remain awake and reflex movements are executed. The somnambulist may walk, balance himself on a roof, or cross a plank with precision; soldiers may sleep on the march and postillions on horseback. It is clear, then, the association of those dendrites which are necessary for the reception of stimuli and the transmission of complicated movements cannot be broken. Nobody can locate consciousness to any particular group of nerve cells. All the theories of sleep are equally confronted with the fact that in order to induce sleep—and, indeed, to induce it easily—it is only necessary that there should be fatigue of a very limited kind. Over bodily or mental fatigue is, in fact, often antagonistic. "A pedestrian may for some hours in succession plod along the road and be guiltless of anything like consecutive thinking, or the mathematician may for the same period be engrossed by figures and symbols and have the minimum of muscular exercise; each has earned his rest, and to both sleep may be equally sound and refreshing, but in each the activity of a large part of the brain has been kept comparatively in abeyance. Yet this too must be put to rest during sleep; our lives otherwise would be a constant dream."[28]

Sleep can be produced by a repeated stimulation of one kind such as the sound of running water or the dull voice of a monotonous lecturer. It cannot be fatigue products that produce the sleep of the medical student at a 9 o'clock lecture. Children are lulled to sleep by rhythmical rocking or patting, by the monotonous cradle chant. Wordsworth in his sonnet tells how he endeavours to woo sleep by thinking of

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[18] L. Hill and Nabarro: Journal of Physiology, 1895, vol. xviii., p. 218.

[19] L. Hill: Cerebral Circulation, 1896, p. 137 et seq.

[20] Von Ott: Archiv für Physiologie, 1882, S. 123.

[21] L. Hill, loc. cit., p. 73 et seq.

[22] Ibid., loc. cit., p. 67.

[23] Boswell's Life of Johnson, Ed. Birkbeck Hill, iii., p. 168.

[24] L. Hill and Barnard: Brit. Med. Jour., 1897.

[25] Duval: Comptes Rendus de la Société de Biologie, 1895, p. 85.

[26] Demoor: Archives de Biologie, tome xiv., 1896. Verworn Allgemeine Physiologie, 1897, p. 382.

[27] Ramon y Cajal: Archiv für Anatomie, 1895.

[28] Cappie: The Intracranial Circulation, 1891.

> "A flock of sheep which leisurely pass by,
> One after one; the sound of rain, and bees
> Murmuring; the fall of rivers, winds, and seas,
> Smooth fields, white sheets of water, and pure sky."

On the other hand sleep is hindered by very slight external causes, such as change of bed, absence of habitual surroundings, presence of unusual slight noises. Not only the monotony of external stimuli but the absence of stimuli is powerful to provoke sleep; thus in Strumpel's[29] famous case a patient, an anæsthetic individual, was sent to sleep when his eye and ear, his two remaining sense organs, were closed. Further than this we seem to possess the power of putting the brain into compulsory abeyance. "Indians have a wonderful faculty of going to sleep. They seem to shut themselves up at will with a snap like slamming down the lid of a box with a spring and they are fast asleep in a second." Many men of great intellectual power possess this same faculty—noticeably we may quote Lord Brougham and Shelley. Other men, like Johannes Müller, have only to take up the recumbent position to immediately fall asleep. It seems then that consciousness can be abrogated either by a repetition of monotonous stimulation or by the voluntary withdrawal from stimuli, objective and subjective. In the dullard to produce sleep it is only necessary to either withdraw all external stimuli or to harp on one. On the other hand, the over-excitable intellectual man is kept awake not only by the intensity of the present but by the recollection of the past. He attempts to woo sleep not only by withdrawing from external stimuli, but by monotonously reviewing over and over again some one memory picture. Thus Southey records: "I listened to the river and to the ticking of my watch; I thought of all sleepy sounds and of all soporific things—the flow of water, the humming of bees, the motion of a boat, the waving of a field of corn, the nodding of a mandarin's head on the chimney piece, a horse in a mill, the opera, Mr. Humdrum's conversations, Mr. Proser's poems, Mr. Laxative's speeches, Mr. Lengthy's sermons. I tried the device of my own childhood and fancied that the bed rushed with me round and round. At length Morpheus reminded me of Dr. Torpedo's Divinity lectures, where the voice, the manner, the matter, even the very atmosphere and the streaming candle light were all alike soporific; when he who, by strong effort, lifted up his head and forced open the reluctant eyes never failed to see all around him asleep. Lettuces, cowslip wine, poppy syrup, mandragora, hop pillows, spider's web pills, and the whole tribe of narcotics, up to bhang and the black draught would have failed—but this was irresistible; and thus, twenty years after date, I found benefit from having attended the course." Our bed and bedroom and other habitual surroundings all impel us to sleep. The slightest change is sufficient to inhibit its onset. Howell could with difficulty fall asleep with his arm in the plethysmograph. I myself am effectually hindered by the strapping on the armlet of the sphygmometer. It is impossible to conceive that the monotonous repetition of a weak stimulus can either by exhausting intermolecular oxygen or by producing fatigue products within the brain produce sleep. It is equally difficult to believe that the influence of fatigue products if existent could be hindered by similar slight causes. At the same time there can be no doubt that fatigue does normally exhaust and predispose us for sleep. Moreover, fatigue must exhaust in some local way brain structure, for we daily fatigue ourselves by the contemplation of one subject and yet turn with fresh zeal to some entirely new form of mental activity. There is one fact that should not be lost sight of, that is the need of the bodily organs for rest. The heart, the respiration, the muscles of the eye, work on with greater activity whether we walk during the day or calculate. Sensations arising in these organs may help to produce fatigue of consciousness and lead us to seek rest. Consciousness may leap to life within the brain, but it is conditioned by sensations arising in every part of the body. If consciousness be a state of vibration produced in the atoms of brain structure by the impulses which stream in from the senses it is possibleto conceive that this particular state of vibration should be inhibited by either the withdrawal of stimuli or by the monotonous repetition of external or internal stimuli. But such speculations do not carry us far and the causation of sleep must still be regarded as metaphysical.

Frognal, Hampstead, N.W.

SOME REMARKS ON RECTAL SURGERY.[1]

BY THOMAS BRYANT, M.CH. R.U.I.,
F.R.C.S. ENG. & IREL.,

CONSULTING SURGEON TO GUY'S HOSPITAL; SURGEON EXTRAORDINARY TO HER MAJESTY THE QUEEN.

BY the death of a valued surgical friend and enthusiastic artist, Mr. P. Y. Gowlland, who after being a surgeon to the London Hospital found his life's work in a speciality, I have become through his widow the distributor of a large number of drawings of anal and rectal diseases which are not only of great artistic and surgical value but at the same time of rarity, for the nature of the speciality does not readily lend itself to pictorial representation and it was only by an enthusiastic surgeon with artistic tastes that such a subject could have been adequately illustrated. The best of the late Mr. Gowlland's drawings are now in the possession of the Royal College of Surgeons of England, where they will always be open to the inspection of the Members of the College; but many are still in my hands to be disposed of according to my discretion. The possession of these drawings has therefore induced me at the present time to write the following notes on anal and rectal diseases and to anticipate the intention I had formed of adding at some future date a chapter upon these important affections to those I have already published under the heading of "Gleanings from Surgical Practice," for with my late friend's drawings to illustrate the subject my remarks may be made more useful.

And first of all it must be asserted, and most dogmatically so, that anal and rectal surgery is not as a rule well treated by the bulk of the medical practitioners of this country, for by the public most anal troubles are diagnosed as "piles" and the practitioner, when consulted, is too apt to accept the diagnosis of his patient and to treat him or her without making any local examination by which alone a correct diagnosis of the case can be made and a line of treatment laid down which may be expected to be successful. Under such circumstances cases are too often allowed to drift and although trivial cases may get well by such a process some become serious and the bulk of them pass into a chronic condition, entailing much unnecessary suffering and often serious consequences. It need hardly be added that the practitioner in so acting is not doing his duty or his best for his patient. When therefore a patient experiences so much anal or rectal distress as to induce him or her to seek advice it should be the invariable rule of the practitioner consulted to make a local examination and this should be of such a character as to afford sufficient information to allow of the laying down of a rational treatment from which benefit can be anticipated.

An examination need be neither a painful nor a humiliating proceeding; it may always be conducted decently and should be so conducted. The position I prefer to place a patient in is on a bed or couch on the left side with the thighs flexed. In this position, with the patient's buttocks well separated, a good view of the anus and its surroundings can be obtained and much knowledge can be acquired by mere inspection. If the skin about the anus and anal fold is healthy pruritus as a local affection may be dismissed with other external local troubles; if the skin be inflamed or irritated local rectal trouble should be suspected. If the anus is patulous some prolapse of the rectum may be present and it will be at once seen whether the prolapsed tissue is simply mucous membrane, hæmorrhoidal or polypus structure. If there is redundant skin about the anus and it is loose the antecedent prolapse of some tissue is suggested, and if the redundant skin is œdematous or otherwise infiltrated the recent prolapse of hæmorrhoidal or other structure or some lower rectal disease is rendered probable. If fæces or discharge flow from the patient's anus the possibility of rectal stricture or rectal ulceration should be raised. If the anus be drawn tight and seems to be the apex of a cone the presence of an anal fissure or ulcer should be suspected, and if this condition is induced or increased on the surgeon attempting to separate the parts, and if, moreover, at the dorsal or perineal end of the anus a skin papilla is present, the suspicion of fissure would be confirmed. If any appearances of local inflammation are present they would be seen, as would any true external pile. All these points would be made out by mere anal inspection and careful painless examination; to learn more the introduction of the finger or speculum into the rectum may be required and this should be undertaken either at the examination which has been described or at a later period. As a rule the whole examination should be made at once, although its postponement should invariably be followed when an anal fissure or ulcer has been found or is suspected to be present, since the introduction of a finger or of a speculum past the external sphincter muscle would under these circumstances excite intense pain, consequently all further examination should be undertaken with the patient anæsthetised.

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[29] Strumpel: Deutsches Archiv für Klinische Medicin, Band xxii.

[1] Read before the Medical Society of London, Monday, Jan. 24th, 1898.

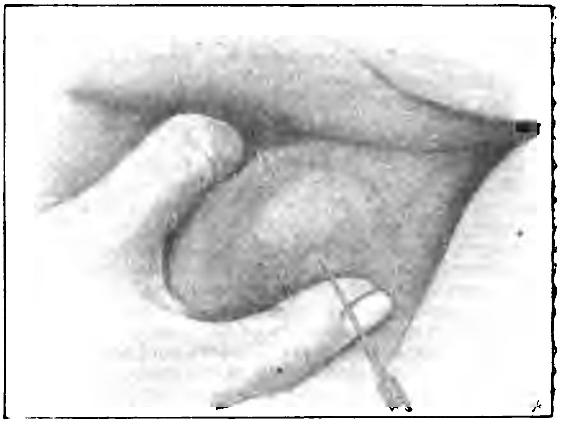
PRURITUS ANI.

This affection should always be regarded as a symptom of some local rectal trouble and not as a disease *per se*, although it is not possible in some few cases to find out readily its precise cause. It is well known to be present in cases of ascarides and it may be in every variety of rectal trouble, including external and internal piles, polypi, ulceration of the anus or rectum of every kind and anal abscesses. When none of these causes exist some irritating rectal secretion with or without a congested pelvic condition may be suspected, particularly in women with any uterine affection. Stimulating articles of diet and beer and spirits may also cause it, but what I now wish to impress upon the practitioner is that pruritus ani is commonly a symptom of rectal trouble and must be so dealt with. Recently I attended a woman who had suffered from anal pruritus for fifteen years unattended by other symptoms; she had taken much advice but had never been examined. On a careful investigation I found a sessile polypus the size of a haricot bean situated just within, but not protruding beyond, the sphincter. This I removed with an early and complete cure of her trouble.

ANAL AND RECTAL ABSCESS.

What has struck me most in the treatment of these cases is the undeniable fact that the majority of such abscesses have been allowed to take their natural course and have not been dealt with as abscesses in other parts would probably have been—that is, by an early incision. By the use of poultices and the necessary delay occasioned by their employment many cases which would have been regarded as trifling have drifted into a serious condition, and many a local abscess which, by a timely incision, might have been speedily cured has passed either into an extensive diffused abscess requiring many incisions or has degenerated into a condition of fistula with multiple openings, for the cure of which multiple incisions have been demanded. For it should never be forgotten that abscesses which form in the loose connective tissue about the rectum and ischio-rectal fossa readily burrow in all directions. Under these circumstances it should be a rule of practice to open them as soon as possible and this rule is as applicable to the small anal abscess with the view of saving pain as to the larger ischio-rectal abscess to save burrowing. Any abscess in these regions if opened early may be expected to heal without becoming a fistula, whereas if allowed to drift it will not only with certainty become a fistula, but probably a complicated one with many sinuses. A superficial anal abscess may be opened as any other in a superficial position; a deep-seated ischio-rectal abscess wants some care. With the patient placed on his side at the edge of a bed and anæsthetised the surgeon's finger, well and thickly lubricated with some lard ointment, should be introduced into his rectum and pressed sufficiently far into the bowel so as to reach above or behind the abscess cavity, the object of this movement being to enable the surgeon to press the abscess cavity well forwards towards the perineum and with a straight bistoury to make a free incision into it (*vide* Fig. 1). The cavity should then be irrigated with iodine water or some other antiseptic lotion and a piece of iodoform gauze introduced between the edges of the external wound for drainage purposes. There is no necessity for any plugging of the abscess cavity, for the hope of the surgeon is that the walls of the cavity when cleansed as they should have been will fall together and unite as speedily as possible; any filling of the abscess cavity with dressing would be enough to prevent this desirable result taking place and at the same time would help to bring about the formation of a fistula.

FIG. 1.



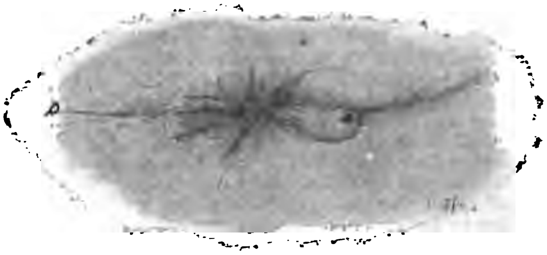
Method of opening an ischio-rectal abscess.

A small acute abscess near the anus will produce in some cases severe pain in the part and also in the groin with which it is associated by lymphatics and the nearer it is to the anal orifice the greater will be the pain. The sooner this abscess is therefore relieved by an incision the sooner will relief be given. In deep-seated abscesses the same practice is called for and when burrowing has taken place the surgeon should follow up the lines of burrowing with great care. Some of the worst examples of ischio-rectal abscesses are those due to ulceration of the rectum caused by the presence of a foreign body, such as the bone of a fish or otherwise, and most of such cases are really fæcal abscesses due to extravasation.

PERINEAL AND RECTAL FISTULA.

When an abscess has failed to heal and has passed into the condition of an anal or of what I prefer to designate a "rectal fistula" a careful local examination should be carried out, although not before a full history of the case has been obtained. The surgeon should, with the patient placed on either his right or left side — the side selected being the one upon which the external orifice of the fistula is placed — begin his examination by carefully feeling the external parts for hardness and when such is found to exist its extent and direction should be noted and particularly with reference to its relations with the external opening or openings of the fistula, for where any hardness is present it is probable that there either is or has been some inflammatory action, and under these circumstances that there may be present some branch

FIG. 2.



Sketch of a case of fistula in a man aged forty-three years.

sinus which although not suggested by the external orifices of the fistula has to be traced and laid open.

The question of the existence or position of the internal orifice of the fistula into the bowel has next to be considered and in the cases in which the patient states he has satisfied himself that wind passes through the external opening of the fistula the deduction is clear that an internal opening exists, although the precise seat of the orifice must still be obscure. To find the orifice of communication a carefully conducted local examination is essential. As a rule of practice it is generally well for the surgeon to pass his probe-pointed director through the external fistulous opening before he passes his finger into the bowel, for in passing his finger, however gentle the surgeon may be, some spasm of the anal sphincter must occur and in that way a difficulty is made to the passage of the instrument by the muscle throwing the sinus out of a right line. No force should be used in passing the probe and should an obstruction be met with it would be well to remove the probe and give it a bend with the concavity upwards, the bend tilting the end of the probe upwards against the bowel. When the probe has passed its supposed course the surgeon should then introduce his finger and thus determine the point he wished to elucidate. He has also if there are many external sinuses to make out whether each one has its own internal opening or whether there may be only one common opening, the more usual condition. He has likewise to satisfy himself that the sinus which communicates with the bowel ends at the internal opening or whether it passes up beyond and if so how far. He should also so examine the soft parts around the external opening or openings as to be sure that they are not undermined or the seat of other lateral sinuses, for in the treatment of a fistula every sinus should be found and as a rule laid open, branching sinuses, or what have been described as T sinuses, always requiring this treatment.

FIG. 3.

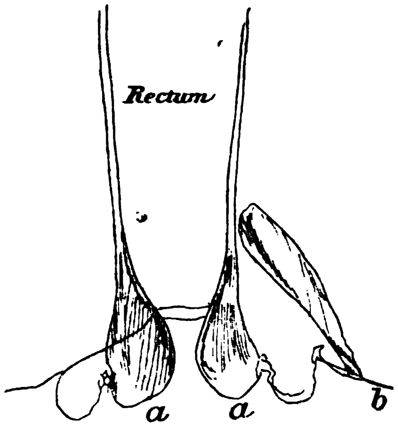


Diagram representing a case of prolapsed hæmorrhoids a) (a) with blind external fistula (b).

FIG. 3A.

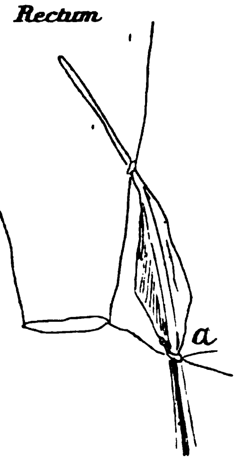


Diagram representing a case of blind internal fistula. a, Seat of external abscess where opened.

The internal orifice of the fistula should always be made out and with care it can generally be detected. It feels with the surgeon's finger in the rectum when recent like a depression in the walls of the bowel and when of long standing more or less indurated. In exceptional cases the walls of the rectum may be extensively ulcerated and under such circumstances the internal orifice of a rectal fistula will be difficult to recognise by the sense of touch. At times the internal opening is so large as to admit the tip of the finger; under these conditions previous ulceration has doubtless been present and has been the cause of the fistula or fistulæ, for where a large abscess has been the result of rectal ulceration several external openings about the anus are usually present. Injecting the external fistula with milk or some coloured injection will often be a help in detecting the presence or position of an internal opening. The accompanying diagrams taken from Mr. Gowlland's drawings will illustrate most of these points and variations of fistulæ.

FIG. 3B.

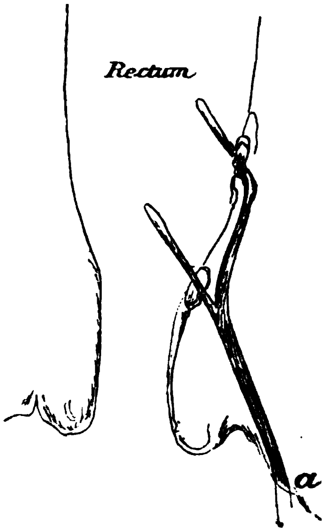


Diagram representing a case of fistula with one external opening (a) and two internal openings.

As a rule the division of a rectal fistula when well performed is a successful measure and where failure follows it is as often due to the presence of constitutional causes as of local. The former may be difficult to overcome. The latter are mostly in the surgeon's power to control. Thus failure at times follows an operation when the surgeon has not found the internal aperture of the fistula and has thus left a sinus extending above the internal opening which for a successful

FIG 3C.

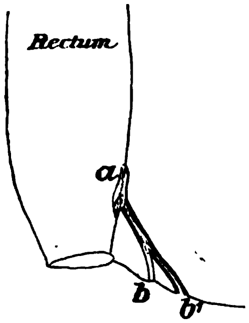


Diagram representing a case of fistula, with one internal opening (a) and two external openings (b), (b'). The patient, a man, was thirty-seven years of age.

result should have been laid open. Failure likewise may follow any operative measure when any external sinus has been overlooked or not laid open, whether branch sinus or otherwise. It should also be pointed out that failure at times follows operation when the surgeon has been satisfied by dividing the sphincter and laying open a single sinus but has omitted to cut away overlapping edges of skin or scraping away old sinus tissue, particularly in tuberculous subjects. Failure also is sure to follow where the fistula is the secondary effects of some rectal disease, such as extensive ulceration or any stricture of the bowel. In treating a blind internal fistula it is as a rule expedient to open first the abscess situated at the lower or perineal end of the sinus and subsequently to divide the external sphincter with the sinus channel.

FIG. 3D.

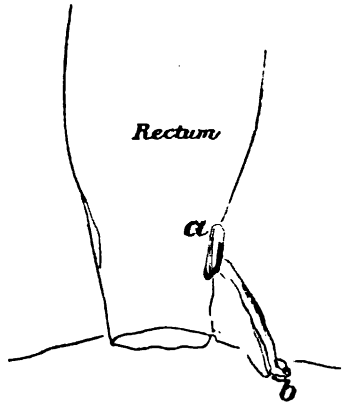


Diagram representing a case of fistula, with internal opening (*a*) and external opening (*b*).

In dressing a fistula after operation there is no need after the first dressing for any daily plugging of the wounds. Such wounds must of course be kept clean, but dressings are only needed to keep the edges of the skin wound from healing too rapidly before the deeper parts have filled up. The careful paring of the overlapping and undermined skin renders this old practice now unnecessary. The bowels should be kept open and the motion soft, not loose—for liquid stools are apt to excoriate and always give more local pain to wounds about the anus than do the soft and pultaceous motions.

FIG. 3E.

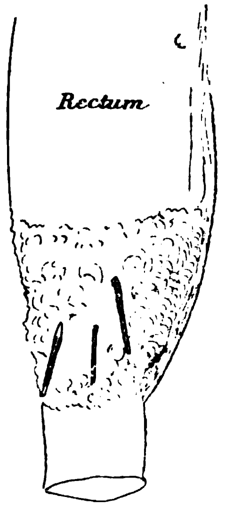


Diagram representing a case of fistula with three internal and external openings. The shaded area was the seat of ulceration. The patient, a boy, was nineteen years of age.

Grosvenor-street, W.

THE MECHANO-THERAPY OF MOVEABLE KIDNEY[1]

BY A. SYMONS ECCLES, M.B. ABERD.

SINCE the year 1892 twenty-one cases of moveable or floating kidney with local pain and tenderness have come under my observation and treatment. Two cases prior to these have already been described in a previous paper[2] and notes of other five have been reported.[3] Of the twenty-one cases five were greatly improved by abdominal massage, exercises, and the application of a pad and belt, and one of these has been free from all discomfort for five years, another for two, whereas both had before suffered from pain and general disturbance at intervals for prolonged periods. Sixteen have been treated by "the rest cure" for periods varying from fourteen days to eight weeks, and of these seven were lost sight of within four months after treatment; one was a complete failure; and eight are here recorded in detail, having been selected as typical of the varying conditions under which, in males and females, moveable kidney may give rise to very marked suffering often without any knowledge on the part of the patient that nephroptosis existed or could cause the gastric, hepatic and nervous symptoms of which they complained. The results obtained in these twenty-one cases are for the most part so satisfactory that they bear favourable comparison with records of those treated by operation and in view of certain cases which have occurred there is something left in favour of employing milder means for the relief of nephroptosis than surgical interference involving either nephrorrhaphy or nephrectomy. Early diagnosis, reposition, and the maintenance of the organ in its normal place by methods which also conduce to the improvement of general health would appear to go far towards the relief of the patient from the necessity of having the kidney stitched into its place or removed from the body, as the advocates of early operation advise. At any rate sufferers from freely moveable kidney should first be subjected to treatment by rest and massage followed by exercises devised for improving the muscularity of the abdominal walls before they are exposed to the risks which exist, however small they may be rendered by the skill of the operator. No harm arises from the delay which may fairly be entailed by "the rest cure," and if any local surgery should afterwards prove to be necessary because of failure to relieve pain by the means here advocated the sufferer will be rather better than worse able to undergo operation. Especially does this appear to be the case when it is remembered that the best results obtained after operation can be secured only if "we should keep the patient lying in bed for at least six weeks, no matter whether the wound has healed by first intention or not."[4]

CASE 1.—A man, aged thirty-four years, was sent to me in March, 1892, by Dr. Bright, of Cannes. He complained of constant dyspepsia, vague (sometimes severe) abdominal pains, flatulent distension, constipation, backache (chiefly lumbar), occipital headache, nervous irritability, exhaustion, indecision, emotional distress, and loss of flesh and strength. There was no serious illness till a few months previously, when he was compelled to relinquish business as he could not concentrate attention on his work; but since boyhood he had been subject to sudden attacks of indigestion and aching all over the abdomen and loins. His height was 5 ft. 10½ in.; his unclothed weight was 9 st. 11½ lb. There were no signs of disease in the chest. The abdomen was concave, the reflexes were exaggerated, and there was apparently no subcutaneous fat. Some distension of the stomach was noted. The urine was pale, of specific gravity 1015; there was no albumin or sugar. Ten days after admission pain across the umbilical and lumbar regions led to the recognition of the right kidney lying transversely across the right lumbar region on a level with the navel, from which its proximal end was two fingers' breadth distant. The patient felt the sense of resistance and was alarmed lest he should have a tumour. The organ slipped away in the phantom-like fashion so often associated with its wanderings and could be felt gliding over the tissues of the back against which my left hand was firmly pressed between the crest of the ilium and the floating ribs. A pad and bandage were applied and readjusted thrice daily after massage of the abdomen and sometimes at night if the patient was sleepless from flatulent distension. Steady improvement in all the symptoms went on till at the end of six weeks the weight was 11 st. 5 lb., being a net gain of 21½ lb. At the end of October, 1892, he had three weeks' severe dyspepsia initiated by very imprudent irregularity of meals and carelessness in diet. The kidney was still apparently in its right place and after three weeks' treatment the weight, which had fallen to 10 st. 12 lb., rose to 11 st. 4 lb. In the latter end of 1893, having given up exercising any care in diet, gradually increasing dyspepsia with loss of weight led him to consult Nothnagel, whose report was as follows: "Enteroptosis, ren mobilis dexter, atonia ventriculi et intestinorum, symptomata nervosa hinc dependentia." After a three weeks' treatment he had to return home owing to domestic affliction and during 1894 much worry prevented great progress, but the belt and exercises relieved dyspepsia and apparently kept the kidney in place. In 1895 he was quite well, playing golf and travelling about Europe till October, when he was under my close supervision till January, 1896, and was free from all discomfort during that time. Since then he has gained flesh, his weight being now 11 st. 6 lb., and in every letter of a regular correspondence up to October, 1897, he makes no complaint of physical discomfort in spite of most arduous and responsible work.

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[1] Abstract of a paper read before the Medical Society of London, Nov. 22nd, 1897.

[2] THE LANCET, July 18th, 1891, p. 118.

[3] Proceedings of the Royal Medical and Chirurgical Society, Feb. 27th, 1894. "The Practice of Massage," by A. Symons Eccles, p. 288, second edition.

[4] Kendal Franks on Moveable Kidney, Brit. Med. Jour., No. 1815, p. 895.

So long as the patient kept the amount of packing material gained in his first period of treatment he was well; when from improper food, unsettled life, and great anxieties he lost a great deal of fat and flesh which had been gained the muscular walls of the abdomen lost tone, the usual support offered to the viscera was reduced so that the right kidney again became moveable until means were adopted for the replenishment of muscle and fat.

CASE 2.—A woman, aged thirty-seven years, was admitted in April, 1893. She had borne eight children, but was well in health till four years previously, when she suffered after a bad confinement from severe neurasthenic symptoms and a dragging pain in the back and loins, occasional nausea, and heart hurry. The spirits were fairly good and, save when the nausea and pain came on, she felt buoyant and happy. Physical examination revealed gastroptosis and a freely wandering right kidney. Examination per rectum showed palpable sigmoid prolapse, so that this case may be regarded as one of multiple enteroptosis. The unclothed weight on admission was 9 st. 5 lb.; after four weeks' treatment it was 10 st. 1 lb. The kidney was replaced at the beginning of treatment, was felt in its normal position at the close, again a week after, and again in December, 1893. In January, 1895, the clothed weight was 11 st. 9 lb., the stomach limits were normal, and the right kidney could not be felt more than usual on deep inspiration. The patient expressed herself as fit and well.

CASE 3.—The patient was the sister of Case 2, aged forty-six years, and was admitted in June, 1893, complaining of sick headaches, nauseating pain in the right lumbar and iliac regions, anorexia, insomnia, and prostration. She had mitral disease, a systolic murmur—loudest at the apex, audible in the left axilla and angle of the scapula,—and a diastolic murmur with slight thrill in the fifth interspace in the left mammary line where the impulse was situated. The murmur was of a to-and-fro character. Examination of the abdomen revealed nothing save that the right kidney was moveable and slipped in and out of place with a kind of click. She had found that when there was insomnia lying on the left side with the right knee drawn high up against the abdomen generally enabled her to sleep. The urine, which at first was scanty (from 15 to 20 ounces), highly coloured, loaded with lithates, with a specific gravity of from 1025 to 1032 and always a small amount of albumin, gradually became paler, less scanty (from 20 to 30 ounces daily), and only a trace of albumin was occasionally found coinciding with temporal headache three times during a month of treatment. No abdominal pain was felt after the first week or any nausea and faintness. The weight (8 st. 5 lb.) rose to 8 st. 11 lb. and the general condition seemed to improve, but thirteen months later she succumbed to pulmonary œdema after an attack of syncope.

CASE 4.—A woman, aged forty-four years, was treated in June, 1895, floating kidney having been diagnosed by Dr. Waddell six weeks previously, when she complained of frequently recurring severe pains in the hypochondriac, epigastric, and right lumbar regions, with loss of weight and flesh. Every morning on waking there was severe pain in the right lumbar region and across the navel to the other side. Gastroptosis and right nephroptosis with great tenderness of the kidney existed. The urine—sometimes pale and profuse, at others highly coloured and scanty—on the second day of treatment contained a quarter albumin, at other times occasional traces only. Not more than six pounds gain in weight resulted from treatment, but the patient being only 5 ft. 3 in. in height weighed 7 st. 7 lb. unclothed at the end of the course, during which no attempt to "over feed" was made. In November, 1895, I saw the patient again, the kidney could not be felt, and the lower border of the stomach seemed to be two fingers' breadth above the navel. In March, 1897, I again saw the patient, who was "quite well," and able to lead an active, useful life.

CASE 5.—This patient, a woman, had suffered much from fibroid tumour, both ovaries had been removed and since then there had been no hæmorrhage. The abdomen was scaphoid, the walls were very flabby, and there was slight gastroptosis and marked right nephroptosis. The urine contained an appreciable trace of albumin. On Oct. 14th, 1895, the unclothed weight on admission was 8 st. 7½ lb.; eight weeks later on discharge it was 9 st. 2½ lb. Attacks of palpitation—pulse 100 to 120—occurred at irregular intervals during the first week and insomnia was troublesome. After the first week very gradual improvement was noticed till after a month's treatment, when one night great agitation, heart hurry, and general abdominal discomfort led to the discovery that the kidney had slipped down and was lying across the right lumbar region on a level with the navel; albumin appeared in the urine again for a few days; thereafter uninterrupted improvement was made. Opportunities for examination have occurred at intervals down to February, 1897, and quite recent inquiries have elicited the fact that the patient, who had regained the power to enjoy active pursuits with steady increase in weight, still continues in excellent health.

CASE 6.—A man was admitted in October, 1895, suffering from a sense of strain and tightness over the small of the back, flatulent distension of the whole abdomen, nausea, constipation, and a sickening pain in the umbilical region with a sensation of dragging and weight in the right loin. In twelve months he had lost two stones in weight and he suffered from trembling fits, dread, and depression. The stomach was distinctly dilated. In the erect posture the abdomen was pear-shaped and the stomach dropped below the navel; there was therefore gastrectasia as well as gastroptosis associated with right nephroptosis. Ten years previously he had fallen in a race, felt great pain in the right side of the abdomen and loin, and passed blood in the urine for a week after. The unclothed weight was 9 st. 10 lb. on admission and at the end of five weeks' treatment 10 st. 10½ lb. At intervals I have heard from this patient, whose mental and general condition improved *pari passu* with the gain in weight and muscularity of the abdominal walls. In the earlier part of 1897 he reported himself as very well and free from discomfort.

CASE 7.—A woman, aged twenty-seven years, was admitted in April, 1896, complaining of violent paroxysmal pain in the right side extending from the lateral region of the chest downwards into the iliac fossa, occurring at irregular intervals; and between the attacks there was dragging pain in the back, loins, and epigastrium, with palpitation, nausea, great depression, broken dreamful sleep, and supra-orbital headache. The catamenial period every fortnight increased the severity of the pain and any exercise brought on a paroxysm. She was quite well till six months before, when both parents were taken ill and died. She nursed them both and felt no ill effects till one day, when lifting one of the sufferers, she felt a wrench in the right side with sickening pain similar to the twisting paroxysmal pain since experienced. There had been little or no loss of flesh. In the right iliac fossa a firm rounded swelling could be felt which was tender and moveable. On deeper manipulation it slipped away and could be followed up into the right loin. On admission and again before the first monthly period the urine contained a noticeable quantity of albumin, but none after save a trace just before the second period, which occurred during six weeks' treatment. In spite of being well nourished at the outset this patient gained 10 lb., becoming much firmer and rosy-cheeked. Up to date there has been excellent health and no recurrence of renal or digestive trouble.

CASE 8.—A woman, aged fifty-five years, was admitted in October, 1896, complaining of painful aching in the right hypochondrium and various dyspeptic and nervous symptoms. On examination nothing abnormal could be found save a freely moveable right kidney. In a month of treatment 10½ lb. were added to the body weight and she left feeling well and strong being provided with an abdominal belt and renal pad. In January, 1897, I saw the patient, the kidney could only just be felt on deep inspiration and did not slip out. On the advice of Dr. H. Huxley, who sent her to me, she went to the south of France, whence she wrote in good health and spirits and again reported herself quite well in July, 1897.

It will be observed that in all these cases there were physical signs—local and general symptoms which are attributable to the dislocation and mobility of the right kidney; and, judging from the unfortunate consequences following disregard of this lesion and neglect of treatment in cases which have come under observation, it may be alleged that much suffering and chronic illness can be averted by means entailing none of the risks possibly incurred by operation. Moreover, there must be many nervous invalids reduced to a condition of chronic debility by nephroptosis who would not submit to operation if by any other means restoration to easy and comfortable health could be gained. For these "the rest-cure" affords good prospect of relief.

In these cases of floating or moveable kidney, no less than in other forms of enteroptosis with so-called functional disorder of digestion, the indications are to restore healthy tone and to induce the re-deposition of fat and flesh to the abdominal walls as well as to improve the nutrition of the viscera and replace the packing material of fat, which in many cases has vanished. This, in most instances, can be done by judicious combination of frequent massage of the abdomen and loins, carefully regulated diet, and finally gradually increased exercise, precautionary measures meanwhile being adopted by posture, rest, and mechanical support to prevent and counteract the tendency to displacement and undue mobility engendered by lack of proper support for the viscera.

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CONSIDERATIONS ON THE POSSIBLE INFLUENCE OF THE NERVOUS SYSTEM IN THE TISSUE-LIFE OF THE HIGHER ANIMALS.

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IN the following paper the attempt will be made to show that the possibility exists of assigning to the nervous system in the higher vertebrates a much more important and indeed universal influence in the general economy of the body than is usually conceded at the present time—to suggest that we may look to this source for the controlling force which governs all the nutritive functions of the tissues of such animals as well as their locomotor, vasomotor, and secretomotor activities. For this purpose it will be convenient, first, briefly to point out that such a development of the power of the nervous system is in accordance with the recognised course of the evolution of higher from lower organisms, and then to consider the results which may ensue from the derangement of this controlling influence, from which results alone in the form of morbid processes we are enabled to infer the existence of such control.

It is unnecessary here to recapitulate all the stages of development shown in the different orders of the animal kingdom by which the original properties of the unicellular organism are divided among the various tissues of the higher animals. It is well known that the fundamental properties of nutrition and sensibility shown by amoeba are divided into the complex processes of glandular secretion and muscular contraction, in each of which the reception and transmission of the stimulus is effected by the nervous system and the resulting chemical process thus set going takes place in the special cell. This stage of differentiation is reached in the invertebrate animals, and it is natural to ask whether no further step forward in the same process has been taken in the course of evolution of the highest animals of all—the vertebrata, and especially the mammalia, with man at their head. We see that in the recognised course of development there has been a tendency in dividing the functions of the cells to give to the nervous system the part of controlling the lower processes, as in the instance of the muscular and glandular activities. So it is in the direction of a still further extension of this principle that it is natural to look for a distinguishing feature of the highest animals.

Since all cells, of whatever kind they may be and whatever function they may perform, undergo waste and repair they must all possess in themselves the original and fundamental property of nutrition. This function may be logically divided as in the original instance into stimulus and result—the stimulus of food present in the circulating fluids and the resulting assimilation of the nutriment. It is then no long step in advance to suppose that here too in the highest animals the reception and transmission of the stimulus may be effected by the nervous system, which thus sets going the resulting chemical combination in the individual cells; in other words, that the nutrition of every cell in the body, and consequently the growth of every kind of tissue, is controlled by the direct action of the nervous system.

In the case of gland cells this fact is already recognised and admitted, since the process of the manufacture and emission of secretory products is merely the process of nutrition and excretion, of repair and waste, of anabolism and catabolism, to use the most general terms. We know that the emission of the cell product is directly controlled by the nervous system, since it has been definitely proved in the case of the salivary glands; and just as we have vaso-constrictor and vaso-dilatator nerves, or stimulant and depressant influences exerted on the heart by the sympathetic and vagus respectively, so it is reasonable to suppose that the anabolic as well as the catabolic process in the gland cell is produced by the stimulus of nerve force.

In the case of muscle cells the probability of direct trophic influence of the nerves is also very generally conceded. When a muscle is cut off from its motor nerve by injury or disease a much more definite wasting of its elements takes place than can be accounted for on grounds of mere disuse. The wasting that occurs in infantile paralysis or peripheral neuritis is an obvious instance of such a trophic influence on the muscles, while in the former disease the bones, too, seem to participate to some extent in the defect of nutrition. In the case of the heart muscle the action of the vagus and sympathetic above alluded to are maintained by Gaskell[1] to be due, the one to an anabolic and the other to a catabolic process in the cells produced by the action of the respective nerves.

The skin, again, is the seat of a very numerous group of phenomena which can only be explained on grounds of nervous influence, though it is always difficult to disprove the contention that these phenomena are due to vasomotor disturbance, put forward by those who deny true trophic influence. The best-known example of this group is found in herpes zoster, which not only follows the course of an intercostal nerve but often presents three distinct patches of vesicles corresponding to the cutaneous branches of the main trunk. If, with Head,[2] we must regard the distribution of this lesion as corresponding rather to a "spinal segment" than to the area supplied by a single nerve, the trophic influence is no less manifest. In localised scleroderma an equally well-marked confinement of the lesion to the area of a single nerve is often seen. In nævus verrucosus the limitation of the disease by the middle line of the body suggests a similar causation, while in another condition termed by Selhorst,[3] who describes it, "nævus acneiformis unilateralis" there is found a peculiar condition of the skin resembling acne with comedones, going on to actual ulceration, likewise strictly limited to one-half of the body. Cases of generalised scleroderma associated with muscular atrophy and trophic ulcers are recorded by Dreschfeld.[4] Other instances innumerable of neurotrophic skin affection are found in dermatological literature[5] General alopecia appears to follow in some instances upon mental strain and anxiety, and a curious case is recorded by Rauber[6] in which a condition of trichorrhexis nodosa occurred in one patient on separate occasions as the sequel of epileptic fits. Actual pathological changes in the nerves have been found in a case of erythema multiforme,[7] and in a case of primary sarcoma of the skin.[8] The pigmentation of the skin also appears to be affected by nervous causes as is seen in pregnancy and diseases of the abdominal sympathetic.

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[1] Gaskell: Journal of Physiology, vol. iv., p. 43.

[2] Head: Brain, 1893, p. 7.

[3] Selhorst: British Journal of Dermatology, 1896, p. 419.

[4] Dreschfeld: Medical Chronicle, Manchester, January, 1897.

That adipose tissue is subject to trophic control is suggested by the phenomena of fat necrosis, which Rolleston[9] regards as associated with a lesion of the sympathetic system. Further, the persistence of the sucking pads in an emaciated child when all the other fat in the body is reduced to a minimum is apparently due to the action of some controlling force which maintains the nutrition of vitally necessary portions of the body while sacrificing the rest.

Of nervous influence on the growth of connective tissues we have little direct evidence. The modification of the growth of the bones in infantile paralysis has been already alluded to, and Jonathan Hutchinson[10] has shown specimens of skulls in which a definite enlargement of the bones occurred corresponding to the distribution of the fifth nerve. Perhaps we may some day recognise instances of perverted nervous control in such diseases as acromegaly, leontiasis ossea, and osteitis deformans. Further, the tissue forming the myelin sheath of nerve fibres themselves, often regarded as part of the nerve, is in reality connective tissue, and we see on dividing a nerve trunk that the first changes taking place in this are of an active character—multiplication of nuclei and increase of protoplasm. The nature of this change suggests that the nerve exercises a direct influence of a restraining character on the elements of the sheath which grow with undue rapidity when the nerve fibre is cut through and trophic control thus removed. It appears, then, that there are good grounds for believing that the nutrition of the glands, skin, and muscles, and perhaps the bones and connective tissue, is directly affected by the action of the nervous system, and it is only reasonable to follow this analogy to its legitimate conclusion and to believe that all tissues of the body alike, in man and the higher animals, are subject to the same guidance and control. The subject of trophic nerves has, however, been fully discussed elsewhere by far abler writers and the last word is by no means yet said on the subject. The tendency, indeed, among physiologists appears to be rather in the direction of denying than of accepting their existence. On the other hand, clinicians—not, let us hope, less scientifically minded, but seeing perhaps more of human and less of lower animal life—habitually find it necessary to assume this direct action of the nervous system to account for the phenomena of disease. Charcot's joints and perforating ulcers, the glossy skin and distorted nails of paralysed limbs, the brittle bones and spontaneous sores of the insane, unite to form a group not easily to be explained away on grounds of mere vaso-motor disturbance and failure to react to normal stimuli. And it must be confessed that in very many instances of trophic lesions vaso-motor disturbance is by no means so conspicuously present as we might expect it to be in order to account for such remarkable effects. It is not intended here, however, to discuss this question at length; enough has perhaps been said to show that there are at least many phenomena apparently pointing to the existence of neurotrophic influence. The main object of the present paper is to indicate a class of disease the origin of which has always been obscure and which may possibly admit of explanation on this ground.

In the examples already given the effect of a lesion of the nervous mechanism has been seen in diminished rather than increased cell activity—in lowered vitality rather than over-vigorous growth. If, however, the nervous system supplies a regulating force it is to be expected that its power will be exercised both as a stimulant and a depressant influence, and we must anticipate that defect of this control will be seen in exaggerated as well as deficient cell growth. An obvious instance of such an irregular growth is seen in tumour formation. At the outset we are led to inquire whether some defect of nervous control is not at the bottom of this process, by the fact that tumours have no nerves. From this fact we are naturally led to suppose that certain cells have become severed by some means from the control of the nervous system and that owing to their possessing sufficient vitality to grow by themselves, there results a mass of cells with independent life and unrestrained activity of growth. They are free from the central controlling force which guides the life of the general community of cells in orderly course and mutual subservience for the benefit of the organism as a whole: they become outlaws and rebels in the body politic.

This explanation has been already put forward to account for the origin of cancerous tumours by at least two writers by Marshall in the Morton Lecture on Cancer, 1889,[11] and before him by Inglis Parsons.[12] Neither of these authors, however, did more than indicate this possible explanation of malignant tumours, nor did they apply it to all tumours as a class, so that the present paper must find its excuse in the more general application of the theory herein set forth both to new growths and to vital processes in general. For it is impossible to separate malignant from simple tumours by any hard-and-fast dividing line. Typically no doubt, a malignant tumour grows quickly; it invades neighbouring parts by continuity of tissue, pushing its way into the lymph spaces, infecting lymphatic glands, and forming new foci of disease in distant organs. On the other hand, a simple tumour more often develops slowly surrounded by a capsule and does not invade or destroy except by pressure the parts by which it is encompassed. It forms no metastases and does not recur locally if removed. Yet there are instances, and these not so very infrequent, of structurally innocent tumours presenting malignant characteristics. Lipomata and fibromata may occur without capsules; chondromata may form metastases in the lungs if their matrix softens and portions of papillomata of the kidney may be implanted in the bladder and form fresh tumours there. On the other hand, in rodent ulcer, classed as a malignant tumour, no glandular infection or metastasis occurs. We must, then, in studying the causation of new growths, regard them as a whole and not seek to isolate any one group and put forward a special theory to account for its origin.

In this hypothesis as to the nature of tumours, we may find the explanation of many, if not all, the distinguishing features of the class. Their existence as useless excrescences naturally follows on the supposition that they are due to cells breaking away from that coördinating force which keeps all parts of the body in harmony, subordinated to a definite plan, and regulates their functions with regard to the needs of the organism. Their autonomy of growth is equally intelligible on this explanation, since there is nothing to restrain the development of the tumour but its dependence on the amount of nourishment available. In a starving animal the unimportant parts of the body waste, while those which are necessary for the continuance of life are supplied with nutriment at the expense of the rest. The heart and the central nervous system waste least, the fat most, and the other tissues in a reversed "order of merit," according as they are less necessary for the continuance of life. This is effected on the theory here enunciated by the nervous control to which all cells and tissues are subordinated. But under these circumstances a tumour does not waste; it is free from such control, and useless as it is its bulk remains the same or actually increases while the affected organism starves. Again the lack of function shown by glandular tumours, which consist of cells identical to all appearance with secreting cells but yet indolent and functionless, is at once seen to be due to the fact that no stimulus to secrete reaches their cells, no nervous energy calls out the inherent capabilities of their units.

The few facts known as to the origin of tumours and the theories by means of which previous observers have endeavoured to coördinate these facts are also consistent with the hypothesis here put forward. Thus according to Cohnheim's theory tumours originate in developmental defects—in masses of cells which have gone astray in the process of development and are thus displaced from their proper connexions. In this explanation we may see one way in which it is possible for cells to become free from nervous control, for a group of cells thus situated, not forming part of the true plan of the body, may well fail to enter into connexion with the guiding authority. A second important factor in the etiology of tumours is found in the existence of chronic irritation at some point in the body, according to the theory of Thiersch. Now such a process of chronic irritation is accompanied by continual attempts on the part of the organism at repair of the injury produced, but the process of repair is constantly thwarted by the continuance of the irritation. In this way also groups of cells may come to exist cut off from their normal connexions; and, indeed, we may actually find microscopically that such, in fact, takes place at the edges of chronic ulcers or lupus of the skin. Here there are found masses of epithelial cells lying isolated among the granulation tissue, cut off from the outer epithelium in which they originated. The origin of epithelioma in such positions is well known. Nor is this connexion of the nervous system with the origin of tumours a mere unsupported hypothesis, for an actual example of a case in which definite changes in the nerves were associated with the appearance of tumours is recorded by Professor Campana.[13] In a patient affected with primary sarcoma of the skin there were found swellings on the nerves leading to the seat of lesion caused by the infiltration of the nerve with round cells and consequent degeneration of its fibres. These changes are regarded by the author as primary to the tumour formation. Another interesting disease in this connexion is osteitis deformans, in which there occurs an overgrowth of the bones of certain parts followed in very many instances by the appearance of malignant tumours—sarcomata. Here we may see first perverted action of the nervous system, and finally entire defect of the controlling function in certain localised areas.

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[5] Cf. Severi: Clin. Dermosif. della Reale Università di Roma, January, 1896. Max Joseph: Archiv für Dermatologie und Syphilis, Band xxxi., Heft 3, June, 1896.

[6] Rauber: Virchow's Archiv, Band 97, p. 50.

[7] Rocca: Clin. Dermosif. della Reale Università di Roma, January, 1897.

[8] Campana: Ibid., March, 1897.

[9] Rolleston: Transactions of the Pathological Society of London, 1892-93, vol. xlv., p 77.

[10] Hutchinson: Address at University College Hospital, THE LANCET, Oct. 11th, 1890, p. 789.

[11] Marshall: Morton Lecture on Cancer, THE LANCET, Nov. 23rd, 1889.

[12] Inglis Parsons: Brit. Med. Jour., April 27th, 18 .

Further, it is in the higher and more fully developed animals that tumours occur and most of all in man, whose tissues are most highly differentiated of all. Such we should indeed expect to find the case on this theory, since it is only in the higher animals that the nervous system has gained the power of modifying the nutrition of the cells—to some extent probably in all vertebrate animals, to the greatest extent, though not necessarily to the highest conceivable degree, in man himself. Thus in lower orders of animals the cells maintain their original power of ordering their own growth and nutrition on a definite plan, and the accidental displacement of such cells by violence or other cause does not lead to the excessive growth which constitutes tumour formation. In man, on the other hand, the cells are used to being controlled, and if they are accidentally severed from their nervous connexions they may grow over vigorously and irregularly.

Finally, we may thus see the reason for the ill success of therapeutic measures in modifying the growth of tumours. For if the tumour consists of cells similar to those of the rest of the body, differing only in freedom from control in the matter of nutrition and multiplication, it is evident that we cannot hope to modify its development by means of drugs. If we give depressing drugs to check the growth of the tumour we diminish at the same time the vigour of surrounding cells, by the resistance of which the growth of the tumour is kept in check; while if we give stimulating remedies to improve the nutrition of the body as a whole, we equally assist the growth of the tumour, which subsists on the same nourishing fluids as the rest of the organism.

Before leaving the subject one very obvious difficulty must be alluded to. It may be asked why it is that if tumours result from displacement of cells from their nervous connexion a tumour does not occur in all cases of skin grafting or other transplantation of tissue? In answer to this, two considerations may be urged. In the first place transplanted tissues though they may live and flourish for a time are ultimately in nearly all cases absorbed and disappear, and in cases of skin grafting it seems doubtful whether the implanted tissue is not finally replaced by epidermis from surrounding parts. But if this be not so—and there are undoubted instances of transplanted portions of tissue growing and not forming tumours—the explanation may be found in the old experiment of grafting the tail of one rat on to the nose of another, in which it was proved that a fresh nervous connexion was formed between the implanted tissue and the animal in which it was caused to grow. If such a new connexion is formed in these cases in which the transplanted tissue continues to live it is evident that no tumour formation can be expected to occur.

The most recent discovery on the subject of tumours, that of the influence of oöphorectomy on the involution of cancer of the breast, does not appear to throw any definite light on the theory here set forth. Two explanations appear possible of this interesting phenomenon: either that the ovary secretes some substance necessary for the nutrition of mammary cells—and cancer of the breast and its secondary deposits consist of mammary cells—so that when this substance is no longer supplied the breast atrophies and the cancerous nodules shrivel; or that the diseased ovaries pour into the circulation some deleterious substance which lowers the resistance of the body cells and so allows the aberrant cells of the cancer to establish themselves and flourish, while where this no longer takes place the resistance of the body is increased and the invaders are repelled. The latter explanation is that suggested by Boyd.[14] The subject of tissue-resistance is a very interesting one, accounting as it may for the difference between innocent and malignant tumours, the former scarcely establishing a footing, growing in one soil only, slowly and encapsuled, the latter flourishing freely amid feeble neighbours and able to establish colonies in fresh parts of the body, all tissues of the latter being equally wanting in resistance. But the subject is too long to be discussed here.

We have thus considered the effects produced by the cutting off of nervous influence from the cells of the body and found that such might be seen in both of two possible directions—excess and defect of growth and vigour. The former effect is seen in "trophic" lesions, the latter in the formation of tumours. Whether the one or the other effect is manifested may probably depend on the condition of the cells at the time the controlling influence is withdrawn. In the case of trophic lesions a large portion of the body is affected and there is accompanying it a considerable vaso-motor disurbance. The cells are badly nourished and have little vigour. If a similar vaso-motor disturbance were to occur in a normal part the nervous system by stimulating the cells to increased metabolism might make up for the deficient quantity of the nutriment afforded; without this stimulus they degenerate. On the other hand, the nucleus of a tumour is a small mass of cells of normal vitality cut off from nervous control but lying in a part where the blood-supply is normal and food plentiful. Such cells need the rein rather than the spur, and being unrestrained they grow and form a tumour.

York-street, Portman-square, W.

HOSPITAL REFORM.[1]

BY T. GARRETT HORDER, L.R.C.P. EDIN., M.R.C.S. ENG.,
HONORARY SECRETARY OF THE HOSPITAL REFORM ASSOCIATION.

IN drawing up any scheme for the better administration of medical relief in our hospitals, infirmaries, and dispensaries the necessity of carefully avoiding any measures that would in any way lessen the usefulness of these institutions in relieving cases of urgent illness must be borne in mind. The points to be aimed at are briefly the following: (1) The lessening of the large number of people who now resort to the hospitals when suffering from minor or trivial ailments; (2) the restriction of treatment both in the in- and in the out-patient department to people who are not in a position to pay private practitioners; (3) the abolishment of subscribers' recommendations; (4) the limitation of the number of new cases to be dealt with by each medical officer in the out-patients' department; and (5) the bringing about a more intimate and cordial relationship between the hospital staff and the practitioners resident in the district surrounding each hospital. It will be my endeavour to sketch out schemes which will suit (*a*) the large general hospitals; (*b*) the smaller general hospitals; and (*c*) the special hospitals.

With respect to the first point it cannot be denied that at the present time most hospitals treat a very large number of people in the casualty department whose illnesses are of a very trivial description. Formerly that department was used for the treatment, as its name implies, of casualties—i.e., cases of accidents and of sudden and acute illness. It has been argued by some prominent hospital managers that it is difficult to define exactly what are trivial and what are not trivial cases, but I am of opinion that in the great majority of instances no such difficulty exists. I believe that a skilled resident medical officer should be appointed at all the large general hospitals to deal with such cases. This idea has been successfully carried out at St. George's Hospital and at St. Thomas's Hospital for some years past, and quite recently St. Mary's Hospital has adopted a similar plan.

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[13] Campana: loc. cit.

[14] Boyd: Brit. Med. Jour., Nov. 5th, 1897.

[1] A paper read at the first annual meeting of the Hospital Reform Association Jan. 19th, 1898.

With respect to the second point the association has urged the necessity of restricting all out-patients to those bringing a recommendation from a medical man, and although that particular recommendation has not met with much support from members of the medical staffs yet the association is still of opinion that on the whole it is the best, easiest, and simplest way of limiting hospital treatment to those who are in need of it. To meet the objections which have been made to that plan it will be as well to propose some modification of it. In dealing with this question the eligibility of patients from two points of view has to be considered—first, do the patients stand in need of hospital treatment? and, secondly, are they unable to pay for proper treatment outside the hospitals. And again, these patients must be sub-divided into two classes:—(1) those suffering from such ailments as are ordinarily treated by general practitioners and (2) those suffering from special disorders—e.g., ophthalmic, aural, and gynæcological cases—which are not generally treated by general practitioners. To make this more clear I will say that whereas a patient suffering from chronic bronchitis would be ineligible for hospital treatment a patient suffering from cataract would be perfectly eligible.

Now the question arises what should be the *modus operandi?* Should the medical fitness of a patient be decided first, or should the hospital authorities first make inquiries into the financial fitness? I think this is of great importance because it is perfectly manifest that no inquiry that is conducted at the hospital will prove of any real use. To make certain that the patients are fit and proper persons for gratuitous treatment it is absolutely necessary in the majority of instances for the inquiry officer to visit the homes of the patients. As it might happen in some cases that this delay would prove hurtful I think that the best plan to recommend is that the resident physician should first decide the medical fitness of patients and after they have received "first aid" refer them to the inquiry officer for particulars as to their circumstances. I think that the suggestions made by Dr. Turney in the December number of the *St. Thomas's Hospital Gazette* should be adopted—viz., (1) that a notice should be placed in the out-patient rooms to the effect that patients bringing notes from medical men would receive first consideration; and (2) that the medical men residing in the district of the hospital should be furnished with notes by the hospital authorities. In the case of patients coming from a distance I would suggest that it should be made an *absolute rule* that they should bring a note from a medical man. That hospitals are much abused by this particular class is well known, and it is obvious that the services of an inquiry officer could not be utilised in such cases. Many instances have come under my own knowledge where people suffering from some trivial ailment have spent as much money in travelling to a hospital as would furnish a specialist with his ordinary consulting fee. With respect to in-patients except in cases of real urgency I would suggest that the hospital managers should make inquiries before they are admitted. Such a regulation would not apply to patients recommended by medical men. I think that the suggestion of the Charity Organisation Society with regard to cases obviously destitute—viz., that they should be referred to the Poor-law—a good one, and one that would benefit the patients. At the same time I must admit the existence of a class of people whom, although too poor to obtain proper nourishment, it would yet be cruel to pauperise, and for this particular class we think the resources of the Samaritan Society should be available.

With respect to the third point—the abolishment of subscribers' recommendations—I am given to understand that at many of the large general hospitals in the metropolis patients without subscribers' letters have the same facilities for treatment as those supplied with such letters. It will be found, I venture to say, that the hospital funds will not suffer to any appreciable extent if this system of recommendation by subscribers is done away with. There can be no doubt whatever that the system leads to a good deal of abuse and that as long as it remains in operation it will be almost impossible to check that abuse. However stringent the regulations made by hospital authorities for the admission of patients, it will be found that subscribers will certainly fail to coöperate with these authorities in seeing them carried out.

With respect to the fourth point—the limitation of the number of new cases—it may be said that as such a regulation has answered so well at St. George's Hospital and at St. Thomas's Hospital it would answer equally well at other large hospitals. The resident physician would have the selection of cases and naturally would select those which in his opinion stood most in need of immediate treatment. It must not be forgotten that, as a rule, the majority of out-patients suffer from chronic illnesses and therefore do not suffer any ill effect from having their treatment delayed for a few days.

Regarding the last point I think that if the plan I recommended were loyally carried out by hospital managers they would find a disposition on the part of medical men to take a greater interest not only in the medical work but in the financial work of the hospitals. Nothing but good can result from the establishment of a more cordial relationship between the hospital physicians and surgeons and the outside practitioners.

I have not mentioned the subject of a wage-limit for hospital patients because I believe that such a limit is liable to act harshly. At the same time I think that the hospital authorities should come to some agreement amongst themselves on this subject, an agreement which would allow their inquiry officers some discretion in exceptional instances.

It is obvious that the plan I have recommended could not be carried out in its entirety by small provincial hospitals and it is therefore necessary to propose some alternative plan. I have been much impressed with the systems adopted at Oldham, Sunderland, and Dorchester, and I think it deserves the consideration of managers of other country hospitals. In Oldham Infirmary patients have to appear before what is called an admission committee and have to prove to the satisfaction of that committee that they are not in a position to pay for treatment. The work of the committee is made easier by the fact that the benefits of the institution are restricted to inhabitants of the borough. The fact that out of a population of about 130,000 only 4400 availed themselves of the benefits of treatment in the out-patient department in the year 1892 proves to my mind that the system adopted there is one to be commended. And my belief in it is strengthened when I find that the working classes of that town subscribe something like £5000 a year to the funds. In the case of Sunderland Infirmary it appears that the out-patients are limited to the treatment of in-patients who have been discharged but who still require further attention and to cases of accident and of sudden illness. In Sunderland as in Oldham the working classes subscribe large sums towards the support of the institution. In Dorchester, I am informed, the system of examination by an admission committee before treatment is given works well and little abuse exists. Supposing that small provincial hospitals adopted the plan pursued at Oldham and Dorchester I would suggest that the medical officers should have instructions to reject any cases which in their opinion were not in need of hospital treatment. In Sunderland cases which appear unsuitable from a medical point of view are referred to the provident dispensary.

With regard to special hospitals it is plain that another system must be adopted. I have an opinion respecting the need of such a large number of hospitals for special diseases but I am bound to recognise the fact that they exist and that they are, as is proved by our report on them, much abused. The subject teems with difficulties and I feel that it is only by the coöperation of the medical officers attached to these hospitals that we can possibly hope to overcome these difficulties. I would venture to suggest that all patients should be requested before being treated to bring a note from a medical man stating that they required special treatment and were not in a position to pay the specialist's fee for that treatment. The effect of such a regulation would be to diminish the number of people who now resort to such hospitals and to bring the specialists into closer relation with the general practitioners. It must, I think, be admitted as a fact that a large number of persons resort to special hospitals who could be treated quite as efficiently by general practitioners. At the same time I recognise the fact that in some instances patients who require the aid of specialists are not recommended by their medical attendants to consult them.

Looking at the question from an all-round point of view I feel that it is very desirable to bring the specialists into a closer relationship with the family practitioners; I also feel that there is a large and deserving class of persons who although well able to pay a moderate fee are not well enough off to pay the ordinary consulting fees of specialists. I therefore think that to avoid the abuse of special hospitals on the one hand and on the other hand to make provision for the class I have indicated it would be well if the medical officers attached to special hospitals in the metropolis and in the large provincial towns should take this matter into their consideration and see whether they could not adopt some means whereby people could have the benefit of their advice and treatment on payment of a moderate fee. It should be made a *sine quâ non* that people who wished to take advantage of such a scheme should bring a letter from their own medical man stating that they are not in a position to pay the ordinary consulting fee. I submit that this would be far more advantageous than the present system adopted at most of the special hospitals where fees varying in amount are extracted from patients no portion of which ever reaches the pockets of the medical staff. I maintain that all hospital treatment should be free and should be restricted to those who are not able to pay for such treatment. It is altogether wrong to mix up business with charity, and if hospitals find they are not in a position to treat all the patients who resort to them the managers should take steps to reduce the number of patients. The idea of charging small sums for medicines or appliances is altogether repugnant to the name of charity; it is moreover unfair to the main body of the profession and leads many members of it to adopt plans for procuring patients which scarcely tend to enhance the dignity of their calling.

To sum up, I recommend, first, that in the casualty department of our large general hospitals only cases of urgent importance should be attended to. Secondly, that in the out-patient department patients bringing notes from medical men should have a prior claim to treatment; that a resident physician should be appointed whose duty it shall be to see all out-patients in the first instance, to select those who require immediate treatment, and to decide which cases do not require hospital treatment; that after patients have received "first aid" their circumstances shall be inquired into by a competent officer; and that the honorary medical officer shall not be required to treat more than twenty new cases at one sitting. Thirdly, that all in-patients, with the exception of cases of accident or of great emergency, should be recommended for treatment by medical men and that before being admitted their fitness and circumstances should be inquired into by an officer specially retained for that purpose.

Cardiff.

The Medico-Psychological Association of Great Britain and Ireland.—The next general meeting of the association will be held by the courtesy of Dr. W. S. Kay at the West Riding Asylum, Wadsley, near Sheffield, on Wednesday, Feb. 16th, at 4 p.m., under the presidency of Dr. T. W. McDowall. There are several candidates for election and papers and notes will be read by Dr. Crochley Clapham on the Comparative Intellectual Value of the Anterior and Posterior Cerebral Lobe; by Dr. W. C. Sullivan on Alcoholism and Suicide; by Dr. A Keith Campbell on a Case of Hæmatoporphyrinuria; and by Dr. Bedford Pierce on an Unusual Case of Poisoning. Dr. Kay has invited the members of the association to lunch at 1 p.m. punctually at the asylum and will subsequently afford facilities for its inspection. The members will dine together after the meeting at 7 p.m. Intending visitors are asked to write as soon as possible to Dr. Kay, Wadsley Asylum, Sheffield, stating whether they are able to accept his invitation to lunch and whether they will dine with the association. The price of the dinner will be 7*s.* 6*d*, exclusive of wine.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON FOREIGN BODIES EMBEDDED IN THE CONJUNCTIVA.

By Charles Bell Taylor, M.D., F.R.C.S. Edin.,

surgeon to the nottingham and midland eye infirmary.

A man, aged forty-six years, remarkably healthy-looking and powerful, engaged in agricultural pursuits, applied to me on Dec. 20th, 1897, complaining of inflammation of the left eye which had persisted for two months in spite of careful treatment by a well-known and accomplished surgeon. The eye was inflamed and there was muco-purulent discharge which welled over on to his cheek, while the cornea was becoming hazy. I had seen similar cases and at once concluded that he had a foreign body embedded in the conjunctiva; he said he had no recollection of any such accident and although I carefully everted his lids there was no evidence of any extraneous substance; he was very sensitive and resistant and I therefore placed him on the operating table and while he was under the influence of an anæsthetic succeeded with my finger in dislodging an ear of corn which is reproduced in exact size in the accompanying illustration. All the symptoms subsided at once, the discharge ceased, the cornea cleared, and he resumed his occupation.

Foreign body concealed in sac of conjunctiva for eight weeks

It is astonishing how apt we are to overlook intruding substances in this situation and how difficult it is to remove them. I have known spicula of corn and rye overlooked for months although the patient has been repeatedly examined by experienced practitioners; they are best removed by the operator's finger inserted into the cul-de-sac.

Nottingham.

NOTE ON A CASE OF PUERPERAL SEPTICÆMIA TREATED WITH ANTI-STREPTOCOCCIC SERUM.

By Nolan Daly, M.R.C.S. Eng., L.R.C.P. Lond.

On Dec. 6th, 1897, I was called to a woman who had been delivered by a midwife. There was considerable metrorrhagia and I was sent for. The placenta was firmly adherent and had to be picked away from the uterine wall with the fingers. The patient was very pale and her pulse was feeble. On the 7th she was apparently doing well, but next day she had a rigor with free sweating and throbbing headache; the feet and hands were cold, the temperature was 104·5° F., and she was extremely ill and delirious all night, her pulse being 150 and running. The lochia were absent. The uterus was washed out with perchloride of mercury and six grains of quinine were given twice during the day. On the 10th the patient's condition was much the same, the temperature being 103° and the pulse 136. The abdomen was markedly tympanitic and rigors were frequent, the headache if possible being worse, so I decided to inject 10 c.c. of Messrs. Burroughs and Wellcome's anti-streptococcic serum, which I did at 12 p.m., injecting it under the skin of the abdomen. At 3.30 p.m. I again saw the patient. The temperature was 102·1° and the pulse was 136. She said that she felt a little better and that she had had some sleep. On the 11th, at 12 p.m., her condition was very much improved, the temperature being 99·8° and the pulse 108. The lochial flow had again commenced, the tympanites had disappeared, and the headache had almost gone. On the 12th the patient's temperature had risen to 100·8°, the pulse being 108. I injected 10 c.c. of the serum into the opposite side of the abdomen. On the 13th the temperature had again fallen to 99°, the pulse was 102, and she said she did not feel ill. On the 14th the temperature was 101·2° and the pulse was 102. I again injected 10 c.c. of the serum. From this date the patient made an uninterrupted recovery, the temperature falling to normal and not again rising. No unpleasant local effects followed the injections, but she complained of numbness in the right arm and leg after the first injection; this lasted about six hours and did not recur after the other injections.

Kingston, Abingdon, Berks.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF EXPLORATION OF THE BRAIN FOR SUSPECTED ABSCESS OF OTITIC ORIGIN; NEGATIVE RESULT; RECOVERY.—SECOND OPERATION ONE YEAR LATER; EVACUATION OF EXTRA-DURAL ABSCESS AT GENU OF SIGMOID SINUS; RECOVERY.

(Under the care of Mr. PHILIP R. W. DE SANTI.)

A WOMAN, aged twenty-one years, was, on Feb. 7th, 1896, admitted into the Hollond Ward under the care of Mr. Philip de Santi. At six years of age she had measles; when about seven and a half years of age a discharge was noticed from both ears; it came gradually and without pain. The discharge was more profuse on the right side. From this period up to the time of her admission to hospital she had suffered from purulent discharge more or less continuously from both ears. She attended for some six years at the aural department at Westminster Hospital under the care of Mr. de Santi's predecessor, Mr. Black. In 1891 Mr. Black removed some post-nasal growths and enlarged tonsils. In November, 1894, in consequence of persistent mastoid pain Mr. Black explored both mastoids by Wilde's incision. For a time there was an improvement with regard to the pain, but the discharge from both ears remained profuse. In July, 1895, she was subject to frequent attacks of mastoid pain especially on the right side and the discharge from the ear was profuse and fœtid. Mr. de Santi saw the patient for the first time on Feb. 6th, 1896 when her condition was as follows. Up to two weeks previously she had been in service as a housemaid. She had, however, to give up her work on account of persistent giddiness with a tendency to fall; she also became apathetic, stupid and drowsy. She had persistent headache and from the time she left service she had been steadily getting worse. On admission on Feb. 7th the patient was in a very drowsy condition and lay on her right side supporting the right side of the head with her hand. She had occasional sharp attacks of pain in the right mastoid and parietal regions which made her scream out. There was severe pain on percussion and pressure over the right mastoid and parietal bones. No redness or œdema over the right mastoid was observed and there was no swelling or tenderness in the course of the internal jugular vein. Her temperature was 99·4° F. The pulse was regular and 70. Nausea but not actual vomiting was present. The bowels were obstinately constipated and the tongue was furred. There was no paralysis or paresis, loss of memory, aphasia, or slowness of speech. The patient, however, seemed to be extremely dull and unable to understand questions, and she took no interest whatever in her surroundings. Taste and smell were unaffected. Sensation was not affected and the reflexes were normal. There were no tremors. The optic discs were normal. There was very severe giddiness with tendency to fall to one side, sometimes to the right and at others to the left. She had become considerably emaciated within the previous two weeks. There was profuse fœtid discharge from the right ear and behind both ears there were scars of former operations. The whole of the membrana tympani and ossicles of the right side had been destroyed. No carious bone or fistulous openings could be detected with a probe. The ticking of a watch was heard only on contact. The patient was well purged and kept carefully under observation. The pain, however, especially over the mastoid, continued, the giddiness (when tested for) and drowsiness increased, the pulse became somewhat slower (65), and the sense of vomiting remained. It was therefore on consultation determined to explore for pus.

The head having been shaved, cleansed, and rendered aseptic and the external auditory meatus washed out and plugged on each side with salicylic wool Mr. de Santi on Feb. 14th made an incision just behind the right ear from the top to the bottom of the mastoid process. Having raised the periosteum on either side of the incision he proceeded to open the mastoid antrum with trephine and gouge. The spot chosen was Macewen's supra-meatal triangle. The bone was extremely sclerosed; on removal of the outer wall of the mastoid antrum no pus was found; the mastoid cells were non-existent. No carious bone or fistulous track could be seen in the mastoid antrum or attic. Another trephine opening of about one inch in diameter was now made one inch behind and above the centre of the external auditory meatus exposing the dura mater over the temporo-sphenoidal lobe. There was no thickening or bulging observed. The lobe was explored with a trocar and canula in various directions to a depth of one and a quarter inches. No pus was reached. A third opening was now made directly over the meatus and the tegmen tympani et antri and the dura mater covering it were explored. No extradural abscess, thickening, or fistula of the dura was found. The skin flaps were now closed and a small drain was left in the lower angle and the parts were dressed with dry antiseptic wool. The operation lasted one hour and forty minutes. On the 17th the wounds were dressed; they looked very well. The temperature was normal, but the pain was still very bad indeed. On the 18th the pain still persisted and there was marked pain in the occipital region; well-marked giddiness was present. Mentally the patient appeared to be better. It was decided to explore the cerebellum. Mr. de Santi therefore turned down a flap with the base over the superior curved line of the occipital bone, raised the periosteum, and exposed the inferior curved line. Directly below this line he trephined, exposed the dura mater, and explored the cerebellum to a depth of one and a half inches. Both the anterior and outer and the anterior and inner parts of the cerebellum were carefully explored as well as the deeper parts; no pus was found. The scalp flap was sutured with horsehair. The original wound was slightly opened up and the temporo-sphenoidal lobe was again explored, but with a negative result. On the 19th the patient felt better and had had a good night; the pain was less. On the 24th all drowsiness and giddiness had disappeared. There was no pain in the mastoid or head and the wounds had healed by first intention. She took an active interest in all that was going on in the ward and was bright and cheerful. The temperature had never been above 100·4° since the operations; the pulse was 75 and regular. On March 4th she was sent to a convalescent home.

Subsequently to her discharge from the hospital the patient was frequently seen by Mr. de Santi and she remained quite well with the exception of deafness and a small amount of discharge from the right ear, which was gradually getting less, until about the third week of December, when she began to complain of pain over the right parietal region. This pain seemed to be constant and at times was very acute. She winced considerably on percussion of both right parietal and mastoid regions. The pain continued and she again began to suffer from giddiness, vomiting, stupor and drowsiness; discharge, which was slight in amount and fœtid only as regarded the right ear, was present. She was readmitted under the care of Mr. de Santi on Feb. 22nd, 1897.

Just previously to readmission a swelling had formed in the line of the old post-auricular scar of the right side; eventually some slight quantity of pus came away from this swelling; a probe entered the sinus left for about half an inch. The sinus led to the neighbourhood of the trephine aperture made one year before for the temporo-sphenoidal abscess. The patient's general condition was as follows: she lay curled up on her right side and was almost always in a very drowsy state. She had occasional vomiting, which was irrespective of the ingestion of food. Her facial aspect was that of general apathy except when she had a sharp attack of pain in the right parietal and occipital regions, when her expression became that of lively pain. She usually kept her hand up to her head on the affected side. She had no inclination to eat. Her tongue was furred. The temperature was 99° and the bowels were slightly constipated. There was no paralysis or disturbance of sensory functions. The eyes were normal. There was a fœtid discharge from the right ear; the membrane was gone, but no rough bone was to be discovered with the probe. A non-fœtid discharge from the left ear was present. When she was thoroughly roused the patient answered questions rationally, but took a long while to reply. The pulse was 65 and soft and the respirations were 18 and regular. Her condition gradually becoming worse and the stupor tending towards semi-unconsciousness Mr. de Santi determined to explore the sinus.

On Feb. 26th the patient having been prepared in the usual way and given a hypodermic injection of morphia one hour before the operation Mr. de Santi proceeded to slit up the old wound and to explore the sinus therein. Having got down to the bone the periosteum was turned back on either side and the parts were well exposed; the sinus was then seen to extend through the substance of the temporal bone about midway between the two old trephine apertures made one year before for exploration of the temporo-sphenoidal lobe and cerebellum. A trephine (one inch in diameter) was applied over the sinus and the area of bone was removed. At one part the dura mater was found to be very adherent and much thickened. On following up the sinus pus was found between the dura mater and the posterior aspect of the petrous bone and in the bone itself. The pus was very fœtid and amounted to about 9½ drachms in quantity. The dura mater was much thickened and the lateral sinus was found to be partly separated from the bone, its walls being much thickened and covered with granulation tissue. The sinus, however, was patent; on examining the posterior aspect of the petrous portion of the temporal bone carious erosion was found close to the genu of the sigmoid sinus; fœtid pus exuded from the diseased bone. Having evacuated the pus Mr. de Santi carefully scraped the diseased bone area and enlarged the opening until he got a free through communication into the middle ear and out of the external auditory meatus. The parts were then gently syringed out with a 1 in 60 carbolic solution and dried. A plug of iodoform gauze dusted with iodoform was introduced so that it ran from the trephine aperture behind, through the middle ear forward, and out at the external auditory meatus. The whole of the operation area was dressed with double cyanide gauze. On the 27th the patient felt fairly well and was much brighter; the temperature was 100°. There was pain in the frontal region of the head. On March 1st she was doing very well; she still had frontal headache but otherwise she was in every respect much better. On the 2nd the temperature was normal; the wound was dressed, looking very well. The bowels were well opened. On the 24th she suffered from right facial palsy; this was not present until the 23rd. The wound was still kept patent with a plug and dressed daily. She was quite well in all respects except as regarded the paralysis of the right facial nerve which was complete. She was discharged on May 6th with the wound quite healed and the discharge from the ear stopped. Her temperature never rose at any time above 100° and the relief to all her symptoms after operation was marked. The supervention of the right facial paralysis was regrettable.

Since May Mr. de Santi has seen the patient regularly and she has remained quite well and free from headache, giddiness, or aural discharge; for some little time she had the galvanic battery applied for the facial paralysis but it did not seem to improve at all. Now, however (January, 1898), the paralysis has improved so considerably as to be hardly visible. Her hearing has also much improved, for she is able to hear the ticking of a watch at 5 in. on the right side and 4½ in. on the left side.

Remarks by MR. DE SANTI.—The above case seems to me to be of considerable interest from many points of view. The patient had been suffering for some fourteen years from more or less continuous purulent discharge from both ears. She had previously to my first operation been under skilled treatment for six years, during which time she had had adenoids and enlarged tonsils removed and both mastoid antra explored. Notwithstanding the constant treatment she had received the purulent discharge continued, and finally there were symptoms which pointed so strongly to involvement of the brain that an extensive exploratory operation was deemed necessary. This exploration proved quite negative as regards intracranial complications and yet the patient derived immediate benefit therefrom, the relief obtained lasting for some ten months. Her old symptoms then recurred and at first I considered them to be of a probably imaginary character; they became, however, so well marked that I felt strongly there must be some intracranial complication present. The formation of a collection of pus in the site of one of the old scars and the supervention of a sinus leading to bone finally determined me to again thoroughly explore. This I did one year after the first operation with the result that a well-defined, though small, thick-walled abscess was found in the posterior fossa of the skull, between the groove for the lateral sinus and the posterior aspect of the petrous portion of the temporal bone. The fact of the sinus not being thrombosed is noteworthy; it could only have been a matter of time before this occurred and the prognosis would have been rendered all the more grave had lateral sinus thrombosis been present. Moreover, the case is most instructive if only as an illustration of the great difficulties often presented in forming a diagnosis of and localising the seat of intracranial complications of otitic origin. The diagnostic features leading me to explore in February, 1896, were the sudden and definite onset and progressive course of the disease occurring in a patient the subject of chronic fœtid otitis media purulenta. The trouble was ushered in by persistent giddiness, with a tendency to fall and severe localised headache sufficient at times to make the patient scream out. There was severe pain on percussion and pressure over the right mastoid and parietal bones, as well as from the application of heat, and extremely well-marked and increasing drowsiness and stupidity. (Normally the patient was of a cheerful and active disposition.) In conjunction with these symptoms there were obstinate constipation and nausea independent of the ingestion of food and the temperature was slightly raised. There was nothing in this train of symptoms which could be taken as diagnostic of the localisation of the mischief. All that could be surmised was that from the persistent right-sided pain and tenderness and the extremely fœtid right aural discharge the disease would be found on the right side. Exploration of the mastoid, tegmen tympani and temporo-sphenoidal lobe having proved negative and the symptoms persisting, especially giddiness and pain in the occipital region with a tendency to retraction of the neck, it was thought only right to go one step further and explore the cerebellum. The exploration was very thorough, yet no pus or abnormal intracranial conditions were found and the patient subsequently lost all her symptoms, though ten months later they recurred. As I have already said the formation of an abscess in one of the old scars together with increasing drowsiness determined me to operate again in February, 1897, with the result already narrated.

In a paper I wrote for the Westminster Hospital Reports, 1897, on the Operative Treatment of Cerebral and Cerebellar Abscesses of Otitic Origin, I have laid stress on the importance of a consideration of the anatomical conditions that may be met with, the most advantageous spot for trephining, and the boundaries of the brain area operated on and the depth to which it is safe to penetrate. I have also pointed out that as the great majority of cerebral abscesses of otitic origin are located in the temporo-sphenoidal lobes, the pus being usually found in that part corresponding or close to the tegmen tympani et antri, the trephine should be applied over the bone corresponding to this area; when the brain is exposed it is advisable not to penetrate the brain to a greater depth than 1¼ in. In my opinion the operation should be carried out as follows. If symptoms of abscess, whether cerebral or cerebellar, be present the preliminary step should be an exploration of the mastoid antrum. In many cases the abscess has been reached from the cavities of the middle ear, in others all symptoms have ceased after opening the mastoid antrum. The tegmen tympani et antri can also be explored by opening up the cavities of the middle-ear together with the bony partition between them and the dura mater as well as the bony partition at the sigmoid sulcus. By this preliminary step pus, granulation tissue, and carious débris can if present be removed from the antrum and attic. Should the brain symptoms persist after this step, and point strongly to temporo-sphenoidal abscess, a large trephine hole should be made with its centre perpendicularly over the bony meatus; the disc of bone being removed the upper part of the bony external meatus and roof of the mastoid are chiseled off to the depth of three-fifths of an inch, the dura mater is raised, and the tegmen tympani et antri is exposed. The parts should now be well dried and a good light thrown into the wound. The condition of the bone, whether carious, and of the dura mater, which may be found inflamed, adherent, or fistulous, can now easily be ascertained and any extradural abscess present evacuated. If the dura mater be adherent or fistulous the fistula should be followed up, widened, and the abscess exposed and drained; any diseased bone present must be carefully removed sinus which although not suggested by the external orifices of the fistula has to be traced and laid open.

The question of the existence or position of the internal orifice of the fistula into the bowel has next to be considered and in the cases in which the patient states he has satisfied himself that wind passes through the external opening of the fistula the deduction is clear that an internal opening exists, although the precise seat of the orifice must still be obscure. To find the orifice of communication a carefully conducted local examination is essential. As a rule of practice it is generally well for the surgeon to pass his probe-pointed director through the external fistulous opening before he passes his finger into the bowel, for in passing his finger, however gentle the surgeon may be, some spasm of the anal sphincter must occur and in that way a difficulty is made to the passage of the instrument by the muscle throwing the sinus out of a right line. No force should be used in passing the probe and should an obstruction be met with it would be well to remove the probe and give it a bend with the concavity upwards, the bend tilting the end of the probe upwards against the bowel. When the probe has passed its supposed course the surgeon should then introduce his finger and thus determine the point he wished to elucidate. He has also if there are many external sinuses to make out whether each one has its own internal opening or whether there may be only one common opening, the more usual condition. He has likewise to satisfy himself that the sinus which communicates with the bowel ends at the internal opening or whether it passes up beyond and if so how far. He should also so examine the soft parts around the external opening or openings as to be sure that they are not undermined or the seat of other lateral sinuses, for in the treatment of a fistula every sinus should be found and as a rule laid open, branching sinuses, or what have been described as T sinuses, always requiring this treatment.

FIG. 3.

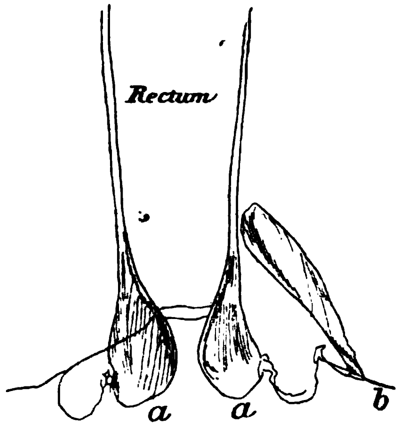

Diagram representing a case of prolapsed hæmorrhoids a) (a) with blind external fistula (b).

FIG. 3A.

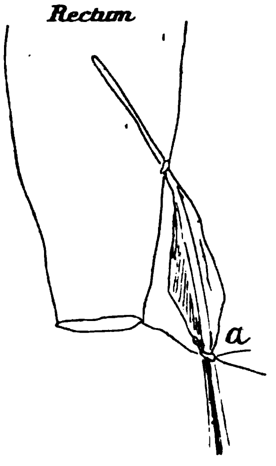

Diagram representing a case of blind internal fistula. a, Seat of external abscess where opened.

The internal orifice of the fistula should always be made out and with care it can generally be detected. It feels with the surgeon's finger in the rectum when recent like a depression in the walls of the bowel and when of long standing more or less indurated. In exceptional cases the walls of the rectum may be extensively ulcerated and under such circumstances the internal orifice of a rectal fistula will be difficult to recognise by the sense of touch. At times the internal opening is so large as to admit the tip of the finger; under these conditions previous ulceration has doubtless been present and has been the cause of the fistula or fistulæ, for where a large abscess has been the result of rectal ulceration several external openings about the anus are usually present. Injecting the external fistula with milk or some coloured injection will often be a help in detecting the presence or position of an internal opening. The accompanying diagrams taken from Mr. Gowlland's drawings will illustrate most of these points and variations of fistulæ.

FIG. 3B.

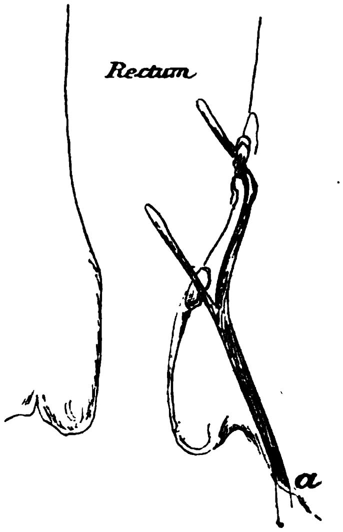

Diagram representing a case of fistula with one external opening (a) and two internal openings.

As a rule the division of a rectal fistula when well performed is a successful measure and where failure follows it is as often due to the presence of constitutional causes as of local. The former may be difficult to overcome. The latter are mostly in the surgeon's power to control. Thus failure at times follows an operation when the surgeon has not found the internal aperture of the fistula and has thus left a sinus extending above the internal opening which for a successful

FIG 3C.

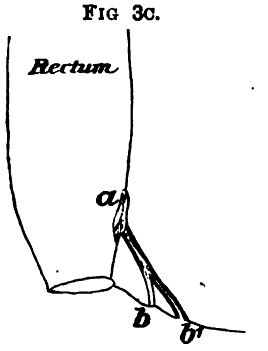

Diagram representing a case of fistula, with one internal opening (a) and two external openings (b), (b'). The patient, a man, was thirty-seven years of age.

marked improvement of all the symptoms was apparent, the left side began to regain power, involuntary micturition and defæcation gradually ceased, and the complete faculty of speech was regained, but his moral attitude assumed suddenly a strange obliquity, a not unusual phenomenon in cases of injury to the head. From being, according to information received, invariably a respectful, well-spoken lad he developed the use of the most foul and profane language, became insolent in demeanour and filthy in bed—a state of matters, however, which proved merely temporary, lasting only for about a week, after which he regained his usual quiet, pleasant manner. On June 5th the temperature was normal and remained so, convalescence being well established. The scalp wound, necessarily an extensive one, healed satisfactorily, leaving for a short time a small hernia cerebri of the size of a shilling at the site of the drainage tube. This, however, eventually disappeared and examination now shows a large firmly united tri-radiate scar over a depressed, slightly pulsating area corresponding to the skull surface removed. The recovery was in other respects quite satisfactory, but in spite of the natural diminution to some extent of the skull opening in process of time Mr. Naismith fears that an invaliding board alone intervenes between the patient and his return to civil life. He returned to Maryhill on July 17th.

Remarks by MR. NAISMITH.—The above record is made with the approval of the principal medical officer, Scottish district, who was good enough to express much interest in the case. I desire to express my indebtedness to Surgeon-Lieutenant-Colonel Coats, A.M.S., in medical charge of the 21st Regimental District, who saw the patient with me, and to Dr. Landsborough for notes of the case.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Immunity and Latency after Operations for Reputed Carcinoma of the Breast.

A MEETING of this society was held on Jan. 25th, the President, Dr. HOWSHIP DICKINSON, being in the chair.

MR. MARMADUKE SHEILD read a paper on Immunity and Latency after Operations for Reputed Cancer of the Breast. The paper commenced with a short sketch of the general results of the old or incomplete operation for cancer of the breast in this country during the present century. Attention was drawn to the fact that the more extensive operation as now advised was promulgated by Moore, of the Middlesex Hospital, as long ago as 1867. Almost every surgeon of experience was able to quote notable exceptions to the generally received rule that rapid recurrence was invariable. An investigation into the subject led to the belief that the results even of the old or incomplete operation were not as universally bad as generally stated. A number of cases were collated from various sources to show this. A much larger number could have been quoted, but the cases were collected rather with the view of illustrating the subject and of evoking comment and discussion than for the sake of compiling a very large number. The source of information was quoted in the tables, and the reasons for believing the cases to be genuine were carefully stated, especial stress being laid upon the opinions of well-known surgeons. In the first group forty-four cases were recorded where long immunity resulted after operation with no recurrence. In the second group were sixty-four cases where recurrences local and metastatic took place, although the patients lived for long periods. Here it was notable that some of the cases where life has been longest preserved have been those marked by local recurrences which have been removed one or more times. In some of the cases return of the disease took place at remarkably long periods after operation. Some of the best results obtained must be rather due to some peculiarity in the growth or the individual than the actual nature of the operation. The late recurrences observed make no doubt that the adoption of the rule of Volkmann of a three years' limit is too absolute and the period of time too short for the pronouncement of "cure." A collective investigation of the true results of the modern extensive operations is much to be desired.

MR. PRIDGIN TEALE said that he based his opinions on complete records which he had kept of the cases operated on during thirty years. It was only in private practice that the cases could be efficiently followed up. In eighteen cases which he had followed up there had been no recurrence in ten years. He protested against the doctrine that a case could be regarded as "cured" if no recurrence was seen in three years, but he was surprised to find what a proportion of his cases had lived for a considerable time. None of his cases were "complete" operations. The whole breast was always removed and any glands that were diseased, but it was only in the last half of the series that he had systematically removed the glands, many of which, he remarked, although found to be enlarged when the axilla was opened were not palpable through the skin. If, as was now taught, the complete clearing out of the axilla was so essential he thought that he would have had recurrence more frequently than he did. If the old operation was thoroughly done the results were satisfactory, but experience with Halsted's operation seemed to show that metastatic deposits were frequent and of early occurrence. But owing to antiseptics and other advantages the more extensive operation could be performed with much less risk than would have been possible twenty years ago. He asked whether there was much disability as regards the arm after the removal of the pectoral muscle?

MR. BRYANT said the paper brought together a collection of exceptional cases from the experience of many surgeons and would certainly enable surgeons to place a more favourable prognosis before their patients. Owing to the exceptional nature of the cases too absolute conclusions must not be drawn. He had looked up his own records and he found that he had full notes of seventy-two cases which he had followed to the end. Of these 55 per cent. died within three years of the operation, 44 per cent. lived for three years and over, 18 per cent. in the latter group surviving for periods of from five to ten years and upwards. With respect to the method of operation he rather took exception to the use of the term "incomplete" as implying that the surgeon had not done his work thoroughly. He usually performed what would be called the incomplete operation, as he did not habitually clear out the axilla or remove the pectoral fascia unless there was sign of disease, and he thought that his results were as good as those by the "complete" method. He always opened and explored the axilla, but did not clear it out unless there was definite disease. It was notable that recurrence rarely took place in the axilla, but below it or in the scar. He thought that the mortality would be high if Halsted's operation were performed on patients who were advanced in life. It must be remembered that cancer was not always a progressive disease, and he referred to several striking instances of carcinoma fibrosum which he had seen, which remained as a local disease for fifteen or twenty years but which appeared to recur rapidly in a disseminated form if removed. He mentioned the case of a lady, sixty-four years of age, who had a carcinoma fibrosum of one breast of many years' standing and then developed a large sarcoma of the other breast. This was removed and recurrent secondary growths were removed eighteen times in the next five years till death occurred from growth in the lung, the carcinoma remaining absolutely quiescent the whole time. In cases of recurrent carcinoma he had noticed many cutaneous tubercles which he had formerly thought to be disseminated new growth, but in one case, of which he made drawings at the time, the tubercles, which had persisted for six months, disappeared without any treatment. He had seen this disappearance in eight or ten instances, which showed that their presence need not deter the surgeon from removing any recurrence in their neighbourhood.

MR. CHRISTOPHER HEATH endorsed the protest which had been made against considering cases in which no recurrence had been manifested for three years as being cured. Patients of his own operated on in 1886, 1891, and 1893 (three cases) were now well, but there was another patient operated on in 1887 who was well at the end of three years but was dead from mediastinal cancer at the end of five years. Writing in THE LANCET in 1871[1] he had advised the free removal of all infiltrated tissue and of some depth of the pectoral muscle, and this had been his method ever since, and he preferred it to Halsted's unnecessarily severe operation. He knew of no other remedy except removal. He had never seen any result from the administration of drugs such as Chian turpentine nor had he seen arrest from the application of electrical currents. He reminded the society that it was by no means difficult to trace a patient and to inspect the death certificate by going to Somerset House.

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[1] A Course of Lectures on Diseases of the Breast, THE LANCET, May 6th and June 17th and 24th, 1871.

Mr. BARWELL said that cases could not be considered as cured in three years. It was true that he had seen two patients the subjects of undoubted cancer who were well twenty years after the operation, and another who was well fifteen years after operation, while six remained well for ten years and then died from some other disease. But he quoted other cases which illustrated that recurrence might occur at longer periods than three years; in one case it occurred in seven years and in another in sixteen years after operation. He thought that it was advisable in all cases to open the axillary fascia and explore the contents of the axilla digitally for glands or hardened lymphatic cords. He remarked that glandular infection appeared much less apt to occur when the disease was on the sternal side of the mamma. It was necessary to remove freely any skin that was implicated, but no healthy skin which could be preserved should be cut away, as the edges could not then be brought together without tension. This hindered rapid healing and recurrence was much less apt to occur in the scar when healing was prompt. If a gap was left he preferred to resort to transplantation of skin.

Mr. BUTLIN said that Mr. Sheild's paper clearly showed that even with the old methods of operating the results were not so unfavourable and he was rather surprised at the pessimistic tone of previous speakers. Lately he had employed Halsted's method and he thought that it would reduce still further the number of recurrences. He only removed the pectoral portion of the pectoralis major, leaving the clavicular attachment, and the mobility of the arm was very satisfactory. He thought the mobility of the arm depended much more on the amount of the integument removed than on extent of removal of muscle. He did not think that Volkmann's dictum that cancer was to be considered as cured if there were no recurrence after three years was very inaccurate if considered as an average expression for all forms of cancer, but probably the time ought to be extended in the case of cancer of the breast. Of course any patient might suffer from cancer at a later period, but there were many forms of illness in which there was a tendency to the occurrence of subsequent attacks and yet everyone spoke of a patient's recovery from the first attack as a "cure." If a very gloomy view of the prognosis of cancer were generally taken he thought that it would be an evil, as the patients would be even more dilatory in seeking surgical assistance and there might be some tendency for the surgeon to be less thorough in operating, and he thought that a more optimistic view was justifiable at the present time than had been the case in the past.

On the motion of Sir THOMAS SMITH the discussion on the paper was adjourned till the next meeting on Feb. 8th.

MEDICAL SOCIETY OF LONDON.

Rectal Surgery.

A MEETING of this society was held on Jan. 24th, Mr. PEARCE GOULD, Vice-President, being in the chair.

Mr. BRYANT read a paper on Rectal Surgery, illustrated by drawings made by the late Mr. P. Y. Gowlland. The paper appears in full at p. 285 of our present issue.

Mr. ALFRED COOPER agreed with Mr. Bryant as to the importance of making sure of the track of a fistula. It was at present generally recognised that there was usually only one opening into the bowel even when there were several external sinuses. In the old days it was the custom to push a director into the bowel from any sinus and slit up the track, but if this were done through several sinuses there was much risk of fæcal incontinence. The single opening should be searched for and the track laid open. With regard to hæmorrhoids, although he had tried other methods, such as Whitehead's, he had always come back to the ligature which he had employed for thirty years, ligaturing the vessels only without including the mucous membrane. An operation was certainly necessary when the piles remained persistently down or could only be kept in position by plugs. It had often been held that the bleeding from hæmorrhoids relieved headaches, &c., and he had seen such symptoms aggravated after operation. A similar result was sometimes observed in cases of pulmonary phthisis when a fistula was operated on. Passing on to the subject of fissure Mr. Cooper mentioned that there were many cases in which there was a tag inside as well as outside, and if this were not removed the patient's subsequent condition might be often more painful than before the operation, and when the condition inside the sphincter was really bad he preferred to divide the external sphincter as a whole. He wished to insist on the necessity of making a systematic examination in all cases of rectal trouble instead of prescribing gall ointment and confection of senna off-hand, as was often done. He mentioned the case of a man who had been under the care of several medical men who had treated him in this way for supposed fissure, but on digital examination the trouble was found to be due to the rib of a hare which was impacted in the rectum.

Mr. GOODSALL was rejoiced to find that these admirable drawings of Mr. Gowlland had been given to the profession. He agreed with what had been said as to the importance of thorough examination. He preferred to have the patient on the right side and to examine with the left hand so as to leave the right hand free for any manipulation that might be necessary. Ninety per cent. of the lesions of the anus and rectum were situated within two inches of the anal margin and might be missed if the finger were introduced too far. When an ischio-rectal abscess had formed an early T-shaped incision gave the patient the best chance of recovering without the formation of a fistula. There was usually very little bleeding. A guide to the position of the internal opening was to draw a line through the anus between the tuberosities. Any external opening posterior to that line would probably correspond to an internal opening in the middle line posteriorly, while an opening anterior to the transverse line would be found in the anterior rectal wall. He thought that hæmorrhoids were usually set up by constipation, often dating from youth. Often fissure was associated with the piles and when the piles "came down" they stretched the sphincter curing the fissure. A cure could be effected in many cases without operation, but where the piles were always coming down an operation was necessary.

Mr. SWINFORD EDWARDS said that with regard to pruritus ani he found that 50 per cent. of the cases presented no sign of rectal disease. Forcible dilatation, continued long enough to cause temporary paralysis of the sphincter, with scraping of the eczematous part, would usually effect a cure. He thought that probing of a fistula was rarely necessary in order to discover the internal opening of a fistula if they followed Mr. Goodsall's rule. He thought that it was not always necessary to open up a sinus which ran up above the internal sphincters as many of them would be cured by injections after the other sinuses had been laid open. He had seen perforation of a rectal ulcer occur through the administration of an enema. A recto-vesical fistula could be attacked in several ways, by lumbar colotomy, as Mr. Bryant recommended, or by inguinal colotomy, which he preferred. He had also attacked the fistula directly both by the rectum through a posterior incision and from the bladder through a suprapubic incision. In some cases of uncomplicated piles he preferred the injection of a 1 in 5 solution of carbolic acid in glycerine to any other intervention. There ought to be no sloughing and the patient could walk home. In the case of strangulated piles he preferred to ligature them all at one sitting after forcible dilatation of the sphincter.

Mr. W. H. BATTLE asked whether in the fatal cases of rectal ulcer the appearances pointed to the existence of the condition known as ulcerative colitis. He himself had seen two cases of acute peritonitis from perforation of rectal ulcers and in one case hæmorrhage occurred from ulceration into an artery in the recto-vaginal septum. He thought that scraping the track of a fistula after it had been laid open hastened healing. He mentioned the case of a woman who had been treated for syphilitic stricture of the rectum who returned with some symptoms of obstruction which he found on examination to be due to the impaction of three sovereigns at the level of the stricture.

Mr. PEARCE GOULD asked Mr. Bryant whether he had had any experience of the method of immediate suture of the divided surfaces after operation for fistula which had been largely practised in Ireland. He agreed that the clamp and cautery method of dealing with piles was quite satisfactory and trustworthy and there was perhaps less pain than after ligature. He asked Mr. Bryant whether he had had any experience of Whitehead's operation which he thought most surgeons regarded unfavourably. He said he himself always taught that when a patient with piles complained of acute pain this was an indication of the existence of some complication, uncomplicated piles being a singularly painless affection. He commented on the contrast between Mr. Goodsall's remark that if a patient with a fissure got prolapsing piles these would cure the fissure while intensifying the piles and Mr. Bryant's statement that if a fissure occurred in a patient suffering from hæmorrhoids it improved the hæmorrhoids and lessened the prolapse though it caused much suffering.

Mr. BRYANT, in reply, expressed his satisfaction at having brought the drawings of Mr. Gowlland before the society. He pointed out that his paper was simply based on his individual experience in respect of diseases of the rectum and did not purport to be an exhaustive description of the subject as a whole. He had not said anything about Whitehead's operation because his experience had not been large enough to enable him to form an opinion. He admitted that he did not like it, but thought this might possibly be due to the fact that he was not used to it. With respect to operations in phthisical patients he said he had taken the trouble to study the matter years ago and had been struck by the fact that so few cases of fistula came to the hospital associated with phthisis. It was true that those who did were marked and typical cases. Even in these, however, he had never been able to trace any harm from the operation ; in fact, he looked upon it as an advantage in ridding the patient of a drain. He could safely say he had never been able to connect the rapid progress of the disease with any preceding operation for fistula. He still failed to see any necessity for habitually dividing the sphincter. He had done it in old-standing cases with much induration, in which he had not only gone through the sphincter but had taken away the edges of the ulcer wall. He agreed with Mr. Goodsall that division of a long sinus as a routine practice was a mistake. He dissented from the statement that fistulæ only had one internal opening. Although there was only one internal opening as a rule there were not a few exceptions. In one of the drawings before them there were several all communicating with the bowel. He presumed that even Mr. Edwards would not deal with a strangulated pile while acutely inflamed. Later, of course, if it began to slough it might be dealt with on general principles. He had seen many instances of the occurrence of fæcal extravasation from rectal ulcers. Ulcers might occur in this situation just as they occurred in the stomach, duodenum, and small intestine, but he had not recognised them as forming part of the condition known as ulcerative colitis though in one case this condition had misled him into performing colotomy for obstruction—of course without affording any relief. He had alluded in his paper to the value of scraping the sinus thoroughly in every case of fistula and he looked upon it as an essential point, especially in phthisis.

EPIDEMIOLOGICAL SOCIETY.

Typhoid Fever in Munich.

A MEETING of this society was held on Jan. 21st, Professor J. LANE NOTTER, President, being in the chair.

Dr. CHRISTOPHER CHILDS read a paper on the History of Typhoid Fever in Munich, illustrated by a number of tables. This paper we shall publish in full in an early issue. From Dr. Child's researches it appeared that the mortality from that disease had fallen in successive decades since 1850 from 202·4 to 147·8, 116·7, and 16·0 per 100,000 inhabitants, in 1891–96 to 5·5, and during the last three of those years to 3·0, while epidemics had been unknown since 1880. In England and Wales the death-rate had been 32.55 in the eighth decade of the present century, 19·76 in the ninth, and 17·38 in the period 1891–96. The trustworthiness of the returns from medical practitioners was confirmed by the close correspondence they showed with the monthly reports from the garrison and the hospitals, where every fatal case was verified by post-mortem examination. Since during this period the water-supply had undergone great improvement it was but natural to ascribe to this cause the unparalleled reduction in the typhoid fever mortality, but a closer study of the facts disproved any such connexion. Munich stood on a wide, elevated plateau inclining from south to north, the high, open country above the town being almost uninhabited. The city was intersected by the River Isar and traversed by tributary streamlets (the Stadtbäche) in great part built over. The soil for many miles around was a bed of gravel from 10 ft. to 50 ft. in depth, resting on an impermeable clay which supported a copious sheet of ground-water flowing northwards and oscillating with considerable regularity, being highest in summer and autumn and lowest in the winter months. In the country this water was comparatively pure, but it became greatly polluted within the precincts of the city, especially when it rose to a high level so as to mingle with the soakage from the Stadtbäche and the pervious cesspits that had for centuries received the excreta of the inhabitants. In 1853 these cesspits were by order of the city authorities emptied, cleansed, and lined with cement and had since been gradually superseded by a system of well-constructed sewers planned by the English engineer, Mr. J. Gordon, who had previously carried out the sewerage of Frankfurt-am-Main. Until 1865 the city of Munich derived its water-supply from private wells and from the royal and municipal waterworks, the source of all being springs or wells drawing from the ground-water in or near the town and, as the analyses of Dr. Sendtner showed, all more or less polluted. But in that year a better supply was furnished to the south and west districts of the city by the Pettenkofer waterworks, which drew from the same source but further to the south and remote from human habitations, and in 1883 the Hochquelle Leitung or highland waterworks were opened, their supply being obtained from springs and streams impounded in the Maugfall Valley twenty miles distant among the Bavarian Alps and providing all parts of the city with a water of exceptional purity. In 1854 when cholera visited Munich Pettenkofer, believing firmly in the constant connexion between the water-supply and epidemics of that disease as well as of typhoid fever, instituted an inquiry into the source of the water used in every house in the city, but neither in that epidemic nor in subsequent outbreaks of typhoid fever could he trace any connexion between these and the local distribution or incidence in time of either disease. He did, however, find a remarkable correspondence between the rise and fall of the ground-water and the prevalence of typhoid fever, which was always greatest when the water was low and, as he had observed, least polluted. From these inquiries he came to the conclusion that in Munich at any rate the water had little to do with the spread of typhoid fever, the necessary conditions for which were: (1) the presence of the specific germ in the soil ; (2) a susceptible population or one predisposed to infection ; and (3) a soil saturated with organic matter, together with certain conditions of porosity affected by temperature and moisture or by the rise and fall of the ground-water. In 1865 the population supplied with the pure water from the Pettenkofer works suffered as heavily as the rest, and in 1884 those who still drank from the old city wells were not attacked more severely than those who had availed themselves of the still purer highland water. In short, the decline in the mortality began too late to be ascribed to the introduction of the former, and too soon to be explained by that of the latter of the new supplies, but it began at the time (1858–60) when the cesspits were rendered watertight, and culminated in 1880 with the simultaneous closure of 800 slaughter-houses in the city. Each of these events marked the cessation of a great and hitherto continuous source of pollution of the soil; though from ten to twenty years being requisite for the entire removal by natural means of the organic matter—the healing of the soil, as he called it—the improvement had continued, though more slowly, to the present time.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases.—Vesical Tumour.

A MEETING of this society was held in Birmingham on Jan. 19th, the President, Mr. J. W. TAYLOR, being in the chair.

Mr. LEONARD GAMGEE showed a case of Tubercular Peritonitis which had recovered after operation. The abdomen began to swell in September, 1895, when the child was four years old. In September, 1896, the abdomen was distended with fluid and so laparotomy was performed. Many pints of clear, straw-coloured fluid were evacuated.

The peritoneum was studded with small tubercles. The abdomen was closed without drainage. Since operation the fluid has never re-accumulated and the child is now, sixteen months after operation, in perfect health.

Dr. F. H. **Simpson** showed a case of Hysterical Paraplegia in a girl, aged seven years. Six weeks before examination the child got her legs wet and a week later complained of pains in the lower extremities. She was then kept at home; at the end of another week she was found one morning to have lost the use of her legs. Dr. Simpson saw the case three weeks from the onset of paralysis. The patient's condition was then as follows. There was complete paralysis of both lower extremities; the muscles of the left leg were flaccid and those of the right leg were in a state of overtonicity scarcely amounting to "contracture" by offering some resistance to passive movement. The left knee-jerk was normal. The right knee-jerk appeared to be absent, a result really due to involuntary contraction of the flexors of the knee preventing extension. There was no ankle clonus. The attempt to flex the foot on the leg demonstrated great variability in the contractions of the paralysed muscles. There was anæsthesia of both legs, limited above by a horizontal line about four inches above the knee and loss of sensibility to both tactile and painful impression. There was no muscular atrophy. There was concentric contraction of the right visual field (moderate) and absolute inability to stand without support and assistance, the attempt causing an emotional outburst. The patient recovered the use of her legs completely and suddenly three days after examination.

Mr. **Barling** related the following four cases of Vesical Tumour which had recently been under his care, and showed the specimens. The first was a case of recurrent fibro-papilloma. A woman, aged thirty-five years, was admitted to the General Hospital on Nov. 1st, 1897, complaining of great pain in passing urine and of blood in the urine. This patient had been operated upon four years previously for papilloma of the bladder and she had remained quite well for rather more than three years. The growth at the first operation had a rather broad and almost sessile attachment to the left side and floor of the bladder. The first symptom of recurrence was hæmorrhage and at the end of about three months frequency of micturition and discomfort in the act began to be felt. These symptoms all increased until micturition became very frequent and the pain extreme; eventually practical incontinence was produced. Suprapubic cystotomy was performed on this occasion as on the previous one and the cavity of the bladder was found to be filled with soft growth arising from the site of the previous tumour and from the posterior wall of the bladder as well. There was no induration or ulceration at the base of either growth and both were removed mainly by Thompson's forceps and by nasal polypus forceps. The hæmorrhage was so severe that the patient was rather collapsed at the time, but she made an excellent recovery, her comfort being greatly added to by the use of Sprengel's pump to drain the bladder, by which means her dressing was kept dry. Her case at the time of her first operation was an illustration of the value of the cystoscope in diagnosis. The patient had suffered from hæmaturia for a long time and on going to a hospital had been sounded for stone. None being felt the bladder was washed out, upon which cystitis followed. What with pain, frequent micturition, and hæmorrhage she was worn to a shadow and looked like a patient with advanced malignant growth. The cystoscope showed at once the cause of her trouble, and after removal of the tumour she was restored to excellent health and condition again. The second case was one of pedunculated papilloma in a man, aged forty-five years, who was admitted to hospital on Nov. 4th, 1897, complaining of frequent micturition and of pain during the act. He noticed a year previously a little blood in his urine; this increased in quantity but was intermittent in character. At the end of a few months frequent micturition in the daytime came on, then pain and occasional sudden cessation of the stream of urine. The cystoscope showed a pedunculated papilloma on the floor of the bladder just behind the left ureter. Bi-manual examination failed to show any infiltration or thickening of the bladder wall. The prostate was found generally enlarged. Suprapubic cystotomy was performed and a small pedunculated tumour removed by ligaturing its pedicle and snipping off with scissors. As in the last case Sprengel's pump was used to great advantage. The third case was one of sessile patches of papilloma. A man, aged sixty-two years, was admitted to the General Hospital on Dec. 30th, 1897, complaining of hæmaturia. He had been an invalid and unable to follow his occupation for some years, and during the last two months he had suffered constantly from hæmaturia and at the same time from dropsy. On admission the patient was very pale and anæmic, his urine ran away from him almost constantly, his legs were œdematous, there was a large quantity of blood in the urine, and his pulse was very feeble. Examination per rectum showed that he had a generally enlarged prostate. The patient was far too ill for complete investigation of his case and died of cardiac failure two days after admission. Post mortem small patches of sessile papilloma were found in the bladder and a large prostate. As far as could be determined the papilloma was the source of the hæmorrhage. The patient had marked cirrhosis of the liver. The last case related by Mr. Barling was a case of epithelioma. A single woman, aged sixty-three years, was first seen in September, 1897, complaining of hæmaturia, of which she had had several attacks in the preceding three months. Examination with the cystoscope showed a growth of about the size of a shilling on the floor of the bladder behind the trigone. Its surface was covered with papillæ, it was quite sessile and was commencing to ulcerate at its margin. Examination of the urine showed that it had a high specific gravity and contained sugar but there was no thirst or polyuria. It was believed that the tumour, although malignant, was just within reach of excision, but the condition of the urine and the rather senile condition of the patient made the operation hazardous and she was advised not to undergo operation unless pain or other symptoms became troublesome. In November, pain in micturition began to trouble the patient and increased in severity whilst at the same time increase in frequency in micturition arose until it became almost incessant and the hæmorrhage remained persistent and severe. On Dec. 30th the patient was admitted to hospital seeking relief if operation were feasible. Examination with the cystoscope showed that the growth had hugely extended and was widely ulcerated, whilst bi-manual examination showed that its base had infiltrated until it fixed the bladder firmly to the front of the uterus. The patient died of respiratory failure during the administration of chloroform whilst she was being examined. It might be mentioned that the sugar persisted in the urine. Post-mortem examination confirmed the clinical examination, showing a widely ulcerated epitheliomatous growth, very fixed, and so extending through the coats of the bladder that the omentum was adherent. There was no infection of glands. The main features of these cases and the earliest subject of complaint on the part of the patients was hæmaturia. In the first case cystitis was eventually associated with it and this appears to have arisen from the unfortunate treatment of washing out the bladder, a method often resorted to with very little justification. In the second case the symptoms of very painful and frequent micturition gave rise to the belief that the tumour might be malignant until cystoscopic examination negatived this. It is probable that both these symptoms and the occasional sudden cessation of the stream of urine were due to the floating of the tumour into the vesical orifice and its becoming engaged therein. In the third case the hæmorrhage was most profuse and confirmed the observation not infrequently made that the amount of hæmorrhage is no criterion of the size of the tumour.

Mr. **Barling** also read a note on two cases of Colectomy for Carcinoma of Sigmoid Flexure.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases and Specimens.—Uterine Fibroids.

A meeting of this society was held on Jan. 20th, Dr. **Macfie Campbell**, President, being in the chair.

Dr. **Hunt** showed a case of Malignant Disease of the Larynx.

Mr. **Richard Williams** showed a case of Tubercle of the Iris in both Eyes.

Mr. W. T. **Clegg** read notes of two cases of Bladder Tumour and two cases of Latent Renal Disease in which the cystoscope at once threw light upon the source of the symptoms.

Dr. T. R. **Bradshaw** showed a well-marked case of Congenital Syphilis in a boy aged eleven years. There was a history of hemiplegia first on the right side and then on the left side and there was late rigidity of the left arm with dislocation forwards of the head of the radius. The face strongly resembled that of a cretin, but although sight and hearing were affected there was no impairment of intelligence.

Dr. T. R. BRADSHAW also exhibited two rare Urinary Deposits — hanging-drop preparations of (*a*) cystin and blood (although blood corpuscles were present in large numbers the urine did not give the guaiacum reaction) and (*b*) a deposit from alkaline urine consisting of triple phosphates and spheres and dumb-bell crystals which he believed were calcium carbonate. The deposit was dissolved by acetic acid with effervescence.—Dr. BUCHANAN thought these last crystals might be urate of ammonium or a rare form of uric acid, the shape being dependent on the nature of the fluid in which they were deposited. Such a form of uric acid may be artificially stained. Calcium carbonate being colourless would serve to distinguish it from the specimen shown, which was deep orange in colour. Urate of ammonium and calcium carbonate are both soluble in acetic acid, the calcium salt with evolution of gas, urate of ammonium being decomposed and uric acid set free.

Dr. CATON showed a youth who during Acute Rheumatism developed a Systolic Bruit at the Mitral Valve with accentuation of the second sound at the pulmonary valve. This was one of about sixty cases in which by prolonged rest, treatment by small blisters, and potassic iodide Dr. Caton had sought to secure resolution of the endocarditis without injury to the valve cusps. In this and in forty other cases the bruit had disappeared; in the remainder it was persistent.—Dr. CARTER said that on the general question of blistering he was surprised to find how greatly, and as he believed unreasonably, medical opinion had changed as to its supposed utility in acute rheumatism since the time when the late Dr. Herbert Davies had seemed to demonstrate on the secure basis of fact the good effects that followed its employment. A few years ago on his (Dr. Carter) prescribing blisters for the inflamed joint of a negro one of the students at the bedside asked him if he thought they were useful. He asked the student to watch the result and form his own opinion. On inquiring what had prompted the question a manual of clinical medicine for students was produced in which, without a tittle of evidence, the practice of employing blisters was condemned. It was stated by some writers on therapeutics that blisters over the heart would act as irritants. The successful cases of Dr. Caton showed evidence opposed to this, and some years ago he (Dr. Carter) had blistered the præcordia of white rabbits severely and in none of them was there any evidence of pericarditis or endocarditis on killing the rabbits.

Mr. ROBERT JONES exhibited a boy with Congenital Hypertrophy of the first and second Toes of the right foot, the great toe being four and a quarter inches long and the second three inches. An x ray photograph showed the first phalanx to be two inches long and thick in proportion.

Mr. ARTHUR WILSON showed a case of marked Hypertrophy of the second and third Toes in an infant.

Mr. HENRY BRIGGS detailed the clinical histories of thirteen cases of Uterine Fibroids the weights of which ranged from 9 oz. to 2 lb. ¾ oz., and submitted that in the treatment of them and of similar cases vaginal hysterectomy had advantages worth considering in the present unsettled state of the surgical treatment of uterine fibro-myomata. In each of the thirteen cases there were severe symptoms of considerable duration. Two patients were past the menopause (four years and three years); in these and in four others (of the ages of forty-four, forty-three, forty, and forty-five years) invalidism was due to pressure symptoms. In four patients pallor from hæmorrhage and in one pelvic pain, not relieved by long periods of total rest and other minor treatment, called for a radical operation. One patient, aged twenty-seven years, had had acute peritonitis which became chronic and associated with an apoplectic ovary and adhesions low down. One patient, aged forty-one years, who was in hospital for two months with intermittent febrile attacks (103° F. at night) which were not checked by attention to the bladder, was completely relieved by removal of the uterus and the necrosing fibro-myoma. All the patients express themselves as cured, ten retain both appendages, and three have lost the diseased appendage of one side.—Dr. T. B GRIMSDALE thought there was much to be said in favour of the vaginal route which is in fashion at the present time; still there were certain advantages which it was impossible to overlook that could be claimed for the abdominal route. He called attention to the age of one of the patients (twenty seven years) on whom the vaginal method had been adopted and suggested that if the abdominal route had been used it might have been possible to remove the tumour and leave the uterus undisturbed.—Dr. J. E GEMMELL considered the operation might be suitable for many cases, yet it seemed hardly a true surgical procedure to remove an organ because a tumour grew in its walls. In vaginal hysterectomy he favoured Doyen's method of splitting the uterus and cutting out V-shaped pieces if it was necessary to reduce the large bulk to facilitate delivery of it.—Dr. MURRAY CAIRNS and Dr. E. T. DAVIES also spoke.

PATHOLOGICAL SOCIETY OF MANCHESTER.

The Antrum of Highmore.—Pneumonia and Tuberculosis.—Exhibition of specimens.

A MEETING of this society was held on Jan. 19th, Mr. C. E. RICHMOND, President, being in the chair.

Mr. WESTMACOTT read a short paper on the Antrum of Highmore, its variable anatomy with reference to empyema of the cavity, giving an account of recent work on the subject he had done in Vienna, and showed a number of dried and spirit preparations of the superior maxilla which he had prepared to illustrate the dimensions, situation, orifices, and relations of Highmore's cavity, as well as several photographs and lithographed plates. Mr. Westmacott's remarks showed the almost constant variation in the size of the antrum, in some cases differing very markedly on the two sides in the same individual, and the difficulties that are met with in deciding where an operation for the relief of empyema should be performed. He gave one or two practical guides, however, which would help the surgeon in his choice of the different situations. Finally, Mr. Westmacott spoke of some anatomical conditions which detracted somewhat from the value of trans-illumination of the antrum.

Dr. HARRIS exhibited specimens and recorded a case where, immediately following an injury to the chest, an apparently typical acute Croupous Pneumonia of the lower lobe of the left lung had resulted, but where the pneumonia did not show any signs of resolution, and the patient, who was a man sixty-eight years of age, gradually sank and died between ten and eleven weeks after the accident, up to which time he had had perfectly good health. At the post-mortem examination a thickened pleura over the lower lobe of the left lung was found together with consolidation of the lower lobe as well as of the lower part of the upper lobe. At several points the consolidation, which was evidently of comparatively recent origin, was breaking down into small cavities. At two or three points in the lung were old quiescent calcareous and fibroid foci, evidently the result of a long antecedent tuberculosis. The right lung was studded with recent acute miliary tubercles. The question of the origin of pneumonia from contusions of the chest was considered and the possibility in rare cases of injuries predisposing to the development of pulmonary tubercle. In the case recorded it was considered probable that an ordinary acute lobar pneumonia resulted from the accident and that tuberculosis became grafted upon the simple inflammatory lesion. The possibility of the tuberculous virus having been absorbed from the old patches of obsolescent tubercle was referred to.

Dr. MILLIGAN showed an Exostoxis of unusual size removed from the nose of an elderly man by external operation.

Mr. STOCKS exhibited thirty-seven Calculi removed from the Bladder by Lateral Lithotomy at one sitting. They appeared to have originated from some "rape-seed" calculi passed from the kidney and being detained in the bladder became enveloped by a deposit of uric acid (?). This deposit, although showing evidence of concentric layers, showed some peculiar lines radiating from the central "rape seed" something like the lines seen on a transverse section of an orange. These stones had gone on increasing to about half an inch in diameter when some of them had split in the bladder forming nuclei for a fresh crop of calculi. Thus there were two series of calculi—(1) originating in the "rape-seed" calculi—the original stones; and (2) originating in the portions into which the former ones had split—secondary stones. They all were covered by a thick deposit of phosphates and differed in appearance from each other in nowise save in their size.

The following card specimens were exhibited :—

Dr. **KELYNACK**: Double Duodenal Ulcer with Perforation.

Dr. **YONGE**: Blastomycetes in Hypertrophied Tonsils.

Mr. **HIGGINSON**: Ante-mortem Clot of Large Size from the Right Auricle of the Heart in a Tuberculous Case; and (2) Calcareous Tuberculous Mesenteric Glands.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Specimens and Cases.—Occurrence of Air-Embolism during Surgical Operations.—Chorea complicating Labour.

A MEETING of this society was held on Jan. 11th, the President, Dr. **ARNOLD EVANS**, being in the chair.

Dr. **MAJOR** gave a Microscopical Demonstration.

Mr. **MORTON** showed a Kidney Tumour weighing 6 lb. 2 oz. which had been removed post mortem from a child two years of age. During life the patient had an abdominal tumour which did not move on respiration. There was no pain and no pus in the urine. Microscopically the tumour proved to be a sarcoma containing in places striped muscle tissue.—Mr. **MIALL**, Dr. **MAJOR**, and Dr. **CAMPBELL** made remarks on the case and Mr. **MORTON** replied.

Dr. **BASIL HALL** showed (1) a Cutaneous Horn removed from the Ear; (2) 180 Gall-stones and three Stones from the Urinary Bladder (the stones were removed post mortem, having given rise to no symptoms during life); and (3) a plaster-cast of a Palatine Tooth.

Dr. **KERR** showed a patient with Subconjunctival Dislocation of the Lens upwards.

Dr. **BASIL HALL** read a paper on the Occurrence of Air-Embolism during Surgical Operations. After alluding to historical notices of air-embolism Dr. Hall discussed the subject from the following points of view: (1) the cause of the entry of air into veins; (2) the amount of air necessary to cause death; (3) the post-mortem appearances; (4) the locality of the wound; (5) the symptoms; and (6) the treatment. Cases illustrating the condition were quoted and especially one which Dr. Hall had recently met with in which while clearing out some cancerous axillary glands the axillary vein was wounded. Air was heard to enter, the patient became pallid, ceased to breathe and to all appearances was dead. After artificial respiration and the hypodermic injection of strychnine the patient slowly recovered.—The paper was discussed by Dr. **EVANS**, Dr. **MAJOR**, Dr. **CAMPBELL**, Dr. **KERR**, Dr. **GOYDER**, Dr. **HORROCKS**, and Dr. **BRONNER**, and Dr. **HALL** replied.

Mr. **HANDCOCK** read notes on a case of Chorea complicating Labour. The patient was delivered by forceps while under chloroform and ultimately made a good recovery.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Specimens.—Hydrocephalus.—Imbecility in Infancy.

A MEETING of this society was held on Jan. 19th, Sir **JOHN BATTY TUKE**, President, being in the chair.

Professor **ANNANDALE** showed several interesting specimens of Urinary Calculi. The first was one of considerable size which he had removed from a bladder which he himself had previously made. The patient was a boy, seven years of age, who up to the age of three years suffered from extroversion of the bladder, at which period Professor Annandale operated and made a new bladder. The boy had suffered no inconvenience until shortly before his admission. On examination there was a swelling over the region of the new bladder accompanied by pain. On passing an instrument a stone was detected. An incision was made directly over the stone, which was then cut down upon and extracted. The boy made an excellent recovery. The second was an oxalate of lime calculus removed without difficulty by median lithotomy from a man with an enlarged prostate. The peculiarity in this case was that the calculus had undergone spontaneous fracture in the bladder. The third calculus had been lodged in the lower part of the pelvis of the kidney. The patient had suffered from symptoms of renal calculus. An incision was made in the lumbar region and the calculus grasped and partly extracted. The hæmorrhage was, however, so severe and the patient so obviously sinking that Professor Annandale excised the kidney. It was found that a large abnormal vein had been severed. The patient made a good recovery. The next specimen Professor Annandale showed was a well-marked case of cancer of the rectum from a girl aged sixteen years. This was excised one month ago and the patient was now convalescent. He then showed a specimen of ankylosed elbow-joint with buried ulnar nerve. The patient came from Johannesburg with an injured elbow and having the fingers, elbow, and shoulder-joint stiff. Professor Annandale excised the elbow-joint and thought all would be well. He found, however, on looking at the excised joint that he had cut away from one and a quarter to one and a half inches of the ulnar nerve which had been embedded in the bone. Next day Mr. Hodsdon stitched together the cut ends of the nerve. It is too soon to say how the case will succeed. Professor Annandale then showed some cases of fracture. The first was a rare one of fracture through the upper part of the femur near its neck. The patient fell from a ladder and sustained many other injuries also. The next was from a man, aged seventy years, a great drunkard. He had a compound fracture of the thigh, which was very septic on admission. He then developed delirium tremens and had a sharp attack of pyæmia, which was treated successfully by injections of erysipelas antitoxin. He began to improve, but as the leg remained unsatisfactory amputation was performed and so the specimen was obtained. The patient's character has undergone a complete reformation. The third example was a fracture dislocation of the ankle-joint. The patient was a woman aged fifty-three years. A year previously she had had an accident to her ankle and the limb had remained useless. Amputation was performed and the specimen showed how nature had modified the injury.

Dr. **JOHN THOMSON** showed the Brain from the case of unilateral paresis and tremor of the left arm which he had shown at the previous meeting. The case was under the care of Dr. Playfair. The child's temperature began to rise and it was decided to operate. Dr. Joseph Bell trephined over the right motor centres. The intracranial tension was found to be markedly increased, but no tumour was found. The child died thirty-six hours subsequently. The post-mortem examination showed no superficial lesions on the brain with the exception of a few tubercles along the fissure of Sylvius, but a large round caseous mass, fully two inches by one and a half inches, was present in the right hemisphere. It was sharply demarcated and surrounded by a layer of softened brain tissue. It occupied and destroyed the lenticular and caudate nuclei and part of the internal capsule.

Dr. **ALEXANDER BRUCE** showed a specimen of great interest and rarity—the Rupture of an Aortic Aneurysm into the Bronchus. The aneurysm occupied the transverse part of the aorta and the first part of the descending aorta. There was a small secondary sac also which was directed towards and into the left bronchus compressing it entirely. In the corresponding lung a condition of "aneurysm phthisis" was set up. The lung was completely consolidated and contained many small caseous nodules. There was also complete pleural adhesion. The patient had been much exposed and on admission presented the symptoms of acute pneumonia; his temperature was high; the lung was extremely dull below and presented the skodaic note at the apex. So dull was the basal note that four aspirations were made with negative result. This consolidation extended up the lung towards the apex. The patient's temperature remained irregular, but he was thought to be improving, when one night he, when coughing, was seized with bleeding and almost immediately died. The diagnosis was rendered obscure by there being no displacement of the heart and no abnormal heart sounds.

Dr. **SHENNAN** showed the Larynx, Trachea, and Lungs from a woman, aged forty years, who died from diphtheria. She was attacked on a Friday and was admitted to the Leith Hospital on the Sunday morning but died that afternoon. The disease exhibited the usual characters of diphtheritic membrane which extended through the glottis into the trachea and lungs forming almost a complete tube and not occurring in patches as is the usual mode. The bacillus when cultivated showed only the long form and thus antitoxin would only have been of use if employed in the very early stage of the disease. He also exhibited a specimen of impacted gall-stones in the common bile-duct.

Dr. **RAINY** exhibited a somewhat rare specimen. It was an infant showing Mal-development of the Cartilaginous Elements and consequently irregular formation of the bases (achondroplasia). The base of the skull is contracted, the nose grooved, and the tongue projecting. The arms and legs are short and badly formed, while the trunk is large and the abdomen prominent. The child lived for two hours. It was the third child the mother had borne, the other two being healthy.

Dr. **ALEXANDER BRUCE** next read a paper on Draining the Fourth Ventricle for Acquired Hydrocephalus. It was said that hydrocephalus was due to closure of the foramen of Majendie. If it were so, then opening this might relieve the symptoms. Mr. Parkin and Mr. Waterhouse have successfully opened the fourth ventricle, while Dr. Barlow and others have opened the lateral ventricle with success. In the present case the operation was attended by great temporary relief to the more urgent symptoms. Three weeks later death ensued—not, however, as a result of the operation. The necropsy showed that there existed basal meningitis with abscess in the kidney. The patient was a girl, aged thirteen years, who exhibited the characteristic facies of congenital syphilis—peg teeth, depressed nose, interstitial keratitis, &c. She had undergone an operation a year previously for disease of the left femur. In July, 1897, she began to complain of headache and pain in the back. Emaciation became extreme and the head was greatly retracted. The pupils were widely dilated and she soon became quite blind, whether as a result of disease or from inattention could not be made out as she gave no indication that she saw anything. The appetite was ravenous. No sooner was she finished with her dinner than she began asking for her tea. There was paralytic distension of the bladder and the urine contained pus and albumin. The pulse varied from 102 to 120 and the temperature was markedly irregular, rising as high as 103°. No headache or any other pain was complained of except that from a bedsore. The legs and arms were almost paralytic and exhibited only very slight movement. The lower limbs were always kept in a flexed position. An ulcer on the cornea was the cause of photophopia, but this healed and only returned a few days before death. There was no vomiting. During the last week of August external strabismus and nystagmus of the right eye manifested themselves. The child became weaker and the head retraction increased. Dysphagia became more and more marked. On Sept. 7th she was much cyanosed, had rigors and appeared to be dying. As she had derived no benefit from medical treatment it was resolved to employ surgical treatment as in all probability the case was one of chronic basal meningitis.—Mr. **HAROLD STILES** detailed the steps of the operation. Chloroform was administered, when the retraction of the head disappeared and the patient was laid face downwards. A horseshoe-shaped incision was made from mastoid to mastoid, the highest point of the curve being just below the occipital protuberance. The soft parts were then dissected down to the foramen magnum and a three-quarter inch trephine was applied to the bone a little above this opening. The dura mater bulged into the opening thus made and more of the bone was clipped away with bone pliers. The dura mater and arachnoid (which was thickened) were opened and the medullary tonsils were seen lying in close apposition. These were separated and above ten ounces of clear cerebro-spinal fluid escaped. On this draining away the parts regained their normal position. The dura mater was left unstitched and no bone was replaced; the soft parts were brought together by interrupted suture. The patient stood the operation well and soon asked for food. She had less headache and the temperature fell to normal and remained so for four days. On the fourth day it rose to 102° and subsequently was irregular. The mental condition remained in an improved state. Cerebro-spinal fluid exuded in large amount and the dressings were soaked two or three times daily. When the stitches were removed this fluid accumulated below the scalp and caused it to bulge and later a sinus formed. The corneal ulcer which had previously healed again appeared shortly before death. Mr. Stiles enumerated the operations recently performed for relief of intracranial pressure—viz., five cases by Mr. Parkin undertaken for tuberculous meningitis, chronic hydrocephalus and cerebellar tumour, and eight cases by Mr. Waterhouse. Of these thirteen cases five were reported as cured. In no case operated on for chronic hydrocephalus did any cure result. The operation seemed very suitable for chronic non-tuberculous basal meningitis and was more preferable than drainage of the lateral ventricle.—Dr. **JAMES CARMICHAEL** remarked on the uselessness of treatment hitherto in this disease and welcomed this new departure. In non-tuberculous meningitis the disease was very localised and consequently surgical interference was much more hopeful, whereas in the tuberculous variety it was only a local manifestation of a general disease and so surgical treatment could only relieve but not cure. Still if the symptoms could be relieved by operation then it should certainly be tried. He noted that in children with hydrocephalus after tapping the lateral ventricle death soon followed, whereas in slow drainage life was prolonged.—Dr. **JOSEPH BELL** related briefly certain cases which had come under his own observation where the flow of cerebro-spinal fluid was profuse.—Dr. **COTTERILL** stated that he could not think of anyone at least dying from an excessive flow of cerebro-spinal fluid. He had seen many buckets of fluid draining from a boy who lived from eight to ten months after puncture of the lateral ventricle and who at last died from marasmus.—In reply Dr. **BRUCE** said he regretted that the operation had not been performed earlier, but the difficulty of diagnosis between simple and tuberculous basal meningitis or tumour was very difficult. The long duration of the case militated against its being of a tuberculous nature, as also did the retention of consciousness up to the end of life and the absence of headache or of optic neuritis. A tumour in the middle lobe of the cerebellum might have produced similar symptoms. Besides this the child was syphilitic and thus in all probability suffered from chronic basal syphilitic meningitis.

Dr. **JOHN THOMSON** read a paper on the Diagnosis and Prognosis of Imbecility in Infancy and illustrated it by photographs (which were thrown upon the screen) from excellent examples of certain groups of disease which cause mental defects in children. He drew attention to the fact that some of these mental defects were accompanied by marked bodily deformity. In other groups, however, there was only a delay in the development of certain functions as shown perhaps by the child being long in holding up its head, backward in noticing objects or in recognising its mother, or advanced in infancy before acquiring the power of articulation. The first group of which he showed photographic examples was the microcephalic. It is a rare affection; the head is peculiar in shape, the forehead small, and the vertex pointed; the anterior fontanelle closes at a very early period—at ages varying from four and three-quarters to five and a half months. The hard palate is usually high. The body is generally well formed and the features are good. The head is often carried low in front of the body and not held up. Such children frequently suffer from convulsions and are mentally very dull. The prognosis as to life is not good as many die at an early age and before gaining admission to any institution for imbeciles. The hydrocephalic child also carries the head before the body and bent, the eyeballs are directed downwards, and the anterior fontanelle remains very large. There is no great mental defect; even in advanced cases where sections through the brain have shown great distension of the ventricles with only a thin layer of brain tissue remaining the mental condition has remained often very fair. In cases of imbecility as a result of this disease the children are often capable of a certain amount of education. Cerebral infantile paralysis was illustrated as a third group. If the meningeal hæmorrhage have taken place at the time of birth and have led to atrophy of the brain the prognosis as regards sanity is small. Often, however, in slight cases epileptic fits occur or stiffness and a spastic condition of the limbs remain. There is no tendency to premature closure of the fontanelle. A tendency to strabismus is often present. In extensive lesions growth is much delayed; thus a person of the age of twenty-three years has all the appearances of one aged fourteen years. The capacity for education depends on the extent and position of the lesion. The Mongolian type of idiocy is a comparatively common form of idiocy. The members of this group are frequently mistaken for cretins. The features are short, rounded, and marked; the eyes are placed near one another and their axes are very oblique. In nearly every case the tongue protrudes, the hair is scanty and dry, and the skin is dry and parched. When further advanced such imbeciles may become fat. The ligaments of their joints are very lax and hence the range of movements of their limbs is very large. The wrists are narrow while the fingers are thick and pointed, tapering towards the tips. Their dentition is slow, often not commencing until the fifteenth month. Development generally is slow in such patients and they bear acute disease very badly. Tuberculosis is a frequent disease amongst them and thus they readily die. The prognosis as regards their mental condition is as follows. If they are carefully trained they may show an improvement, but at the best are never more than imbeciles of a low grade. If they survive to the age of puberty the administration of thyroid may do them some good. The diagnosis of cretinism is difficult in early infancy. As a rule little is seen amiss until the child is several months old. In one case the mother complained that the child was too quiet and suffered from great constipation. The tongue is usually very large, but the usual signs of cretinism develop themselves slowly. Achondroplasia has to be distinguished from cretinism. In this affection there is a curious bodily deformity which persists through life. The upper part of the head is large while the lower part is narrow and the tongue often protrudes. The arms and legs are very short and malformed while the trunk is large relatively as are also the hands. They are generally born prematurely and as a rule live only a short time. If they do survive they are moderately intelligent and often are exhibited as "short-legged dwarfs" in shows. They resemble cretins (the limbs are, however, not unduly small in cretins), but their skin is soft and their hair normal, while their thyroid is not large. As regards their hands there is a curious parting between the ring and middle fingers as if the hand were divided into two parts, the fingers on each side of this cleft sloping away from each other. Mongolian imbeciles resemble cretins much more closely when they are further advanced. Eclamptic idiocy may show itself in the form of epileptiform seizures or at first it may merely manifest itself in sudden starts of the head or arms or in sudden and transient losses of consciousness. In some cases where large numbers of fits occur a temporary imbecility results from which the child recovers under treatment by bromide of potassium and chloral.

The PRESIDENT thanked Dr. Thomson for his excellent paper and remarked on the value of being able to give an accurate prognosis regarding the mental condition of such children.

Reviews and Notices of Books.

Anatomy, Descriptive and Surgical. By HENRY GRAY, F.R.S. The Drawings by H. V. CARTER, M.D. Edited by T. PICKERING PICK, F.R.C.S. Eng., Senior Surgeon to St. George's Hospital. Fourteenth Edition. London and Bombay: Longmans, Green and Co. 1897. Pp. 1184. Price 36*s*.

THE fact of any book having reached its fourteenth edition is a sufficient indication of the value of that particular work, and this the last edition of a work which has been the adviser and companion of generations of medical students shows, as it should do, some improvements compared with its predecessors. For instance, some of the illustrations are altogether new and some of the old ones have been done away with and their place taken by new drawings dealing with the same subject.

The account of the bones and articulations is, as in the old editions, clear and good, and under the section of Articulations there is an admirable and valuable drawing by Mr. F. A. Barton showing the relations of the muscles which surround it to the capsule of the hip-joint. The somewhat complicated arrangement of the muscles in this region used to be at any rate, a sore trial to many a student, but by the drawing we refer to the difficulty is much lessened.

The description of the peritoneum has been taken as regards the developmental point of view from that written by Dr. Fred T. Brockway, Assistant Demonstrator of Anatomy, College of Physicians and Surgeons (Columbia University), New York. There is no doubt that the study of the peritoneum from the developmental point of view is the only way to really understand this complicated structure, but Dr. Brockway's account seems to us to be more embryological than is necessary and to require for its understanding a knowledge of embryology on the part of students which few possess. The section describing the adult peritoneum is good and lays stress upon the (to most students) somewhat puzzling fact that the abdominal organs are really *outside* the peritoneal cavity and not inside, though it might be as well in a future edition to emphasise the fact that although the abdominal organs are seen on opening the abdominal cavity—i.e., the greater cavity of the peritoneum—yet they are so seen because of the extreme thinness and transparency of the investing peritoneum.

The portions of the work to which most exception must be taken are those sections devoted to surgical anatomy, especially those devoted to the surgery of the viscera. The space devoted to the subject is evidently a compromise and like all compromises fails of its object. There is too much for the second year or third year man and not enough for the more advanced student. For instance, in the section devoted to the intestine nothing is said as to the various operations for resecting portions of gut and uniting the divided ends, although Kraske's operation is briefly described, and in the section allotted to the liver there is no mention of laparotomy followed by plugging or suture of wounds of this viscus or of the gall-bladder. Although paracentesis of the pericardium is mentioned the possibility of successfully treating wounds of the heart by surgical interference is not referred to, while any reference to cerebral surgery is omitted altogether.

But as regards the anatomical part of the book it still remains one of the best upon the subject; the illustrations are very good and the schematic plans, especially of the cranial nerves, most valuable. If in future editions the surgical anatomy were to be either made more comprehensive and representative of modern surgery or, if this would unduly enlarge the book, omitted altogether it would be an improvement.

The Principles of Chemistry. By D. MENDELÉEFF. Translated from the Russian (sixth edition) by GEORGE KAMENSKY, A.R.S.M., of the Imperial Mint, St. Petersburg. Edited by T. A. LAWSON, B.Sc., Ph.D. In Two Volumes. London: Longmans, Green and Co. 1897. Price 36*s*.

THE first English edition of "The Principles of Chemistry" by the distinguished Russian chemist, Mendeléeff, was published in 1891, and a review of the work appeared in THE LANCET of Feb. 20th, 1892. Except for a few slight revisions and additions in accordance with recent advance there is little alteration in the present edition, but this time the editorship has been undertaken by Dr. Lawson, of the City and Guilds of the London Institute, instead of by Mr. A. J. Greenaway, the present sub-editor of the journal of the Chemical Society. The original plan of the work is adhered to—that is, the subject matter is divided into text and footnotes, the latter containing details that "are deemed unneccessary for a first acquaintance with chemistry." Thus while the book is an advanced work, yet the arrangement of the subject is such as to suit the requirements of both elementary and advanced readers. The beginner will certainly be attracted by the simple yet instructive way in which the story is told. He will read with increasing pleasure and profit each succeeding chapter as it takes him step by step from simple truths to larger realisations. The clear and effective style of narration recalls the writings of Huxley, Tyndall, and Faraday. To these great exponents of the foundations of science, indeed, we would add the name of Mendeléeff, who has done more to systematise chemical science than any philosopher since the days of Dalton. The great principles which underlie the periodic law must remain whatever modification of the interpretation of the law may be in future desirable. Like all natural laws it does not appear perfect, and it would be a sorry thing, perhaps, if everything in nature could be reduced to something cut quite square and perfectly symmetrical. Recent discoveries have led to much scepticism as to the validity of the great law which Mendeléeff so cleverly elaborated, the foundation of which, however, was laid by our own countryman, Mr. J. A. R. Newlands, in his paper read before the Chemical Society many years ago on the law of octaves. Mr. Newlands is still amongst us and not very long ago received the Davy medal from the Royal Society in recognition of the value of his early contributions upon this subject. Argon and helion have perplexed chemists considerably and the chief puzzle has been, and is, to find places for them in Mendeléeff's classification. Some, but we think rather precipitately, have concluded that Professor Ramsay and Lord Raleigh have discovered elements which are destined to shake our faith in the periodic law. Considering that the data in regard to the chemical and physical properties of these bodies are not yet complete we do not for the present share these views. Mendeléeff himself uses pretty forcible arguments in favour of the view that argon is allotropic nitrogen (N_3) much in the same way as ozone is an allotrope of oxygen (O_3). It is premature, however, to form any definite conclusion. Of helion Mendeléeff says little, but the present edition is sufficiently up-to-date to record its discovery in certain minerals by Professor Ramsay. As is well known, when Mendeléeff drew up his classification he was able by observing certain gaps to predict the existence and probable discovery of new elements. In certain cases he did this with remarkable success and actually foretold their properties in some detail before they were discovered. He has never surmised the existence of a very inert body such as argon has proved to be. The question arises—are these new bodies elements, or will time prove that they can be split up into other elements places for which will be found with little difficulty in Mendeléeff's classification? As yet helion and argon are, so to speak, pieces which fail to fit in and help us to solve the puzzle.

As we have said before, the book sets forth the history and evolution of chemical science in a very charming and readable way. The plan is such that the advanced reader will find just the pabulum he seeks and expects to find from so classic an author as Mendeléeff, while the beginner is so gently introduced to the great facts and principles connected with the composition and constitution of matter that his interest will soon be aroused in those more advanced portions of the work which in copious footnotes are separated from the elementary truisms. The English translation ranks without doubt as one of the first amongst the English standard works on chemistry.

The Span of Gestation and the Cause of Birth: a Study of the Critical Period and its Effects in Mammalia. By JOHN BEARD, D.Sc., University Lecturer in Comparative Embryology and in Vertebrate Morphology, Edinburgh. Jena: Gustav Fischer. 1897. Pp. 132. Price 3 marks.

IN the development of the embryo it is well known that there are two stages, one in which the fœtus draws its supplies from the yelk sac and a second in which the allantois is formed with its system of vessels; these penetrating into the chorionic villi constitute the placenta. The parts of the embryo are all differentiated at the close of the first period and this period Dr. Beard terms the "critical phase" and its termination the "critical period." During the "critical e" the active absorption of the yelk is effected by the hypoblastic cells. Subsequently to that period absorption is effected by the epiblast. The discharge of the embryo from the uterus or "birth" may occur at the "critical period" and does actually so occur in the marsupials, whilst in those animals in which gestation is prolonged beyond that period the event is accompanied by the degeneration or disappearance of various parts and organs just as those characteristic of the larva or phorozoon stage in invertebrata are thrown off—such, for example, as the hypophysis cerebri, the notochord, merocytes, and yelk sac. The results of researches made by Dr. Beard, which are supported by those of other observers, have led him to the conclusion that in the mouse at least there is an immediate and direct relation between the "critical phase" and the periods at which ovulation occurs, each being of nearly equal duration, though the intervals between two successive ovulations are a few hours longer than the critical phase. Were it not so, Dr. Beard argues, were the ovulation intervals to coincide with the critical phase, the processes of birth, of heat, and of copulation, all of which occupy some time, would cause the next ensuing ovulation to occur simultaneously with the critical phase, that is, with the process of birth, and would therefore render it abortive. He believes the interval of time elapsing between the fertilisation of the ovum and the attainment of the critical phase to be fairly constant and he defines it as "that period of time which in any given species of metatherian or eutherian mammal represents the average duration of development from the moment of fertilisation until with the critical period all the parts or foundations of the embryo have come into existence." This interval Dr. Beard designates "the critical unit." The critical unit differs considerably in length in different orders and genera and probably even in different species. Thus in the white mouse it is from 9 days 16 hours to 9 days 20 hours; in the English rabbit from 15 days 6 hours to 15 days 12 hours; in the cavy 21 or 22 days; in the cat 28 days; in the dog from 29 to 31 days; in the pig from 28 to 30 days; in the sheep from 29 to 30 days; in the cow from 39 to 42 days; in the horse 42 days; and in man from 46 to 47 days. Dr. Beard has been led to the conclusion that originally the critical unit of any mammal was short, as it still is in the opossum, that it was then doubled or trebled and that simultaneously the ovulation unit was in like manner doubled or trebled in many eutheria—i.e., animals above the monotremes and marsupials—whilst in some instances the critical unit has been doubled a second time without any duplication of the ovulation unit. The evolution of the allantoic placenta is then shown to have an important influence in prolonging the period of gestation. The development of the allantoic vessels constituted a new provision for the nutrition of the embryo, which was then no longer expelled at the critical period, and the marsupial pouch was no longer needed and therefore disappeared. Menstruation Dr. Beard considers to be an abortion at the old critical period and is one in which the decidua belongs to a missing 22½ to 23½ days embryo and thus in all its phenomena it resembles a parturition. The duration of gestation is the result of the recurrence of a certain number of critical and of ovulation units. The views advanced by Dr. Beard appear to us to be original and to be well worthy the attention of all those who are interested in embryology, whilst they have a very practical bearing on such subjects as menstruation, abortion, and childbirth. Before they can be accepted, however, much more information is required in regard to the ovulation period and further proofs must be adduced that the two clocks which indicate the ovulation interval and the gestation period are set to such very exact time. It is remarkable, too, that the duration of the "critical" phase should vary considerably even in allied species. In fact, although it may be admitted that Dr. Beard has made out a very good case, it still requires the support of independent observation and a more accurate knowledge of details, whilst other well-established factors which aid in determining the span of gestation must not be overlooked.

The Purification of Sewage and Water. By W. J. DIBDIN, F.I.C., F.C.S. London: The Sanitary Publishing Co., Ltd., 5, Fetter-lane, E.C. 1897. Price 21*s.*

MR. DIBDIN'S work, in his recent capacity as chemist to the London County Council, is well known. He has had peculiar opportunities for studying great sanitary problems and that he has not studied them in vain is evident from the work published from time to time in the official reports of the London County Council and now practically summarised in the convenient form of the book before us. At once we may say that it is a most interesting work. It deals, for instance, with the recent developments in the treatment of sewage by bacteriological methods. Years ago we maintained in these columns that in principle the treatment of sewage with chemicals was illogical and wrong. Nature provides a method of purification, and, like all Nature's operations, it is not a wasteful process. Chemical treatment, it is true, consolidated sewage and rendered it to some extent inoffensive, but that is all; nobody could use the product with any profit and it was difficult to dispose of it satisfactorily. The study of the conditions under which the specific organisms work favourably has revealed, as Mr. Dibdin has shown, the possibility of employing these microscopic engineers to do the work not only of removing what is a source of offence and pollution but of converting it into a harmless and, indeed, a valuable product. Instead of, for example, the solid matters of sewage being separated by chemical precipitation to serve no end and not improbably become a danger to the public health it may be converted, by the silent but certain operations of specific micro-organisms, into nitrates, carbonic acid, and water, all of which are essential to plant life. Thus the great cyclic operations apparent in all Nature's work are completed, whereas by chemical treatment they are impeded with, as might be anticipated, unsatisfactory results.

Mr. Dibdin has contributed, as the present work shows, not a little to the satisfactory solution of this vitally important problem. His instructive and interesting experiments with the sewage discharge at the great London sewage outfalls are convincing on this head. Mr. Dibdin's every-day duties as chemist to the London County Council also have brought him intimately into contact with the question of the purity of the London water-supply and his work in this direction has been repeatedly referred to in the columns of THE LANCET. Notably, there is the inquiry he conducted under the auspices of the Council into the available sources of supply in Wales, and he certainly did good work when he caused considerable activity amongst the metropolitan water companies by his comparatively recent and unfavourable remarks upon the quality of metropolitan water which were based chiefly upon more careful attention being paid to the kind and amount of suspended impurity. Mr. Dibdin has devised a micro-filter which serves not only to estimate small quantities of suspended matter, but in isolating it to enable some idea of its nature to be gained. All these and kindred subjects are dealt with in the book. It need hardly be added that the book is sure to be held in estimation by all those interested in sanitary advance. It is an accurate and valuable gauge of the present position of matters relating to the more pressing questions of modern hygiene. The work seems to be somewhat expensive considering its size, but doubtless this is in part due to the illustrations and tables with which it abounds.

The Roentgen Rays in Medical Work By DAVID WALSH, M.D. Edin. London: Ballière, Tindall, and Cox, 20-21, King William street, Strand. 1897. Price 6*s.*

DR. WALSH'S contribution bears evidence of his own acquaintance with the practical details of x ray work. He has produced an excellent volume on the subject in its application to medical work. He has spared no pains to make the material reliable and to provide the reader with some remarkably fine illustrations in practice. The x ray pictures are the best we have seen. The difficulty of reproducing in an illustration the points in a case is well known and it can only be done satisfactorily in the way Dr. Walsh has adopted—that is, by printing upon specially thick and smooth paper. The book opens Part I. with an introductory section upon electrical apparatus and methods by Mr. J. E. Greenhill. In this section are described the apparatus and requisites now employed for the successful production of x ray photographs. Part II., by Dr. Walsh, is devoted to medical and surgical applications. In these chapters will be found an exceedingly interesting series of cases with accompanying illustrations the excellence of which we have already referred to. In the appendix the author has wisely reproduced the paper which Professor Roentgen communicated to the Würtzburg Physico-Medical Society in December, 1895. Dr. Walsh's book will be usefully consulted by those medical practitioners who are pursuing this interesting line of study.

LIBRARY TABLE

An Elementary Course of Practical Organic Chemistry. By F. C. GARRETT, M.Sc. Vict. & Dunelm., Assistant Lecturer and Demonstrator in Chemistry, the Durham College of Science, Newcastle-on-Tyne, and ARTHUR HARDEN, M Sc. Vict., Ph.D., Assistant Lecturer and Demonstrator in Chemistry, Owens College, Manchester. London: Longmans, Green, and Co. 1897. Price 2*s.*—The authors have produced an excellent little course of practical organic chemistry, the kind of work that lecturers and demonstrators in medical schools have long looked for to satisfy the elementary requirements of practical organic work for the M.B. examination. The authors have been careful to arrange their work in a corresponding sequence to lectures on this subject. The omission of a similar scheme for the "closed chain" compounds is to be regretted, but we presume it is their intention to issue it in a separate form and so provide more than a "partial solution of the problem."

Remarks on the Uses of some of the Bazaar Medicines and Common Medical Plants of India. By EDWARD JOHN WARING, C.I.E., M.D., F.R.C.P., Surgeon-Major (retired) Her Majesty's Indian Army, &c. Fifth edition. London: J. and A. Churchill. 1897. Pp. 288. Price 5*s.*—That this work supplies a want in India is proved by its having reached a fifth edition. The first part of the book deals with the Bazaar Medicines and Indian Medical Plants. These are arranged alphabetically so as to be easy of reference. A description of each drug is given, then its native name in the vernacular of the various districts, next its preparations, and finally its therapeutic properties and mode of administration. A vast amount of information is thus afforded. The whole work is written in a popular style, as it is intended not only for the use of medical men, but also for those who are wholly ignorant of, or very partially acquainted with, matters pharmaceutical. The work was first issued in an elementary form about thirty-seven years ago, the second edition having been published fourteen years later. Medical men are now scattered through India in much larger numbers than they were at that time, but there are still numerous districts where medical aid cannot be obtained for some time, and to persons compelled to reside in such neighbourhoods such a book as this must be of the utmost value. The second part consists of a synopsis or index of diseases, giving in brief and plain terms the treatment to be adopted in case of illness until the services of a medical man can be obtained. The treatment of poisoning is included. Four useful appendices then follow: (*a*) Directions for Restoring the Apparently Dead from Drowning; (*b*) Summary of Treatment of Persons Bitten by Venomous Snakes (reprinted from Sir Joseph Fayrer's work "The Thanatophidia of India"); (*c*) Method of Treatment of Small-pox by means of Carbolised Oil (by Dr. J. E. T. Aitchison, M.D. Edin., C.I.E.); and (*d*) On the Use of the Clinical Thermometer. We feel sure that the present edition will be as successful as its predecessors.

Year-book of Pharmacy. With the Transactions of the British Pharmaceutical Conference at the Thirty-fourth Annual Meeting held at Glasgow, August, 1897. London: J. & A. Churchill. 1897. Pp. 492.—This volume contains abstracts of papers relating to pharmacy, materia medica, and chemistry contributed to British and foreign journals from July 1st, 1896, to June 30th, 1897, and, as the title shows, the Transactions of the British Pharmaceutical Conference held at Glasgow in August of this year, when Dr. C. Symes, of Liverpool, presided. A large number of new remedies are described and much information is given as regards the tendency which is exhibited to enrich the resources of materia materia by the products of the laboratory. In the proceedings of the Conference is a report of the President's address in which he reviewed the history of the association from its foundation in 1863.

JOURNALS AND REVIEWS.

Birmingham Medical Review.—Dr. F. J. Allen, Professor of Physiology in Mason College, gives a very interesting account of his personal experience of the Pasteur anti-rabic treatment. He was bitten on the fingers by a rabid dog on July 18th, 1897, and was under treatment at the Pasteur Institute in Paris within forty-eight hours of the accident. The chief constitutional symptom that he noticed was a peculiar form of lassitude occurring in the afternoon and early evening. One of the wounds healed very slowly; it was more than a month before the skin closed over it. Dr. Allen writes very approvingly of the treatment.

Edinburgh Medical Journal.—In the opening paper Dr. W. Allan Jamieson describes the symptoms and pathology of eczema palmare and plantare. He has found very satisfactory results from the use of Unna's oxidised pyrogallic acid made into an ointment with lanolin. Details of several cases are given. Mr. Henry Morris writes on Injuries of the Ureter, and Dr. G. V. Poore on the Services rendered to Medicine by Bacteriology. Dr. A. Veitch describes a case in which he induced premature labour at the beginning of the fifth month. Uterine action not being excited by the passing of sounds and a bougie, three ounces of pure glycerine were injected through a metal catheter. The patient was almost immediately seized with an intense rigor, which lasted about an hour. Strong pains set in a little later, the ovum was expelled entire, and the woman made an uninterrupted recovery.

Scottish Medical and Surgical Journal.—The first of the ten original articles in this number is a description of a case in which Dr. David MacEwan (Dundee) resected four or five inches of the hepatic flexure of the colon on account of an annular constriction due to epithelioma. The patient made a good recovery. Professor Stephenson (Aberdeen) discusses the Anatomical Phenomena presented by the Uterus in the Third Stage of Labour. Brigade-Surgeon-Lieutenant-Colonel James Arnott publishes an address on Plague delivered by him before the Medico-Chirurgical Society of Glasgow University.

Dublin Journal of Medical Science.—In the opening article Mr. J. S. McArdle describes a New Operation for Nephrectomy. After opening the peritoneum by an incision in the semilunar line he makes a transperitoneal examination of the kidney on the opposite side, closes the peritoneum, and carries a second incision backwards from the centre of the first so as to obtain access to the affected kidney.

# Analytical Records
FROM
THE LANCET LABORATORY.

MINERVA TONIC PREPARATIONS.

(The Minerva Co., 58, Margaret-street, Sydney, and London.)

We find no novel feature in the composition of these preparations. The first on the list is a combination of cod-liver oil with the hypophosphites of calcium, sodium, and potassium to which pepsin is added. The second, described as "Tonic No. 1," is composed of phosphate of iron with quinine and strychnine and certain flavouring agents. The third on the list, described as "Tonic No. 2," is made up of the hypophosphites of iron, potassium, sodium, calcium, and manganese, with quinine and strychnine. Obviously all these formulæ are well known and approved in the making up of tonic and restorative mixtures.

FULLER'S SUBSTITUTE.

(Fuller's, Limited, 206, Regent-street, W.)

Although a confection this may be regarded as a useful means of administering well known medicaments of a highly nutritive and tonic character. The "substitute" or "caramel" contains a definite proportion of emulsified oil combined with the active principles of malt and an approved amount of the hypophosphites of calcium and sodium. It is rich also in nitrogenous substances which contribute to the building up of muscular tissue. The flavour is peculiarly "dry" and mealy and not unlike chocolate.

RUSKS.

(Walter Hubbard, Partick, Glasgow.)

On examination these rusks proved to contain both carbohydrates and nitrogenous constituents in an easily assimilable form. This is due partly to the selection of superior materials and partly to care devoted to the cooking process. The rusks are almost entirely dissolved during the process of mastication, a fact which affords distinct evidence of their easily digestible property. The rusks are of uniform texture and desirably crisp and not excessively sweet to the taste. They are free, according to microscopical examination, from irritating particles.

NON-FERMENTED GRAPE WINES (FIRST SWISS BRAND).

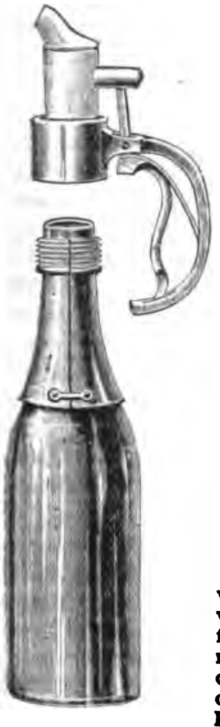
(The First Swiss Wine "Sans Alcohol" Company, Limited, Bern, Switzerland, and 39, Eastcheap, E.C.)

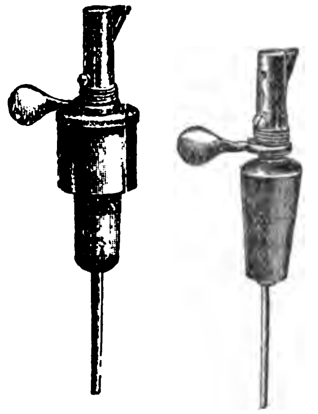
We could find no important quantity of alcohol in any of these preparations. The preparations include a champagne (white) called "Juliet," and a champagne (red) called "Romeo," and a still red wine also called "Romeo." Our examination leaves no doubt at all that these preparations consist of pure grape juice and moreover are free from objectionable preservatives. The flavour of each is pleasantly fruity but decidedly syrupy and sweet. The still wine affords a very agreeable beverage, especially when mixed with aerated water. The satisfactory preparation of a clear and permanent grape juice can only have been the result of a well-considered process. Prior to bottling the most rigid care is taken to destroy any fermenting agents that may be present. These preparations afford undoubtedly a salutary beverage, presenting all the valued characteristics of grape juice itself. An analysis of the still red wine gave the following results:—Alcohol, *nil;* extractive matters, 16·35 per cent.; and mineral matter (chiefly carbonates of phosphate and potassium), 10·32 per cent. Some proof of the absence of preservatives is afforded by the fact that on keeping the wine, after opening, at 100° F. fermentation soon commenced. In spite of the method adopted to exclude ferments there is no suspicion of a caramel-like flavour in the wine.

New Inventions.

A NEW CHAMPAGNE TAP AND CORK.

As is well known it is very desirable for many purposes to be able to keep champagne bright and sparkling to the end in cases where only a glassful or so is consumed at one time. Hitherto this has not been attained in a way that can be regarded as satisfactory or convenient. Above all it is necessary that there may be no risk of metallic contamination as might happen with the hollow metal corkscrew tap. Mr. Hilgers, of Old Trinity House, Water-lane, Great Tower-street, E.C., has recently introduced a distinct improvement, we think, in this direction which should render the administration of champagne in the sick-room an easy and satisfactory matter. The construction of the new tap will be readily understood from the accompanying diagram. In the first place a metal cover is placed upon the champagne bottle. This is provided at the top with a screw upon which the tap itself may easily be fitted. A few turns make the attachment quite tight. The tap itself is composed of porcelain, inside and out, and the valve is a kind of porcelain float provided with a small rubber bearing. The float is lifted from its bearings by means of the lever situated inside the curved handle. The whole fitting gives to the champagne bottle the appearance of a jug. We have tried the apparatus and find, as the inventor claims, that it keeps the wine sparkling to the last delivered wineglassful. This appliance should prove of the greatest service in hospitals and in sick-rooms. Mr. Hilgers has also brought to our notice what he calls "an economic cork." The construction of this, again, will be apparent in the illustrations given above. It consists of two tubes one within the other. The outer tube serves for the passage of the outflowing wine, and the inner tube for the air to enter before the wine will flow. Both tubes are opened by means of a lever which can be easily turned with the thumb while the hand grasps the neck of the bottle.

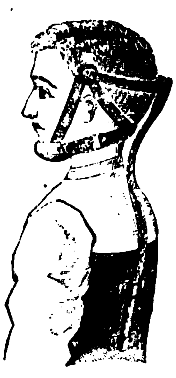




IMPROVED APPLIANCE FOR SPINAL CARIES.

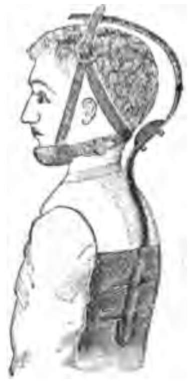
An appliance intended to be substituted for the ordinary Sayre's jurymast has been submitted to us by Messrs. Salt and Son, of Corporation-street, Birmingham. Sayre's jurymast allows considerable movement to the head, a condition at variance with the accepted principle of treating disease of joints by rest as far as possible. In Messrs. Salt and Son's appliance the jurymast is attached to the body in the ordinary way by means of a plaster poroplastic felt corset and rises no higher than the occiput. It is here bifurcated, the arms being carried around the head as illustrated and terminating in small pads placed slightly above the temples. From these points the head is slung by means of straps for the chin and occiput fitted in the usual manner. The advantages of this arrangement are readily perceived. The pads, carefully fitted to rest against the head without pressure, prevent lateral movement, and, as will be seen from a comparison of the new appliance with an ordinary jurymast, the usual headgear can be worn and the instrument is far less unsightly than the older pattern. By a simple modification consisting in lowering one arm and placing a quadrant action at the point of bifurcation the apparatus becomes a most effective appliance for torticollis, inasmuch as the axis of the quadrant is placed at the most advantageous position for rotating the head.

FIG. 1.



Salt's appliance.

FIG. 2.



Ordinary jurymast.

THE OMEGA GAS STOVE.

The Omega gas stove is constructed in compliance with well known principles. It consists essentially of a specially designed Bunsen burner the flame of which plays up against an asbestos plate, and the heat currents and the hot products of combustion are compelled to travel downward, upward, and again downward, and so on, before they finally emerge into the air. This plan obviously leads to the flame being surrounded with heat, and also warms the air which takes part in the combustion. To some extent, therefore, the stove is constructed on the principle of the regenerative burner. As is well known, it is the cooling of the flame which is apt to produce disagreeable and injurious products of combustion. We have submitted this stove to fair trial with satisfactory results. It is free from smell, and the heat evolved possesses no objectionable qualities. Of course the products of combustion are discharged into the air, but assuming the working conditions are sound these products would only consist practically of carbonic acid and moisture. We see no objection to flueless gas stoves so long as combustion is complete and the consumption of gas, as in the present instance, is comparatively low. The stove is not free from the one objection inseparable from atmospheric burners—namely, the noise of air entering into the gas at the foot of the burner. The stove was sent to us by Mr. E. Harry Woods, of 8, Victoria-street, Westminster, S.W.

THE LANCET.

LONDON: SATURDAY, JANUARY 29, 1898.

Of all infectious diseases there is none concerning which our knowledge upon its etiology, or in other words its mode of transmission, is more complete than typhoid fever. This knowledge has been gradually built up during the half century that has elapsed since typhoid fever was definitely differentiated from other forms of continued fever. It would be instructive as a matter of medical history to trace the evolution of opinion upon this subject, the growth of the conviction that infection takes place mainly by way of the alimentary tract, where the morbid lesions characteristic of the disease are to be found; the notion that contamination of ingesta, especially of water, by the products of fæcal fermentation was responsible in great measure for infection; the final arrival at the point where we now stand—namely, that typhoid fever never arises *de novo*, but that its living germ—the typhoid bacillus—must be transmitted from the sick to the healthy mostly by means of the intestinal evacuations, but also not improbably by the urine and the breath. It may still be a moot point whether under certain conditions this microbe can exist even for long periods outside the body, just as it seems to be proved that it may long remain in the body after all of the evidences of its toxic action have passed away. How, then, can a disease having such an origin be prevented from spreading, and is there any prospect of its ever being eradicated? The instructive debate recently held at the Royal Medical and Chirurgical Society affords a partial answer to these and similar questions, but it showed at the same time how defective are the means at present provided for directly attacking the evil. Dr. Poore, whose able exposition of the subject in his opening remarks left nothing to be desired, had little difficulty in showing that the epidemic outbursts of typhoid fever of recent years were explicable on the assumption of contamination of water- and food-supplies by the specific poison. Although he dwelt on the possibilities of the pollution of the water-supply at its source or in its course and at its peripheral distribution, he at the same time indicated what were the best measures to be taken to prevent such pollution. Many of the speakers concurred, as no one could fail to concur, in such necessary precautions as vigilance in respect to the collection, storage, and distribution of water intended for consumption, and the supervision of all works pertaining to the distribution, so as to prevent any possible defects of construction which could afford means for contamination. But Dr. Poore went further than this. He showed how the risk of such contamination of drinking-water had been intensified by the introduction of the methods of disposal of excreta that obtain in all large towns, and his indictment of the water-carriage system of sewerage cannot be lightly set aside. It is nevertheless true that with the exercise of the same vigilance in respect to sewerage and drainage as is advised for the supply of water the risks may be lessened. Yet they must exist by the very nature of the case, and the actual fact of the pollution will not be revealed until, as Dr. Childs pointed out, the presence of cases of typhoid fever in a community reveals their existence. In spite of this liability Sir Richard Thorne did well to show that even in respect to typhoid fever this country has gained immensely by the improvement of water-supplies and the more general adoption of the system of water-carriage of the excreta of towns, replacing the old cesspools and middens of former days. Typhoid fever was more prevalent then, for it was general and endemic, than it is now, when its endemic prevalence is lessened, although its epidemic prevalence may now and again become strikingly prominent. Dr. Corfield's reference to Lyons is a strong confirmation of the accuracy of Sir Richard Thorne's inferences derived from the mortality statistics of this country, for Lyons, as he said, is a "city of cesspools." At the same time he remarked that Lyons was singularly immune from cholera, the disease which shares with typhoid fever the character of being propagated through infected water-supply. The epidemic appearance in each case is due to water-borne infection. May we not venture then to affirm that if through the exercise of wise sanitary precautions cholera may be prevented from spreading in towns where the water-carriage of excreta prevails there is no reason why typhoid fever should not be also prevented to an almost equal extent.

In a country such as ours, where typhoid fever is endemic the liability to specific contamination of water and food-supplies must be constantly borne in mind. Theoretically, the systematic examination of water-supplies and of sewage for the early detection of the typhoid bacillus, as advised and carried out by Dr. R. Boyce, would seem to be a rational procedure, and we do not wish to underrate its value. Yet in practice we fear but little reliance could be placed on these investigations in the anticipation of an outbreak, and one speaker, Mr. Durham, averred that the recognition of the bacillus was no simple matter. It is of course of great importance that water intended for consumption should be systematically and thoroughly tested as to its purity; but we have hardly yet arrived at that state of perfection in chemical and bacteriological analysis as to define with certainty each specific impurity that a sample of water may possess. And, after all, what would the microscopic analysis of a few drops of water from the mains of a large city teach as to the bulk of the contents of the latter? Nor does the notification of an isolated case of the disease assist us much in determining its origin. It may, of course, be due to some obvious local condition; it may, on the other hand, be the forerunner of an epidemic of widespread extent. Compulsory notification, as Dr. Seaton pointed out, is of the greatest assistance to the health officer, but it is often not until the number of cases have grown considerably that he is able to realise the existence of an epidemic or to trace out the sources of its origin. And when this can be done, as, for example, was done at Clifton, and the origin and nature of the outbreak clearly ascertained, then can effective measures be taken to arrest the spread of the disease. Notification of infectious diseases is the more valuable the earlier the diagnosis can be made with certainty, and herein typhoid fever, one of the most insidious of diseases, is at a disadvantage. It probably often happens that the first cases of an epidemic pass unrecognised or their true nature is not revealed until many days have elapsed. Attention was drawn by more than one speaker to the occurrence of outbreaks of diarrhœa which may precede an outbreak of typhoid fever, and Dr. **WOODHEAD'S** observation with regard to the similarity of conditions which favour the growth of the bacillus coli and the typhoid bacillus gives point to these facts. We observe that Mr. **DURHAM** mistrusts the value of **WIDAL'S** serum test as ordinarily applied, but it will be seen from Professor **DELÉPINE'S** paper on another page that this scepticism is not shared by others. However, as we lately took Mr. **TIVY** to task for objecting to the inferences drawn from the test in the Clifton epidemic we desire in justice to that gentleman to admit that until bacteriologists are agreed the medical profession can hardly be expected to accept such tests as infallible. Notification then as a step in the prevention of an infectious disease is of service by giving the sanitary authorities some clue as to the source of infection, but it requires the concurrence of many such notifications before a general food supply can be suspected of contamination.

The isolation of the sick, the disinfection of excreta, clothing, &c., are all essential measures to prevent propagation from the individual case, and Dr. **PAYNE** deserves thanks for directing attention to this aspect of the question. Of these the most important is the best method of disposal of excreta. No doubt destruction by burning would be the most effectual, if it were possible. The disposal by water-closets and drains after disinfection is only safe when that disinfection is really thorough, and unfortunately this is difficult to attain. It is, however, almost the only method available in urban districts, where reliance must be placed on the integrity of the structural arrangements and channels whereby the material is carried away. It is different in rural districts, for we are distinctly of opinion that Dr. **POORE** made out a strong case in support of the power of the well-tilled soil to render harmless the specific contagia, whilst utilising to the best advantage the rich material of human excrement. The conditions he laid down as essential are wholly different from those which obtain in the sewage-laden soil around a leaking cesspit or the contents of a deep trench; and if only we could return to the primitive simplicity of patriarchal existence it might be possible to leave the work of purification and disinfection to the natural agencies of soil and vegetation. This, however, is impossible and we must be content even at the cost of infinite labour to do our best to remedy defects and make air and water wholesome by constant supervision and wise control. The discussion travelled over many other questions cognate to the topic of the prevention of typhoid fever, but the application of it all is the general recognition of the conditions that lead to the dissemination of the virus and the measures, individual and social, that are to be adopted to nullify these conditions and limit the diffusion of the disease.

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AN inquest held on Jan. 8th upon the body of a man who died in Guy's Hospital after having been stabbed was the occasion of an important discussion between the coroner and a witness as to some points of professional etiquette. The facts were as follows. The man was stabbed on the night of Dec. 27th, 1897, was taken to the hospital on the day after, and died on Dec. 29th. On the afternoon of that day a woman gave herself up at the police-station as the aggressor and, this being the first information that the police had received of the matter, they inquired at the hospital and found the man dead. Accordingly at the inquest the point was raised as to whether or no the hospital authorities should or should not have given information to the police. The coroner was of opinion that they should and so were the jury, at all events in the case of "injuries presumably not self-inflicted." The two medical witnesses—namely, the house surgeon in charge of the case and Dr. **PERRY**, the medical superintendent of the hospital—deposed that the invariable custom at Guy's Hospital — and we think that they might have added at every other hospital—is not to give information to the police unless the injured party wanted someone to be arrested. Dr. **PERRY** gave very convincing reasons for this course of action. Cases, he said, of attempted suicide are often brought to the hospital. Suicidal attempts upon life constitute a criminal offence; consequently if it were known that anyone who had attempted suicide would be immediately reported to the police on arriving at the hospital, such an one would not be brought there at all and might very possibly die from want of attention; therefore he thought that it was better for the hospital to be known as a place where no questions were asked unless the patient himself desired someone to be arrested.

This case is only one more example of the way in which the law and the seal of professional secrecy come into conflict, for it has always been held that information obtained by a medical man in his professional capacity is to be regarded as confidential quite as much as that obtained under the seal of confession. In this instance the law seemed to require medical men to put aside their own profession and to aid another. But that the servants of the law can and do on occasion act in the same way is exemplified by what happened some years ago in Whitechapel when there was a very severe outbreak of scarlet fever. The Notification Act was not then in existence, but as the need for arriving at immediate knowledge of the occurrence of new cases was felt the police authorities were employed as sanitary inspectors and had the right of entry with the permission of the owners or tenants into lodging-houses, thieves' kitchens, and the like. They thus were able to give valuable information as to fresh cases of disease; but while thus employed as sanitary inspectors they were careful to drop their *rôle* of legal agents, and although they constantly came across men who were "wanted" in the course of these investigations such men were allowed to go free for the time being because it was rightly argued "if people get to think that our appearance is followed by arrests they will refuse any information about the fever and the whole object of our appointment will be done away with." In the same way hospital authorities argue that their mission is to save life if possible, and therefore that nothing should be done which would in any way interfere with this the cardinal function of the institution. It is practically the remnant of the old idea of sanctuary which prompts this action and that idea is one of the oldest which affect humanity. The ancient Jews had their cities of refuge, so had every other nation with any approach to civilisation, while in later times the sanctuary at Durham was famous throughout the kingdom, and although in a hospital it is the victim who is received and not the aggressor, yet the underlying idea is the same.

With regard to the legal aspects of the case it may be asked, "Is not a medical man who conceals the fact of a crime which comes to his knowledge guilty of misprision or of being an accessory after the fact?" We are not aware that this point has ever been decided by a definite court of law, but everyone will remember the opinion of Mr. Justice HAWKINS in the case of PLAYFAIR and Wife *v.* KITSON. Sir JOHN WILLIAMS was under examination and the learned judge said to him: "Suppose a medical man were called in to attend a woman and in the course of his professional attendance he discovers that she has attempted to procure an abortion. That being a crime under the law would it be his duty to go and tell the Public Prosecutor?" Witness: "The last legal opinion upon that very point obtained by the Royal College of Physicians is 'Yes.'" Mr. Justice HAWKINS: "Then all I can say is that it will make me very chary in the selection of my medical man." This is sound sense, but we do not mean to say, nor, we think, did Mr. Justice HAWKINS mean it to be inferred, that in no case should the medical man in attendance act upon his suspicions. Let us take, for example, the case of a medical man who has reason to think that his patient is being slowly poisoned; under such circumstances it would be his duty to inform the suspected poisoner that if the patient did not improve further steps would have to be taken. Such a case has been reported,[1] and if the same thing had occurred in the celebrated PRITCHARD case one life at least might have been saved. We therefore consider that Dr. PERRY and the house surgeon acted in the only way in which they could have done either from the point of professional rectitude or that of expediency. It would be a sorry day for hospitals if it came to be known that they were in addition to their health-giving functions the portals to a criminal dock, and although the prevention, detection, and punishment of crime are matters which every good subject ought to have at heart, such are not the objects for which hospitals were founded, nor are their officers to be regarded as agents of the law.

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WE think that the officers of the Army Medical Staff are to be congratulated upon the result of the late deputation to the Marquis of LANSDOWNE, the Secretary of State for War, on the subject of the Army Medical Service. In the first place the deputation, which was introduced by Dr. R. FARQUHARSON, M.P., was a distinguished one, representing as it did not only the British Medical Association but several universities and colleges of the United Kingdom. Some of the members of the deputation, referring to the present unfortunate condition of the Army Medical Service, which in their opinion called for serious consideration, urged upon the Secretary of State the necessity of meeting the views of medical officers, endorsed as they were by the medical profession, especially in the direction of the formation of an Army Medical Corps and the granting of military titles to medical officers as expressive of their army rank. As our readers are well aware, the unsatisfactory state of the medical service, its growing unpopularity and its inadequacy to meet the requirements of the army at the present time do not admit of doubt. Lord LANSDOWNE in his reply frankly accepted the situation by assuring the deputation that he was entirely with them in regarding the present condition of the Army Medical Staff with very serious concern. The fact that there was comparatively little competition for vacancies and that the best men did not present themselves pointed, he confessed, to a very grave state of things. The matter had already had, and was still having, serious consideration, and Lord LANSDOWNE claimed that during his term of office a number of matters (which he enumerated) had been dealt with and redressed to the satisfaction, he thought, of the medical profession. There is no doubt the War Minister was quite correct in this statement, and the profession in these respects quite recognises its indebtedness to the War Office authorities; but important as these concessions may be they do not really touch the main point—viz., the formation of a Royal Medical Corps and the question of a medical officer's rank and title. Lord LANSDOWNE intimated that there was no objection to the formation of such a corps, but the serious obstacle really arose in connexion with the question of rank and command, and we gather that but for this stumbling block and difficulty the amalgamation of the Medical Staff with the Medical Staff Corps and the reorganisation of the medical department into a medical corps would have taken place. Be this as it may, however, Lord LANSDOWNE seems at last to have recognised that medical officers and the medical profession make no claims whatever for anything beyond a limited command; and reading between the lines of his speech it appears to us that Lord LANSDOWNE is disposed to make this concession. Everybody admits that the present titles of medical officers are awkward and cumbersome, and Lord LANSDOWNE thought it ought not to be beyond the power of the authorities to discover more suitable designations. His lordship's concluding remarks were significant. They took the form of a very shrewd and pertinent question. He wanted to know whether, in the event of the subjects of corps and rank being disposed of satisfactorily, the War Office might rely upon receiving from the profession assistance in obtaining the best class of candidates in adequate numbers? Dr. FARQUHARSON was able, on behalf of the deputation, to give him this assurance; and if Lord LANSDOWNE's promised announcement of his decision be as satisfactory as we now have every reason to hope it will be we are of opinion that the medical colleges and the profession generally should cordially accept it and do their best to aid him in creating and developing a large and efficient Army Medical

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[1] The Profession of Medicine, p. 47. (By Charles West, M.D. London: Kegan Paul and Co. 1896.)

Service. We assume that whatever is done for officers of the British Medical Service will be also done for officers of the Indian Medical Service.

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A MOST influential deputation, representing not only the Teaching Colleges, the London Medical Schools, and the Senate of the University of London, but also the various scientific and technical societies in London, such as the Royal Society, the Institution of Civil Engineers, the Institute of British Architects, &c., waited on the LORD-PRESIDENT of the Council on Monday last to urge upon him and his colleagues the necessity of their passing at the earliest possible date the Bill which was introduced last year in the House of Lords by the Government. Oxford, Cambridge, and the Victoria Universities not only showed no jealousy, but were represented by zealous supporters of a Teaching University of London. The City Corporation and the London County Council also strongly supported it. Professor MICHAEL FOSTER was very eloquent as to the influence of teaching upon research and Mr. WARREN, the President of Magdalen College, Oxford, who had recently inspected the University Colleges which are in receipt of a grant from the Treasury, spoke most strongly of the advantages he had observed in those Colleges which formed part of a University. The medical side of the question was pressed by Sir SAMUEL WILKS, President of the Royal College of Physicians of London, and by Sir WILLIAM MACCORMAC, President of the Royal College of Surgeons of England, and by Dr. F. TAYLOR, as chairman of the delegates of the medical schools. The LORD-PRESIDENT admitted over and over again the necessity of a teaching university and urged, quite truly, that it was not a political matter, as almost all were agreed upon the question. The compromise embodied in the Bill had reduced the opposition to a minimum and, as he should tell his colleagues, it would take up but little of the time of Parliament. We trust that this means that the Bill will be made a Government measure and be pushed forward early in the forthcoming session and that the long-standing reproach to the largest metropolis in the world of having no teaching university will speedily be removed. The best libraries, museums, laboratories, and clinical hospitals are at the disposal of the student, but he cannot use them for want of organisation. The complexity of the details of the question are so great that legislation by charter is impossible and nothing remains for the Government but to firmly insist on passing the Bill through the two Houses and giving a statutory commission full powers to act. In this way the rights of Convocation, the claims of external students, and the demands of London teachers can be most satisfactorily considered and adjusted.

EASTERN DISPENSARY, BATH.—The Mayor presided at the annual meeting of this institution on Jan. 20th. The annual report showed that the general working of the Dispensary had been as satisfactory as hitherto. The number of patients treated was 4340, against 4437 in 1896. 788 patients had been visited at their own homes, an increase of 165 over the previous year, and the number of visits paid to such patients was 2893 as compared with 2239 in 189 .

Annotations.

"Ne quid nimis."

PLAGUE MEASURES IN HONG-KONG.

THE recrudescence of plague in Hong-Kong recalls the attitude of this colony in relation to quarantine and the Venice Convention. When the subject was under discussion last autumn the views held in Hong-Kong were very varied and the official reports and statements on the different aspects of the question were marked by a singular departure from the rules ordinarily governing discussion of public matters. Dr. Clark, the medical officer of health, had urged that Asiatics and Africans should only be allowed to land provided they gave their names and addresses together with some guarantee that the individuals in question would remain at those addresses for a period sufficiently long to be placed under some supervision. The suggestion was described by another official as "too ridiculous" and the health officer was declared to be "absolutely ignorant of the conditions" affecting the question. The truth is that Dr. Clark advised action precisely the same as this country took as regards a less dangerous class of aliens during the Hamburg cholera epidemic. But his critics wondered what would be the result of informing the shipping companies of any such decision. We assume it would have been much the same as it was here. They protested, their protests were ignored, and they had to take back such people as could not comply with our regulations. One such experience sufficed, and pending the period of danger no one was brought to our shores who could not comply with our conditions. It is much to be deplored that our colonies cannot see the desirability of taking action on modern lines. They seem to attach importance to bills of health given in ports of departure whereas they are known to be practically valueless, and at Hong-Kong they find difficulty in following the "recommendations" of the Venice Convention because they have no quarantine station in which to "keep 500 or 600 people for ten days." The Venice Convention never recommended that 500 people amongst whom there was no disease should be kept in quarantine; hence if there were an odd case or two of plague it sanctioned the landing of all not affected provided the very conditions which were so much cavilled at in Hong-Kong were complied with. England was forty years ago in the same position as Hong-Kong now is. She could not lock up all people coming to her shores from infected ports on the coast of Europe and hence she set herself to perform a different duty—namely, to make her soil as little receptive as she could of foreign infections. We do not pretend to have achieved our end yet, but we are at least adopting measures which go to save a vast amount of life from other diseases than those that are imported, whereas resort to quarantine restrictions not only fails in this respect, but generally leaves a country worse off than ever because of the unremunerative and wasteful expenditure on quarantine restrictions. Fortunately Hong-Kong did agree last autumn to inspection of vessels and we hope such inspection will be under medical supervision, for the prevention of plague is essentially a medical task.

"A STRANGE CESSPOOL FATALITY."

UNDER this heading we commented in an annotation last week upon a case at Leicester which presented some peculiar and interesting features. Since offering the comments then published we have received further particulars which have kindly been furnished by Dr. Young, who gave evidence at the inquest upon the body of the man who lost his life during the operation of cleansing the cesspool referred to. Dr. Young points out that the cesspool receives the hot washings of beer barrels which contain hop-leaves originally used to keep the beer in good condition. In the presence of such conditions as moisture, heat and hops in a confined space a fair amount of carbonic acid, he remarks, might be expected to be present, but he cites one or two interesting points in the case which would rather tend to disprove such a theory. 1. The lid of the manhole having been removed several hours before operations began would allow of the escape of some of the gas, he thinks, in spite of its heavy nature, if it had been present in considerable quantity. 2. Lights burned as brightly near the surface of the water all the time the men were at work as they would do in the ordinary atmosphere. 3. If carbonic acid had been present in such proportions as to destroy life, why, he asks, should Butters, who recovered consciousness and mounted the ladder unaided, not have become more and more asphyxiated and have died? 4. These two men were accustomed to this kind of work. The deceased had several times previously cleared out this chamber. What gas was present on this occasion which had not been present on former occasions? 5. Are retching and vomiting symptoms of carbonic acid poisoning as in the case of poisoning by carbon monoxide? Dr. Young is inclined to the belief that carbonic acid could not be present in any appreciable quantity from the fact that a lighted candle burned brightly in the chamber, although, as he points out, "the mere fact of a candle continuing to burn in an atmosphere is no test of its being respirable with impunity, for, as Dr. Ferrier has observed, 'a candle will burn in an atmosphere containing 10 per cent. of carbonic acid if the oxygen is present in the normal amount and the presence of an amount of carbonic oxide sufficient to cause death will not materially affect the flame. If carbonic acid reaches the proportion of 16 per cent., the candle will be extinguished, however.'" In emptying the chamber the men's faces were brought near the surface of the liquid. As long as they were merely getting rid of the water no inconvenience was felt, but when after a time they began to disturb the thicker contents a "strong smell" was perceived. Could it be, Dr. Young asks, that there was then a liberation of pent-up carbonic acid sufficient to render them unconscious? At the inquest Dr. Young expressed the opinion that though the deceased had been overpowered by some poisonous gas the immediate cause of death was suffocation from drowning. A post-mortem examination was not made. In his opinion life was not extinct when the deceased became submerged. Otherwise why, he asks, should the man Butters instead of passing into a mere comatose state have regained consciousness?

HOSPITAL REFORM.

IN recognising the progress made in the public discussion of the great subject of hospital reform it must be admitted that considerable credit is due to the Hospital Reform Association and its indefatigable honorary secretary who in the course of last year has travelled to and fro and up and down the country in the service of the association and doubtless at great personal inconvenience to himself. Mr. Garrett Horder's paper at the first general meeting, which we publish this week, shows the position and objects of the society very clearly and succinctly. The restriction in the number of cases, especially of out-patients, is the desideratum of all hospital reformers, and the report gives various suggestions for promoting this object, of which the chief are the abolition of subscribers' letters, the limitation of the new cases to be seen in one day in the out-patient department, and the bringing about a better understanding between the medical staff and the practitioners outside. Most importance is attached to the recommendation of a medical practitioner. The assumption should be that until the means of relief from private practitioners have been exhausted the necessity for hospital relief should be held not to have arisen. The patient is safeguarded from the too severe operation of this principle by the provision that every case shall be seen once and prescribed for, but not necessarily seen again as a hospital patient. Some of the great hospitals are already beginning to act on something like this principle. Undoubtedly the principle is a sound one within limits, though its application will throw a considerable responsibility on the medical profession. It will throw on medical practitioners the duty of seeing a large number of patients who can scarcely remunerate them, and will put them somewhat into the position of relieving officers. It will be well before pushing this point too far to consider details and to test the willingness of practitioners to be so used. It must be discouraging to the officers of this association to find that the very modest expenses of their arduous labours are not met so far by the membership or by subscriptions. The association is about £50 in debt. Such a state of matters must be altered if the association is to do any good work in the future. The question is in the front rank of hospital questions. Fortunately other bodies are moving in the same direction. But if the enemy of hospital reform is not to blaspheme the Association which exists for this very purpose should receive more support and generosity from the profession.

URBAN MORTALITY IN SCOTLAND IN 1897.

ABOUT 36 per cent. of the people of Scotland are resident in the eight principal towns, to which the monthly returns issued by the Scotch Registrar-General apply. The latest issue of these—that for December last—has just appeared, and an examination of the series shows that during 1897 32,824 deaths occurred in the eight towns collectively. The estimated aggregate population was 1,549,907, and consequently the general annual death-rate was 21·18 per 1000 of population. Of the 32,824 deaths 15,727 occurred in Glasgow, 6224 in Edinburgh, 3378 in Dundee, 2471 in Aberdeen, 1527 in Leith, 1466 in Paisley, 1363 in Greenock, and 668 in the "Fair City" (Perth). Looking at the estimated populations of these towns, which were respectively: Glasgow, 714,919; Edinburgh, 292,364; Dundee, 163,090; Aberdeen, 138,143; Leith, 75,186: Paisley, 74,206; Greenock, 61,475; Perth, 30,524, we find that the annual rate of mortality was, in the order of merit—that is to say, in inverse ratio to the number of deaths—Aberdeen, 17·89 per 1000 of population; Paisley, 19·76; Leith, 20·31; Greenock, 20·55; Dundee, 20·71; Edinburgh, 21·29; Perth, 21·88; and Glasgow, 21·99. As to the causes of death, 4991 deaths were due to "specific febrile or zymotic diseases," 5 to parasitic diseases, 118 to dietetic diseases, 6020 to constitutional diseases, 2194 to developmental diseases, 16,917 to "local" diseases, 1237 to violence, and 1342 to ill-defined and not specified causes—the total being, as above, 32,824. In all the months except January, November, and December, the deaths were above the average for the past ten years after allowing for increase of population, the net gross increase being 1409. To speak more particularly, 3630 of the deaths were due to miasmatic diseases, 3669 to those of the nervous system, 2751 to those of the circulatory system, 6747 to those of the respiratory system—the most fatal class of disease to which the people of Scotland are subject—and 2285 to diseases of the digestive system. With regard to zymotic diseases there were 6 deaths from small-pox, all of which occurred in Glasgow, which is by far the largest of any of the Scotch towns. The number of deaths ascribed to measles was 1105, to scarlet fever, 340; typhus fever, 12; influenza, 264; whooping-cough, 1404; diphtheria, 205; and enteric fever, 277. The most prominent epidemics during the year were measles and whooping-cough, and owing chiefly to the prevalence of these disorders there was a most extraordinary rise in the death-rate both for Edinburgh and Leith—from 16·9 to 21·29 per 1000 of population in the former as compared with 1896, and from 16·0 to 20·31 in Leith. Scarlet fever also was particularly marked in Edinburgh in the month of August. It is interesting to note that while the death-rate in Glasgow, Edinburgh, Dundee, Leith, Paisley, Greenock, and Perth rose more or less as compared with the immediately preceding year that for Aberdeen fell fractionally, which is to the credit of Professor Matthew Hay, M.D. Edin., medical officer for the City of Aberdeen, and his staff. It is also supposed with good reason that the population of Aberdeen has been underestimated by the Registrar-General. There is "evidence *aliunde*" (as they would say in Scotland) that the annual increase of population per cent. in Aberdeen has since the Census of 1891 been greater than that of any other of the principal towns of Scotland. At all events, accepting the Registrar-General's estimate, the death-rate in Aberdeen last year was the lowest on record since the Registration Acts came into force in 1855, and approaches the ideal figure set forth by the late Sir Edwin Chadwick.

PROPORTIONAL REPRESENTATION IN ELECTIONS.

WE have received from Mr. J. W. Barrett, F.R.C.S. Eng., of Melbourne, a letter which he has addressed to the President of the Royal College of Surgeons of England. In this letter Mr. Barrett points out that elections to vacancies on the Council of the College are decided by the system of voting known as *scrutin de liste*, a method which enables a minority to return a majority of candidates. For instance, there is one vacancy for which there are three candidates, A, B, and C. There are also twelve electors. A gets 5 votes, B gets 4, and C gets 3. A is therefore elected although he has not an absolute majority, for B and C have together 7 votes to A's 5. If C had not been a candidate B might have obtained C's votes and so secured election by an absolute majority over A. Mr. Barrett is of opinion that the Hare system, which aims at reproducing in the elected body the various opinions held in the electorate at large, is the best. This method is as follows, to quote from a lecture delivered by Mr. Barrett at the Reform Club, Melbourne, last summer. The elector numbers the candidates in the order of preference that he chooses. The voting papers are then sorted and those in which any particular candidate is marked "1" are put together and the bundles of papers are counted. The number of valid papers is then divided by the number of vacancies and the result gives the average number of votes which must be obtained by any candidate to secure his return. Candidates found to have reached this quota are elected and if there are enough to fill the vacancies the matter is at an end; if not, but some candidates have received a surplus of votes, the surplus is distributed amongst those candidates marked "2." For example, says Mr. Barrett, suppose 30 electors and 10 vacancies; 18 papers are marked, Turner, 1; Berry, 2; Isaacs, 3; and so on with the rest of the candidates; while 12 are marked, Fitzgerald, 1; Gillies, 2; MacIntyre, 3; and so on. As there are ten vacancies and thirty votes the average to be obtained is three. Turner had 18 votes in all and therefore was elected with 15 votes to spare. These 15 votes were handed on to Berry, who was accordingly elected and had 12 votes to pass on. Isaacs therefore received 12 votes, was elected and had 9 votes to pass on. The same principle was carried out for the other party, Fitzgerald having received 12 votes altogether was elected and had 9 votes to pass on. So in the end six candidates were elected by 18 members of the one party and four by 12 members of the other, the number of successful candidates being in proportion to the numbers of the different parties. Mr. Barrett's lecture, now issued as a pamphlet, entitled "Proportional Representation," from which we have taken these figures, is well worth reading.

CHRONIC SYMMETRICAL ENLARGEMENT OF THE SALIVARY AND LACRYMAL GLANDS.

AMONG rare and imperfectly known diseases there are none of greater interest or more in need of further investigation than a curious malady characterised by chronic enlargement of the salivary, lacrymal, and other glands. It presents quite a new problem in pathology. In THE LANCET of March 18th, 1893, we noticed a paper on the subject by Professor Fuchs, of Vienna. He had under his care a man, aged sixty-one years, who, having had swelling of his eyelids for four months, noticed that a tumour was forming below the ear. Examination showed that the upper lids were pressed forward by tumours in the upper and outer portion of the orbits, evidently enlarged lacrymal glands, and that the parotid glands were also enlarged, forming smooth tumours. There was neither pain nor sign of inflammation. Treatment proved useless, and at the end of a year the tumours had slightly increased. A fragment excised from one of the lacrymal glands showed a structure much resembling the lymphoid tissue of trachoma; no glandular substance was found. Professor Fuchs could find only two cases in medical literature of chronic simultaneous enlargement of lacrymal and parotid glands. In one the submaxillary glands were also affected; after a year all the glands had nearly regained their normal condition. In the other all the maxillary glands as well as those of the oral mucous membrane were enlarged. THE LANCET of July 1st, 1893, contains another case published by Mr. Simeon Snell and entitled, "Simultaneous and Symmetrical Tumours of the Lacrymal and Parotid Glands." The patient was a woman, aged sixty-one years, in good health. The tumours steadily increased in size, the left orbital becoming of the size of a small teacup. It was of a bluish colour and reached to the temple and down the face. The submaxillary and sublingual glands finally became affected. The subsequent history is imperfect. The right side of the face ulcerated and a perforation into the mouth formed. Six months later and five and a-half years after the onset of the disease the patient died from exhaustion. The latest contribution to the subject is an article by Dr. Osler in the *American Journal of Medical Sciences* of January, 1898, in which he has described the following case: A coloured girl, aged eleven years, in good health, began to feel dull and heavy and her face and neck became a little swollen. When she came under observation, six weeks after the beginning of the disease, the lacrymal, parotid, submaxillary, and buccal glands were enlarged. The symmetrical enlargement of the parotid glands was a remarkable feature, causing tilting up of the lobes of the ears. There was slight general enlargement of the lymphatic glands, particularly of the posterior cervical. The spleen also was enlarged and the notch could be felt. Ulceration of the cartilage of the septum nasi, which was reported to Dr. Osler as syphilitic, occurred. Iodide of potassium and mercury were administered; all the glandular enlargements slowly diminished and had quite disappeared one and a half years after the onset of the disease. She was readmitted to hospital more than a year later with phthisis, to which she succumbed. The necropsy showed that the lacrymal glands were replaced by fibrous tissue and that there was no trace of enlargement in the parotid glands. Dr. Osler inclines to the view that the disease was associated with inherited syphilis, which he thinks is borne out by the improvement which occurred under mercury and iodide of potassium. With all the deference due to the high position which he holds we must dissent from him emphatically. Ulceration of the cartilaginous septum nasi, even to the extent of perforation, is by no means necessarily syphilitic. In this case there is not a single fact to support such a conclusion—no interstitial keratitis, no malformations of the upper central incisors, no history personal or family in the least suggestive. On the other hand, the termination of the case favours the view that the ulcer, if not actually tuberculous, was of the kind which sometimes occurs in this position in persons of tuberculous tendencies. As to the improvement under specific treatment, in general this counts for little (for many diseases respond to mercury and to iodide of potassium) and here for nothing. The improvement was very much slower than that which occurs in syphilis. Moreover, cure has been obtained in one case under this very treatment where there was no question of syphilis. We allude to a case published in the Transactions of the Ophthalmological Society, vol. iv., by Mr. Jonathan Hutchinson.[1] It appears to be the first case of the disease on record and, strange to say, has been overlooked by all subsequent writers. In 1892, eight years afterwards, Mikulicz described the next case and claimed it as a form of disease previously unrecognised. Mr. Hutchinson's patient was a Hindoo barrister who suffered from proptosis first of one and then of the other eye in association with enlargements of the lacrymal, parotid, and cervical lymphatic glands. The proptosis was not due to enlargement of the lacrymal gland which overhung the eye and was moveable on it. Mr. Hutchinson thought that it was due to some swelling of the fibrous or fatty contents of the orbit and that the case should be placed in the same group as the diffuse lipomata of the neck. Though he had never seen any of these cases complicated with proptosis or enlargement of the lacrymal glands, in one the parotids were enlarged exactly as in the case described. That the growth is of the interstitial connective tissue of the glands, but lymphomatous and not lipomatous, subsequent observations have confirmed. Kümel found a complete substitution of the gland tissue by leucocytes. But why this peculiar distribution of the disease? An instructive and parallel fact is that mumps is sometimes, though very rarely, complicated by acute dacryo-adenitis. The general law that disease of one part tends to spread to similar structures gives some explanation of these cases.

THE MIDWIVES OF CHICAGO.

WITHIN the city of Chicago are upwards of a thousand women who practise the art of midwifery, and we read with some astonishment in a report on the subject by Dr. F. W. Reilly that until last year these women plied their occupation without let or hindrance from the State. It required, it seems, "certain peculiarly atrocious developments" in the spring of 1896 to awaken public opinion and to stimulate legislation. There was apparently a growing practice among the midwives of Chicago to prescribe medicine for those under their care and, if they deemed it necessary, to apply instruments. These tendencies led, as was to be expected, to dire results; indeed, in the report to which reference has been made we are furnished with an account of a certain midwife who, in her zeal to extract a child with the forceps, lacerated the cervix of the uterus and also the intestine. The woman died and was buried, but the facts coming to light an exhumation was ordered and a necropsy performed. The proceedings were, however, cut short by the suicide of the midwife. In another instance a midwife amputated an inverted womb in the belief that it was a "tumour." These nefarious performances led to regulations being drawn up, and the midwives are now under proper supervision.

THE ROYAL COMMISSION ON TUBERCULOSIS.

MEETINGS of this Commission were held at 7, Whitehall-place on Jan. 19th, 20th, 21st, and 22nd, the following members being present: The Right Hon. Sir Herbert Maxwell, Bart., M.P. (chairman); Sir Richard Thorne, K.C.B., F.R.S.; Sir George Brown; Mr. Shirley F. Murphy; Mr. Harcourt E. Clare; Mr. Cooke-Trench; and Mr. John Speir.

THE INFLUENCE OF THE THYROID GLAND ON METABOLISM.

THE results of three series of researches on the influence of the thyroid body on nutrition have recently appeared. These researches are calculated to modify the opinion generally entertained in regard to the value of this organ. It is usually accepted that removal of the thyroid body leads to nervo-muscular disturbances, to tremors and twitching of muscle and tetanus, and to nervous depression and stupor. It is believed, too, that a substance—iodothyrin—produced by the thyroid body possesses an antitoxic action, so that its administration as a medicine is capable of supplying the loss of the gland. The researches of Dr. H. Munk seem to show that this doctrine is untenable. It is true, indeed, that ablation of the gland is often followed by serious indisposition and by death but, on the other hand, more than 50 per cent. of monkeys and rabbits and 25 per cent. of dogs and cats remained unaffected by the operation. The thyroid body cannot therefore be regarded as an organ of extreme importance in the maintenance of life. Dr. Munk has satisfied himself that in the animals operated on no fragment of the organ was left, that there were no accessory thyroid bodies, and that no growth of other analogous organs such as the hypophysis cerebri was noticed. Moreover there were no poisonous effects observed from the products of normal metabolism acting on the nervous system. The differences noted in different instances were too numerous and too great to permit them to be referred to individual peculiarities in the formation, accumulation, and action of any special poison. Dr. Munk does not find that exposure of the animal after ablation to a low temperature favours the occurrence of tetanus or that exposure to a high temperature favours chronic cachexia without spasms. The cachexia observed occurs in consequence of disturbance of the digestive organs, insufficient exercise, and other bad effects of imprisonment; a myxœdematous cachexia with or without antecedent tetanus does not occur in animals as a consequence of the extirpation of the gland. The disturbances of the economy occasioned by the operation were neither prevented nor removed by the artificial ingestion of the thyroid body and he is unable to support the statements of Eiselberg in regard to the effects of the transplantation of the organ. He admits that removal of the thyroid body endangers life, but denies that it is essential or highly important for the preservation of life. M. Schöndorff's experiments were directed to the determination of the metabolism of albumin in the dog on a diet containing thyroid gland substance as compared with a diet free from thyroid. The nitrogen, fat, and in part the amount of glycogen in the thyroid-free diet were accurately determined. The diet consisted of meat and rice or lard. Twelve experiments were made on the same dog, each lasting for several days. When the income and expenditure had been brought into equilibrium, five and then ten thyroid tablets were given for twenty-four days. The excretion of nitrogen first rose for a few days, then sank to the normal amount. The body weight steadily decreased throughout the whole period. This coupled with the known increase in the absorption of oxygen during the consumption of thyroid body points to the loss of fat. The increase in nitrogen loss at first, he believes, in opposition to all other experimenters, to be due to the elimination of urea and similar substances from the body. In the course of the following three weeks during which twenty tablets were given daily the dog, becoming thin, eliminated more nitrogen than it ingested. In order to prove that this excess of nitrogen elimination first occurs when the fat of the animal is greatly reduced, it was fed more freely with fat till equilibrium was reached and then supplied with thyroid substance. Transient increase of nitrogen elimination was again observed followed by diminution, indicating a retention of nitrogen in the system occurred. Still the total body weight diminished, so that there must have been consumption of fat. On the withdrawal of thyroid substance from the food the body weight immediately underwent an increase, with retention of nitrogen in the body to no inconsiderable amount, whilst it diminished again when the thyroid was given coincidently with increased metabolism of albumin. It would appear, then, that the body albumin is first attacked when the greater part of the fat has been used up. In the next experiment the dog was made to fast for thirty-eight days and during this period the elimination of nitrogen was the same as in a moderately fat dog, the excretion of nitrogen falling at first and then remaining stationary for twenty-six days, finally rising slowly. A consideration of the loss of weight of the animal led to the interesting conclusion that this was so small that in the final period of fasting not only was no fat consumed but the loss of body substance calculated from the elimination of nitrogen was greater than the observed diminution in body weight, and this could only be explained on the supposition that the animal retained water in its body. This view was supported by an examination of the body of the dog when dead, for whilst the normal water of the body amounts to 75 per cent. it was now found to be 80 per cent. The increase in the quantity of water was most remarkable in the bones, the normal being 22-24 per cent. whilst it was here 54·07 per cent.—that is, it had increased about 120 per cent. The proportion of fat in the dead animal was 1·78 per cent. It was determined separately in each organ, the brain containing the largest quantity 8·812 per cent., the blood the smallest, containing only 0·261 per cent., from which Dr. Munk concludes that at the close of the period of feeding with thyroid body the animal contained abundant fat, so that there was no reason for the body albumin to be consumed. The third series of researches were undertaken by Dr. A. Schiff, who has found as a result of feeding animals with thyroid and hypophysis cerebri substances that there is greatly increased excretion of phosphates with comparatively small increase of excretion of nitrogen, which points to increased metabolism of bone substance.

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[1] THE LANCET, July 12th, 1884.

THE ARCHBISHOP OF CANTERBURY ON SUNDAY CLOSING.

AN enormous amount of good is to be effected by a curtailment of the hours of drinking short of that millennium for the teetotalers when the whole trade in alcoholic liquors shall have been destroyed. One obvious curtailment is that of the hours of the Sunday during which drink may be obtained. Practically the whole population acquiesces in the present short hours of Sunday work in public-houses. They are thought only fair to those who are employed in the trade, who need a Sunday's rest as well as other people; and they contribute unmistakably to the sobriety of the people. Those who have indulged in excessive drinking on Saturday—and they are "a numerous host"—have the chance of pulling themselves together before the Monday comes. There is a general feeling that the hours might be still further restricted with advantage. So long as no hardship is inflicted on those who depend on the public-house for their ordinary dinner and supper beer daily, Sundays included, no serious opposition would be offered even in the metropolis to more Sunday closing with discretion left to local authorities to extend the time in localities peculiarly situated. In many country towns it is probable that it would be quite feasible to close the houses altogether. As the Archbishop of Canterbury pointed out on Monday in his address to the Church of England Temperance Society at St. Andrew's Hall, Bethnal-green, investigation in many localities has shown that even the classes who use the public-house are favourable to its being closed on the Sunday, but any attempt at entire closure on Sundays in the metropolis would do great harm and would play into the publicans' hands. The time has come for intemperance to be seriously dealt with, and one of the first things to be done is to begin with really practicable reforms such as that advocated by the Archbishop.

THE ACHIEVEMENTS OF ABDOMINAL SURGERY.

WE print in another column a brief account from Mr. Treves's pen of a surgical operation that forms in a manner a fitting pendant to the interesting case under Professor Schlatter's care which we published in our columns on Jan. 15th. Professor Schlatter, it will be remembered, removed the whole of the carcinomatous stomach of an elderly woman and relieved her symptoms by his drastic act. Mr. Treves has removed the whole of the bowel of a child below the transverse colon together with the anus, and the patient made an easy recovery, while the symptoms incident to the perilous condition known as "idiopathic dilatation of the colon" disappeared as the result of the operation. Mr. Treves's case, like Professor Schlatter's, may be regarded as one where a tremendous operation was the last resource left to the surgeon, for the issue of cases of so-called idiopathic dilatation of the colon is as certainly fatal as the issue of cases of carcinoma of the intestines. That the little patient on whom Mr. Treves operated would have died without prompt surgical interference no one can doubt who reads the notes of the deplorable condition into which she had drifted. The attacks of obstruction of the bowel were growing more frequent and prolonged, the abdominal distension was extreme, no aperients could be used, and enemata had lost their effect. What was actually done and how it was done can be read in Mr. Treves's own words, the whole story forming a perfect illustration of the remarkable possibilities and resources of abdominal surgery.

CEREBRAL ABSCESS AND TUMOUR.

IN the series of Cerebral Cases of Unusual Interest and Importance which Dr. Byrom Bramwell is contributing to the *Scottish Medical and Surgical Journal* that which is described in the November number of the journal is so remarkable as to call for special attention. The patient was a man, aged forty-two years, whose previous health and family history offered no unusual features. He was in his usual health when he noticed some slight pain on the left side of his head. The next day he experienced numbness in his right hand and had some difficulty in writing. In the following night he had three severe epileptic fits, one at midnight, the next at 4 A.M., and the next at 7 A.M. The spasms were not confined to one side and when seen about three hours after the last one he was quite conscious and able to give a detailed account of his previous health. He was suffering from severe pain and tenderness in the abdomen, which gradually passed away and was apparently the result of the severe muscular spasm which had occurred during the fits. The pulse and temperature were normal, there was no paralysis and no aphasic defect. There was no ear discharge. He was treated with bromide and iodide of potassium and chloral, with a sharp purgative. Five days later there had been no return of the convulsions, but there had been more or less headache with rather slow pulse and normal temperature. There was a numb feeling in the right arm and leg, weakness in these limbs and also on the right side of the face and some loss of sensibility, more marked in the leg. There was neither aphasia nor hemianopsia, but there was now well-marked double optic neuritis. Two days later the condition was obviously worse and there was superadded to the other symptoms some aphasic defect. At the end of another two days the paralytic and aphasic defects were still more marked, the breathing became stertorous and the patient passed into a comatose condition and died shortly afterwards—i.e., ten days after the onset of his first symptoms. At the necropsy the convolutions of the brain were found to be flattened and the sulci effaced. This was more marked on the left side than on the right. The basal membranes were quite normal and the vessel walls were healthy. On examining the surface of the left hemisphere a tumour was found, its posterior border being situated at the junction of the parietal and occipital lobes and its inner border half an inch from the middle line. It extended as a blunt wedge into the brain substance to a depth of three-quarters of an inch. At the anterior margin of the tumour was a patch of fibrous thickening in the arachnoid, in the centre of which was a small gritty body, afterwards proved to be of bony structure. On transverse section of the brain an abscess as large as a hen's egg was found in the middle of the left hemisphere situated in the centrum ovale and a little nearer the posterior than the anterior end of the brain. The contents were extremely fœtid and the wall was fairly firm, especially at one place underlying the tumour already described. The most careful search failed to reveal any origin for the cerebral abscess, every other organ in the body except the brain being apparently normal. The practical lessons which Dr. Bramwell enforces from this case are that abscess cannot be excluded by the mere fact that the usual conditions for abscess may be absent and that in every doubtful case trephining should be advised on the mere chance that an abscess may be present. He also draws particular attention to the absence of putrefactive organisms in the pus—these were elaborately searched for,—the fact that the tumour had given rise to so few and so recent symptoms, and the absence of any rise of temperature until just before the end. The presence of a nodule of bone is also curious and the severe abdominal pain and tenderness following the fits and apparently muscular in origin were unusual and perhaps apt to mislead. The case is certainly a very remarkable one and worthy of the careful record which Dr. Bramwell has given of it.

"DEATHS UNDER ANÆSTHETICS."

A male patient, aged forty years, suffering from renal abscess, was admitted into the Queen's Hospital, Birmingham, in August, 1897, and was operated on whilst under the influence of a mixture of ether and chloroform. It is stated that subsequently to this he suffered from an attack of bronchitis due to the ether contained in the mixture. On Dec. 31st he was again placed under an anæsthetic, chloroform being selected on account of the bronchitis which it was alleged followed the use of ether previously, and also on account of the presumed disadvantage of ether in cases of renal disease. The chloroform was administered by the "open method," six drachms being given. The patient struggled at first and then became suddenly quiet and the heart ceased to beat. The recourse to artificial respiration and a hypodermic injection of ether failed to restore him. Such are the details of the case as they reach us. It seems only too probable that the chloroform may have been presented in too great concentration at first causing struggling as it often does when given by the open method unless the greatest care is taken. The cessation of struggling probably occurred when the patient had received a fatal dose. It is very questionable indeed whether ether contained in any of the known mixtures will produce bronchitis or interfere with the kidneys. Statements are commonly made to this effect, but statistics and reliable data proving that such dangerous sequelæ occur are wanting. Bronchial catarrh in bronchitic subjects is found, although rarely; bronchitis in persons previously free from bronchial disease is very uncommon. The dangers of exposure of the patient's body and the cooling effects of wet towels employed during a prolonged operation are not always realised and ether too often has to serve as the scapegoat for these obvious causes of pulmonary and bronchial inflammation.

THE QUESTION OF HOSPITAL ABUSE.

Dr. H. G. Turney, one of the assistant physicians to St. Thomas's Hospital, has forwarded to us a reprint of a paper published by him in the *St. Thomas's Hospital Gazette* for December, 1897. The paper is a very sensible and temperate statement of the case and Dr. Turney makes suggestions which are quite in accordance with our own views. Shortly put they are as follows. 1. A notice shall be placed in the casualty and out-patient rooms to the following effect. "Applicants for out-patient relief are informed that as it is impossible for the hospital to treat everyone who applies preference will be given to those patients who come recommended by a medical practitioner. No person to be considered a fit subject for relief unless he or she is either unable to pay a doctor's fee or is provided with a medical recommendation. 2. That a circular letter should be sent to all practitioners residing in the neighbourhood of the hospital inviting them to coöperate with the hospital in dealing with this question." Dr. Turney thinks, and we agree with him, that a general practitioner might send a patient up to the hospital for two reasons: (*a*) for an opinion and (*b*) for treatment. "In the former case the physician in charge would be expected to send a short opinion with recommendations as to treatment." This, we think, is the only weak part in the scheme, for it would throw a considerable amount of work on the shoulders of an official who has already got almost more to do than he can undertake with justice to himself or his patients. But the difficulty might be surmounted by the physician dictating his opinion and hints for treatment to a clinical clerk. The coöperation of the surrounding general practitioners is, in Dr. Turney's opinion, and not in his alone, to be most earnestly desired. In our opinion, to compare the sister profession of the Church, a hospital should be what a cathedral was meant to be and occasionally still is—namely, a centre for information, example, and instruction for the "practitioners" of the district—clerical in the one case and medical in the other. St. Thomas's Hospital certainly takes the greatest pains to avoid hospital abuse and although doubtless some cases do occur that is only to be expected in a large hospital, but as not more than nineteen new cases are seen per diem these are very thoroughly examined, which tends both to the benefit of the patients themselves as well as to that of the hospital. One of the chief difficulties connected with hospital abuse is the fact that owing to modern methods locomotion is so easy that London draws patients from all parts of the country. A patient who can come up from Peterborough, as we have known one to do, should most certainly be refused hospital treatment other than, say, one day's medicine, but patients of this class are, we are glad to see, properly dealt with at St. Thomas's Hospital. The difficulties of the question are many, but Dr. Turney's paper is certainly a step in the direction of solving some of them and, as will be seen by a paper published in another column, the Hospital Reform Association has expressed its approval of his ideas.

THE RETIREMENT OF SIR WILLOUGHBY WADE.

The whole medical profession will join in the regrets that are felt in Birmingham at the retirement of Sir Willoughby Wade. Our correspondent in Birmingham informs us that the health of Lady Wade occasions Sir Willoughby Wade's determination to live in Italy, and it is sincerely to be hoped that under more genial skies than ours long life may be the lot of both.

THE HEALTH OF MR. GLADSTONE.

The most recent reports of Mr. Gladstone's condition, including an account received on Thursday morning, are of a reassuring nature. So far from there being any fresh cause for anxiety it has been a matter for congratulation that the strength and vital powers have been so well maintained in spite of the prolonged strain which constant pain involves. There has been a decided improvement in the neuralgic condition during the last few days and there have been long intervals of freedom from pain. In a man of Mr. Gladstone's age it is impossible to say at any time that there is *no* danger, but we are in a position to state that there is nothing in his health at the present moment giving particular anxiety to his friends.

THE LONDON POST-GRADUATE COURSE.

The ninth year of study under the London Post-graduate Course will commence on Feb. 14th, when the spring term will open. There will be lectures and demonstrations at the following institutions—viz., at the Hospital for Diseases of the Skin, Blackfriars; at Bethlem Royal Hospital for Lunatics on Diseases of the Mind; at the London Throat Hospital on Diseases of the Throat, Nose, and Ear; at the Central London Sick Asylum, Cleveland-street on General Medicine and Surgery; and at the Parkes Museum on Hygiene. The fees are from £1 1*s.* to £3 3*s.* for each class and the diary is so planned that practitioners can attend all the lectures of the term. The instruction is thoroughly practical and suited to the wants of medical men engaged in practice. Particulars can be obtained from and fees paid to the secretary, Dr. Fletcher Little, 32, Harley-street, W.

A few representative "Blues" met in accordance with a suggestion made by Mr. Alderman Vaughan Morgan, treasurer of Christ's Hospital, on Jan. 5th, when it was resolved to call a general meeting of former scholars of the house with the object of making a thank-offering for the benefits received at Christ's Hospital, and by the permission of the treasurer this meeting will be held in the court room on Monday, Jan. 31st, at 5 P.M.

H.M. the Queen has been pleased to award to Inspector-General of Hospitals and Fleets, Henry Macdonnell, C.B., R.N., the Jubilee Medal of 1897; the same honour has been awarded to Dr. W. R. Smith, Professor of Forensic Medicine in King's College, London, and to Surgeon-Major-General W. R. Rice, C.S.I., Honorary Physician to the Queen, late Surgeon-General with the Government of India.

ANNUAL REPORT FOR 1896 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

Second Notice.

In our first notice[1] of Mr. Shirley Murphy's report we commented as fully as space permitted on that portion of it which relates to the distribution of sickness and mortality throughout the county of London in 1896, the administrative action of the London County Council as supervisors of the work of the forty-three metropolitan vestries for the improvement of the public health having been dealt with in a leading article in The Lancet of Jan. 1st. We now propose to notice certain important matters to which Mr. Shirley Murphy directed the attention of the County Council during 1896, and which are detailed at the end of his report under the title of "Appendices." We would remark, however, in passing, that when relegated to this position even matters of grave importance to the public welfare seem to us to be less likely to attract the attention they demand than they would be if they formed part of the report itself. In reviewing Mr. Shirley Murphy's report for 1895 we drew attention to the salutary effect of that clause of the Public Health (London) Act of 1891 which provides for the payment by the County Council of half the salary of certain sanitary officers appointed, or re-appointed after the passing of that Act. From the report now before us we note that by the end of 1896 as many as 42 medical officers of health and 182 sanitary inspectors had been thus appointed with the approval of the Local Government Board and had consequently secured a guarantee of reasonable permanency of office. It appears, therefore, that at the present moment all but a very few of the sanitary authorities of the metropolis are in touch with the coördinating office in Spring Gardens and are therefore subject to control so far as concerns the discharge of their responsibilities as guardians of the public health.

Of the seven appendices added to the present report, three are concerned with outbreaks of diphtheria, two contain memoranda addressed to the London County Council on the sanitary condition of metropolitan sanitary districts, and of the remainder one appendix deals with the operation of lodging-house bye-laws in the county of London, and the other with the question of shelters or homes for the accommodation of the indigent poor.

From the first appendix it appears that both in 1895 and in 1896 there had been excessive prevalence of diphtheria in the district of Camberwell as compared with that which occurred in London generally, but in the latter year the disease seemed specially to affect an area in Camberwell which is represented by a group of twelve census enumeration districts and contained a population of about 20,000 persons at the Census of 1896. Relatively to population the diphtheria attacks were more than four times as numerous in this "infected area" as they were in other parts of the metropolis. Mr. Shirley Murphy found that in this case, as in so many other recent cases, the disease showed a special tendency to attack children of school age and that there was a decrease of diphtheria in the infected area at the times of school holidays among children of that age. The conclusion therefore seems inevitable that school attendance had been instrumental in causing the spread of the disease. In the autumn of 1896 it had become apparent (says the report in the second appendix) that diphtheria was showing exceptional prevalence in Lewisham parish and that a locality situated at the northern part of that parish was particularly involved. In order to ascertain the cause of this outbreak Dr. Hamer, who conducted the inquiry for the county medical officer of health, found that in the few weeks antecedent to the August holiday several cases of throat illness had occurred among children attending a certain school. Within a fortnight after the school had reopened cases began to manifest themselves among school children, who were the first persons attacked in their respective families. Up to the middle of

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[1] The first notice appeared in The Lancet of Jan. 15th, 1898.

September the incidence of attack was mainly on the younger classes of the boys' department, whilst later the disease affected chiefly the infants' department and the girls in the national school. There was no evidence forthcoming that milk, or indeed any other condition than that of personal intercourse was responsible for the earlier cases, and Dr. Hamer's report conclusively shows that the larger prevalence in September and early October was due to disease contracted at school. The fourth appendix contains a report on the operation of bye-laws dealing with houses let in lodgings. In presenting to the County Council this report Mr. Shirley Murphy remarks that in every metropolitan district where by-laws or regulations have been given a fair trial the opinions of those best qualified to judge are strongly in favour of this method of dealing with such establishments. Any difficulty which had been anticipated in thus regulating these houses has always disappeared when the work has been seriously undertaken and a sufficient staff has been provided for the purpose. The very fact that a house has been registered and is subject to inspection has been found to be productive of good and there is no doubt that still better results would have been attained if larger use had been made of existing power to proceed directly for penalty instead of adopting the method of serving notices. This would be particularly the case when the nuisance to be abated consisted of overcrowding. In every London district Mr. Shirley Murphy urges, by-laws or regulations for lodging-houses exist, but in only a limited number of districts has any considerable effort been made to enforce them. In the fifth appendix Mr. Shirley Murphy presents a report on the important subject of "shelters," by which term is meant such premises as are designed to provide temporary lodging either free of charge or at a small outlay for persons who are homeless from some cause or other, this object being in most cases associated with an endeavour to assist the individual either directly or indirectly in obtaining employment. Before presenting to the County Council a memorandum of his own on this subject Mr. Shirley Murphy caused an inspection to be made of all the known shelters, refuges, and homes in the metropolis and the report thereupon of Dr. Young, assistant medical officer of health, is included in the appendix. Commenting on this report Mr. Shirley Murphy suggests for the consideration of the County Council the question whether these shelters should not be made subject to the Common Lodging-houses Acts already in force. Dr. Young's inspection of these places appears to show that while the accommodation in some of them was satisfactory in others it was very far from being so. In all instances Dr. Young found the shelters and homes clean at the time of his visit, but he also frequently found in the absence of any standard for the guidance of those in charge of these places want of sufficient air space for each person in the dormitories, the beds or bunks being often crowded together in close juxtaposition. Careful measurement proved that in some two-thirds of the dormitories the cubic space per head was materially less than that required in the common lodging-houses of London. With regard to opportunities for personal cleanliness the provision of wash basins was in numerous instances inadequate, and in many instances the water closets were faulty either in arrangement or in situation. While fully recognising the value of the frequently gratuitous work done in connexion with these shelters, Mr. Shirley Murphy thinks that "there exists necessity for subjecting those which are found to be inadequate to regulations that shall prevent the accommodation they provide from falling below a certain minimum of efficiency." The fact that these establishments are not carried on for profit does not appear to Mr. Shirley Murphy an adequate reason for exempting them from the requirement that their dormitories shall not be overcrowded and that the opportunities for cleanliness shall be sufficient and the water-closet accommodation of a proper kind. He accordingly recommends that an application should be made to Parliament for the amendment of the present definition of the term "common lodging-house," so as to bring common shelters within the provisions of the Common Lodging Houses Acts, notwithstanding that the shelters are not hired for gain. An alternative method would be to empower sanitary authorities to regulate shelters much in the same manner as they can now regulate houses let in lodgings. The last two appendices contain reports concerning the sanitary condition of two sanitary districts within the jurisdiction of the London County Council. The reports are addressed to Mr. Shirley Murphy by Dr. Young. They appear to have been skilfully and carefully drawn up, and to show that their author not only comprehends what may reasonably be expected of an authority responsible for the local guardianship of the public health, but that he knows how to appreciate the difficulties which beset district medical officers of health in the discharge of their multitudinous functions, for he is careful to assign due credit to those officers whenever they appear to have done their best under circumstances which are often extremely discouraging.

In concluding our review of Mr. Shirley Murphy's report for 1896 we wish to congratulate him on the enormous amount of good work which he has achieved within a comparatively few years; every successive report contains additional evidence of his indomitable energy and perseverance as well as of his tact as an organiser and his ability as a sanitary reformer.

SCIENTIFIC ERROR.

The publication of the Opus Majus of Roger Bacon is an undertaking which will appeal to persons of widely differing tastes.[1] Its author was a man of very wide culture and a remarkable product of the times in which he lived. No one who is capable of an intelligent interest in the thirteenth century of our era can be incapable of discerning in his encyclopædic work something interesting in a quite unusual degree. But it is to the student of natural science that the work is most suggestive and most useful. Indeed it would be difficult to overestimate its value from this point of view. It is not simply that it presents a singularly complete and equally attractive picture of the natural philosophy of the middle ages. It is not only that it forms an indispensable chapter in the history of the development of natural science. It is not, of course, that it can restore any forgotten facts of scientific value to our intellectual possessions. The main interest in Roger Bacon's work when full justice has been done to his great learning, his vigorous mind and his rare faculty of expression, will still centre upon his mistakes. These far better than his more successful achievements will repay study at the present day. For knowledge grows but mistakes recur. The discoveries of his day are the platitudes of ours, which it requires a powerful imagination to appraise at their intrinsic worth. But the sources of error in the thirteenth century are the thinker's perils still, and there can hardly be a better mental gymnastic than the tracing of them out by the light of the refutation which this acute philosopher unwittingly affords. The process is easier, much more secure, and therefore more instructive than the discussion of a modern author, because in this case there is no room for difference of opinion. Bacon's errors do not captivate us. We entertain no doubt at all as to whether the eye emits a visual beam or whether the celestial spheres fit into one another without vacuous interspaces. In following out the argument to ascertain where the weak spot may be we are troubled with no misgivings as to the validity of the conclusion. The work of criticism can proceed in leisurely fashion. It is like operating upon a patient under the influence of an anæsthetic as compared with the flurry and commotion of an operation performed amid shrieks, and groans, and strugglings. To the serious student such a discipline as the careful reading of this book affords is from this point of view invaluable.

But it is not only as a museum of dissected errors that Roger Bacon's book is of commanding interest, it is interesting also, and in a high degree, for the striking, even startling, illustrations which it affords of the venial and innocuous character of much, perhaps most, of the error into which a mind is liable to lapse that has been trained to scientific working. The age in which Roger Bacon lived produced abundant examples of the luxuriance of human error. The dangers of excessive subtlety, the madness begotten of the habit of juggling with words, have never received more appalling illustration than at the hands of some of Roger Bacon's contemporaries and immediate successors. But in his sober and earnest mind error itself pursues the evanescent form of truth and wanders with a faltering step or else not far away from the object of its quest. This homing instinct of the healthy human mind is doubtless one of the most precious though perhaps one of the least demonstrable of nature's gifts to man. In these pages it can be traced with ease and certainty and to him who will take the trouble to trace it here Roger Bacon's work will shine out with the glow and flash of a poem. Read in this way the book becomes one of the most delightful and the most instructive additions to the modern library. We propose to cite a few examples to make this statement good.

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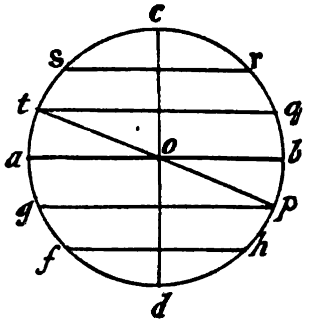
[1] The "Opus Majus" of Roger Bacon. Edited, with Introduction and Analytical Table, by John Henry Bridges, Fellow of the Royal College of Physicians, some time Fellow of Oriel College. In two volumes. Oxford: The Clarendon Press. 1897.

A very striking instance of our author's errors and one that illustrates both his weakness and his strength occurs in his discourse upon applied mathematics, the question under discussion being — How does a balanced beam regain the horizontal position after having been displaced by the depression of one end? Bacon was quite aware that if a heavy body were moved towards the centre of the earth it would gain in weight and contrariwise if it were removed to an increased distance from the earth's centre it would lose in weight—a phenomenon which we are able now to explain by the law of variation of the force of gravity. Premising the fact that weight does vary as the heavy body nears the earth or removes to a distance from it he is naturally led to the inference that if one end of a balanced beam be depressed that end will become heavier than before. At the same time the opposite end, being raised, will lose weight and consequently the balanced weights will be in equipoise no longer, but the lower will preponderate. Why, then, should it ever rise again? If the lower end of the beam preponderates how can the higher end prevail and raise it into the horizontal position?

The real answer to this question is simple in the extreme. A balanced beam that has this power of recovery if displaced is and must be a beam suspended like a pendulum from a point above its centre of gravity. The resemblance to the pendulum is not striking in a superficial sense. The great mass of the beam is distributed horizontally on either side of the point of suspension instead of being placed vertically below it. But this is an immaterial detail of shape. The beam is a true pendulum although a very short one, and recovers its position from precisely the same cause which makes the pendulum hang vertical—namely, that its centre of gravity is lower in that position than in any other. Now these facts were just as easily discoverable by Roger Bacon as by us. He must have known that a beam, however thin—say a plank for example—cannot be balanced upon a point upon its under side. The equilibrium is too unstable and, once disturbed, the beam tends not to return to the lost horizontal position but to fall over towards the depressed side. Had our philosopher followed up this clue he could hardly have failed to arrive at the true explanation. His error of observation here is unworthy of his great reputation as a naturalist. Probably if the truth were known it would be found that, like other writers who have written upon an encyclopædic scale, he often wrote without deliberation and theorised upon data which he knew to be imperfect.

But whatever deficiencies can be charged upon his method of ascertaining the facts it is difficult to put limits upon the admiration which his method of dealing with them when ascertained is calculated to extort. It is hardly necessary to premise that he lived long before the invention of the differential calculus; but his solution of the problem of the return of the balanced beam to the horizontal position affords an extremely interesting illustration of the doctrine of limiting values. That he should have committed an error in applying the doctrine is nothing. The genius of Newton was required to elaborate that doctrine 400 years afterwards. It is astonishing that Bacon should have had a clear conception of it, should have felt its probative force, and should have ventured to apply it to the solution of a problem in applied mathematics.

He uses the following diagram in which it is to be understood that the two arcs on either side of the diameter are equal so that the eight segments of the circle formed by the four parallels are all equal arcs. Now Bacon premises, quite correctly, that if a heavy body describes two of these arcs, say the two above the diameter on the right or the left hand side of the diagram, it will develop more of the energy due to gravity in the lower arc than in the upper, because its path in the lower arc will be more perpendicular and as a consequence the perpendicular travel of the falling body will be greater in the lower arc. Now, suppose the balanced beam to be displaced into the position shown by the diameter *t-p*. If the weight situated at *t* descends through the arc *t-a* it will fall through a greater perpendicular distance than will the weight situated at *p* if it descends through the equal arc *p-h*. "Therefore it follows," says he, "that for this reason it will for this purpose be less heavy." The argument from the energy of falling to the determination of the body's weight involves what must to Bacon's contemporaries have been a very startling transition. But it was in principle sound although it needed the discovery of the differential calculus before that principle could be safely applied to the solution of such a problem as Bacon was attacking. In fact he was wrong, as we now know, but he was all but right. If the paths of his falling bodies had been straight lines instead of curves his demonstration would have been perfectly sound and highly scientific. The error was such as only a man of genius could fall into and such as no man in the then state of mathematical knowledge could escape however transcendent his genius might have been, a striking illustration that even in such matters it is sometimes true that "the race is not to the swift nor the battle to the strong."



In the foregoing instance the error though venial was of a malignant type for it tended to deepen the misconception of the facts in which it had taken its rise. We may turn next to one which, even more conspicuous to the casual reader of the book, is, on the other hand, of a benignant type which does not tend at all to obscure the facts, and it is with facts that the student of nature is most of all concerned. The mistake to which we now refer occurs in Bacon's account of the function of the eye in seeing. In the second chapter of the "Perspectiva" he remarks that among the wise it has always been considered doubtful whether vision was due to the action upon the eye of an emanation from the visible object which he calls its "species" or to the action upon the object of a ray or force issuing from the eye. Bacon enters into the discussion at considerable length and on several occasions, and comes confidently to the conclusion that a visual ray emitted by the eye is one at least of the indispensable instruments of vision. For this conclusion he assigns many reasons, of which perhaps the most notable is one that he quotes from Tideus (vol. ii., p. 50), who is credited with the remark that the eye would be quite unable to take cognisance of the distance between itself and a visible object or of the magnitude and position of the object unless it threw out rays which, falling upon the object, should cover its surface and touch its extremities. It is easy for us at the present day to tax Bacon, as his editor does in a footnote upon p. 66, with fanciful theorising in reference to this matter, since we now know that a complete theory of vision can be constructed taking due account of all that relates to the position and magnitude of the visible object without in any way postulating a "visual ray." But that is only because we are now acquainted with the mechanical arrangements of the eye which confer upon it the power of accommodation of which arrangements and the faculty which they subserve Roger Bacon and his contemporaries had no knowledge. The points to which he drew attention and upon which he based his theory of the activity of the eye in the act of vision are quite truly points which a purely optical theory of vision would leave unexplained. It is quite true that if the eye were purely passive like the focussing screen of a photographic camera we should have no data from which to form judgments as to the distance or magnitude of visible objects. We now know that the judgments are based upon the consciousness of the muscular efforts required to bring the eye into a condition of accommodation, that is to say duly directed towards the object and focussed upon it. In Bacon's theory the effort to project a visual ray takes the place of the effort at accommodation in the modern theory of vision and the visual ray theory, although incorrect, was distinctly better than no theory at all, that is to say better than the view that the eye is purely passive in the act of vision. The "visual ray" was truly a figment of the imagination and one destined to be superseded when fuller knowledge made the matter clear. But it was to be replaced, not simply abolished like an exploded myth and until the more accurate knowledge came it served the useful purpose of preserving from oblivion and neglect some of the most important and interesting phenomena of vision. This is why we have spoken of it as a benignant error. Being an error it gave an incorrect explanation of the facts, yet even so it kept the facts in mind and classified them and in both these respects it contributed to real and material knowledge.

These specimens must suffice to illustrate the quality of Roger Bacon's work. It abounds with points which will repay study and study the more interesting because it must be entered upon with a discriminating mind. At one point the correctness of his anatomy will awaken deserved admiration and surprise, at another the boldness and felicity of his speculations, at a third some instructive error will attract attention and so the work varies not only in degree but also in kind of interest from page to page. But in one form or another the interest is never wanting and there are few libraries that might not be rendered the more complete by the addition of Dr. Bridges's two volumes.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE sixth meeting of the Royal Commissioners was held in the Moses Room of the House of Lords on Monday, Jan. 24th. All the Commissioners were present. The County Council were represented by Mr. Balfour Browne, Q.C., and the water companies were represented as usual by counsel.

On behalf of the London County Council Mr. **BALFOUR BROWNE** rose to say that the Council had no wish to "make a case." They were represented at the Commission in answer to an invitation they had received in order to give any help they could with regard to the inquiry. On their behalf he should be glad to have any directions from the committee as to what information they wanted; for example, with regard to the purchase of provincial water companies by the corporation he wished to know whether the Commissioners desired to have particulars with regard to these cases. It would be difficult to ensure the presence of the officials who had negotiated the transference of the water businesses to the various corporations. He therefore asked whether the Commissioners cared to receive the evidence which had been collected by an officer of the County Council with reference to the subject.

The **CHAIRMAN** pointed out that this would be second-hand evidence, a fact admitted by Mr. Balfour Browne, who stated that the proposed witness had done his best to get accurate information.

On behalf of the water companies Mr. **PEMBER** said that they would have no objection to this evidence if they had an opportunity of testing its accuracy.

With regard to the evidence which had already been tendered by the officers of the London County Council Mr. **BALFOUR BROWNE** said that many things had happened since Lord Balfour's Commission had made their report and that he was aware that the Commissioners had resolved not to go behind the report.

The **CHAIRMAN** said that Sir Alexander Binnie had given some evidence which did go behind the report.

Sir **ALEXANDER BINNIE** gave the Commissioners a copy of the by-laws in force at Bradford and added some statistics with regard to the daily amount of water supplied per head. At the present time it is 17·5 gallons; but in many cases does not exceed 5·7 gallons per head. This is, however, in the outlying parts of the town where the dry closet system is in force. After taking over the water-supply the corporation adopted means for checking any waste of water. Meters were fixed to the chief mains and the amount of water passing through was measured every hour of the day. When a large quantity passed between 1 and 3 A.M. it was considered that waste was taking place and the pipes were overhauled. Again, if it was found that a large quantity was passing through the mains to any particular consumer an officer of the corporation called and made inquiries as to the water-fittings.

Major-General **SCOTT** pointed out that meters were largely used by some of the metropolitan water companies and particularly by the East London and the Southwark and Vauxhall Companies.

Sir **ALEXANDER BINNIE** was unable to state what proportion of pipes in the metropolitan area were placed at an insufficient depth below the surface of the ground. He, however, tendered a schedule which contained an account of all the pipes belonging to the Southwark and Vauxhall and the Lambeth Companies which had burst during the last severe frost.

Evidence was given as to the daily over-draught taken by the Southwark and Vauxhall Company as follows. In 1892 it was on an average 3·6 million gallons; in 1893 4·5 million gallons; in 1894 4·9 million gallons; in 1895 8·9 million gallons; and in 1896 7·5 million gallons daily. A table was handed in showing the average estimated maximum supply of the New River Company from 1895 to 1915, as given before Sir Joseph Pease's Committee. The table is as follows:—

Year.	Average daily supply throughout the year.	Average number of supplies during the year.	Average daily quantity per supply throughout the year.	Estimated average population supplied during the year.	Average daily quantity per head throughout the year.	Average daily supply during the month of maximum consumption.	Average daily supply during the week of maximum consumption.
	Gallons.		Galls		Galls.	Gallons.	Gallons.
1895	38,115,885	158,789	240·0	1,151,000	33·1	43,121,000	45,274,642
1901	47,236,000	—	—	—	—	53,438,000	56,107,000
1906	56,481,000	—	—	—	—	63,899,000	67,089,000
1911	67,538,000	—	—	—	—	76,406,000	80,221,000
1915	77,921,000	—	—	—	—	88,153,000	92,554,0.0

The witness also put in a table showing the probable future requirements for the year 1931:—

Name of company. 1	Average daily supply in 1891. (R.C. par. 31, col. 5.) 2	Daily average quantity required in the immediate future. 3	Daily average quantity required in 1931. 4	*Supply required per day in 1931, as stated by the Companies before the Royal Commission.* 5
	Gallons.	Gallons.	Gallons	*Gallons.*
Southwark & Vauxhall	24,373,348	(1911) 45,352,360	63,362,840	*30,356,425*
Lambeth ...	20,234,560	(1896) 22,793,389	52,458,000	*28,411,025*
Kent............	12,530,871	(1896) 14,970,206	51,993,100	*27,000,000*
East London	39,704,601	(Average 1894–6) 43,228,828	78,396,730	*16,000,000*
New River ...	32,640,976	(1915) 77,921,000	139,183,000	*47,250,000*
West Middlesex	15,419,907	(1901) 24,466,000	97,724,000	*26,567,236*
Grand Junction.	16,701,734	(1901) 22,410,000	54,133,000	*24,500,000*
Chelsea	9,557,388	1896) 11,720,472	17 256,960	*13,185,000*
—	171,163,385	——	554,507,690	*253,521,686*

Sir **ALEXANDER BINNIE** also gave a table showing the amount supplied per head in various American cities. According to these statistics the daily rate per head in Buffalo is no less than 325·8 gallons; in Chicago 190·7 gallons; in New York 103·9 gallons; and in Toronto 100·3 gallons.

With regard to the large amount of water used in American cities Major-General Scott said that in America pipes were practically allowed to run all day.

Sir Alexander Binnie said that he estimated the amount which would be required per head in London daily at from 35 to 40 gallons. This included the amount supplied to drinking fountains. It did not, however, include the fountains in Trafalgar-square which had a separate source of supply. He did not think the cost of connecting the mains of the different companies would be very great. The witness stated that the mains of the East London and New River communicated with one another.

In answer to Mr. Cripps, Q.C., Sir Alexander Binnie stated that he knew that the Thames Commissioners now had control of the entire watershed of the river and that they had made regulations with regard to the sanitary arrangements on river boats. He had no complaint as to inefficiency to make with regard to the Thames Conservancy Board; he thought they were doing their work well. In answer to General Scott the witness said that he thought a certain amount of risk was run in taking so much water from the Thames and Lee, which were both polluted rivers. He stated that the Charlton well had been given up by the Kent Company because it was situated in a polluted area.

Major-General Scott asked the witness whether in view of the difficulties which the water companies had it would not be best to leave them with their own statutory liabilities and the witness said this view had not occurred to him. He summed up the advantages to the consumer of placing the water-supply of London in the hands of a representative body as follows: "1. It would put an end once and for all to the continued inquiries in the London water question, which have been going on since 1811, carried out by Royal Commissions and by Parliament; at the same time it would carry out the recommendations of the Duke of Richmond's Commission, Sir William Harcourt's Commission, Sir Matthew White Ridley's Committee in 1891, and the recommendations contained in the report of Sir Joseph Pease's Committee in 1896. 2. It would place London in a similar position to that which it has been found most expedient to adopt in almost all other large towns in Great Britain and Ireland and which has been found most conducive to the public interest in the United States of America, and it is a duty which the Government of India places in the hands of almost all the municipal bodies in their Indian empire. 3. That according to all authorities on the subject, Lord Balfour's Commission, the recent evidence of the water companies, and the investigations of the County Council, the present water-supply of London must be more than doubled within the next thirty or forty years and it is expedient that these new works should be carried out by some public body and not by commercial companies. The supply of water from the present sources may be taken for the year 1896 at 198,000,000 gallons a day. This cost in capital expenditure £16,531,346 or at the rate of £83,492 per 1,000,000 gallons supplied per day. Had these works been carried out by the Metropolitan Board of Works and the County Council they would no doubt have been treated as the main drainage expenditure of the metropolis has been treated, especially when we regard the long period over which the expenditure has ranged. In the case of the main drainage works since 1855 about seven and three-quarter millions of capital has been expended, of which three and a half millions has been paid off, so that at the present time the main drainage debt stands at only about £4 200,000. Under the above circumstances it is expedient that the large expenditure which is inevitable in the future should be placed in the hands of a public body rather than in the hands of commercial companies."

The next meeting of the Commissioners will take place on Monday, Jan. 31st.

The Water Question at Chard.—The Chard Town Council having proposed to make trials for water upon land which they have agreed to purchase at Combe St. Nicholas, and close to the spring which supplies that village with water, the Combe Parish Council has intimated to the Chard Authority that the surface of the ground for a considerable distance around the spring is saturated with animal excrement, and if the ground is broken up it is most likely the spring will be affected thereby and a serious epidemic break out in the village.

THE SCANDAL AT THE DARENTH IMBECILE ASYLUM.

The General Purposes Committee of the Metropolitan Asylums Board have had before them during the week the report of a Special Committee deputed to inquire into the circumstances attendant upon the death at the end of November last of an inmate of the Darenth Imbecile Asylum named Martha Dickens.

The following constituted the special committee: Mr. R. M. Hensley (chairman), Sir Edwin Galsworthy, chairman of the Metropolitan Asylums Board; Mr. J. Hardcastle, Mr. J. Hunt, Mr. J. R. Hill, M.R.C.S. Eng., L.R.C.P. Lond., Mr. A. C. Scovell, and Dr. W. R. Smith. They examined Mr. A. T. O. White, the acting medical superintendent of the asylum; Dr. W. L. Andriezen, the assistant medical superintendent; Mr. H. A. Good, in temporary medical employment at the asylum; Mr. Stamford Felce, the chairman of the Darenth Committee; Dr. A. H. N. Lewers, obstetric physician to the London Hospital; and Mr. T. Duncombe Mann, the secretary to the Metropolitan Asylums Board. The Special Committee did not take into consideration the revolting circumstances of the pregnancy which led to Martha Dickens's death, though it is well known to the public that before her death she had charged a late attendant at the asylum with the paternity. Their report dealt only with the circumstances relating to the unfortunate woman's confinement and subsequent death and ran as follows:—

"1. Inasmuch as Dr. White, the acting medical superintendent, has had no obstetrical experience since his student days, prior to 1882, we think that he was very unwise in undertaking what was likely to prove a difficult case. We do not find that he ever expressed unwillingness or made any protest. He, however, states that in conversation with members of the committee (whose names he cannot give) he suggested in the interests of the institution that the woman should be sent away for her confinement.

"2. Although Dr. White became aware of the pregnancy on July 22nd we find no entry in the case book until after her death, Nov. 30th. Neither bed-card nor written instructions as to the conduct of the case from day to day exist. In fact, there is a total absence of records.

"3. We do not find any report of the pregnancy among the acting medical superintendent's written reports to the committee.

"4. We do not find that any qualified or experienced nurse was provided to attend the case or that any application was made to the committee by Dr. White for the employment of such a person.

"5. We find that no communication was made to the coroner. Though not legally obligatory, this would, we think, have been prudent under the special circumstances.

"6. There was no post-mortem examination."

To this they add that—

"Dr. White and his assistants appear to have spared no pains and neglected no attention suggested by their experience for the welfare of the patient during her confinement, but we consider the above-mentioned errors of judgment and omissions of duty so serious on the part of Dr. White that we feel bound to recommend the immediate termination of his engagement.

"Although there is no report by the acting medical superintendent on the subject of the pregnancy the Darenth Committee were aware of the facts, for in their report of Dec. 13th, 1897, they state that the clerk to the board and the chairman of the committee made minute inquiries into the facts and a special meeting of the committee thereon was held on Aug. 12th, 1897.

"The Darenth Committee do not appear to have taken into consideration Dr. White's want of experience in confinement cases and it does not appear to have occurred to them to provide a qualified or experienced nurse notwithstanding that the occurrence of a birth in an asylum of this character is so unexpected and exceptional as to be quite unprovided for.

"The Darenth Committee in the same report give the substance of the first portion of the reply of the Commissioners in Lunacy of Aug. 25th on this case, but omit any mention of the latter portion of the same letter animadverting on the administration of the asylum.

"We consider that in failing to apprehend the gravity of the situation and in neglecting to make proper arrangements for the case by securing experienced medical and nursing attendance, and in omitting to report to this Board the full contents of the letter of the Commissioners in Lunacy, the Darenth Committee have failed to discharge as they ought the duties entrusted to them."

The Special Committee conclude their report by approving of the action of a sub-committee previously appointed in obtaining the expert assistance of Dr. Lewers, and by recommending that the Managers of the Metropolitan Asylums Board should call for the resignation of the acting medical superintendent.

The report will be fully debated by the Board next Saturday, until after which debate it will be well that judgment should be suspended. But a circumstance which has come to our ears upon good authority should be put on record at once. Although Mr. White did not write out the facts of the case as a report, he mentioned them to the committee, so that he cannot be accused of any attempts at concealment. This does not sufficiently clearly appear in the Special Committee's report.

THE BATTLE OF THE CLUBS.[1]

The British Medical Association and the Beckenham and Penge Medical Society.

The Beckenham and Penge Medical Society have, at a full meeting, unanimously decided to send to the Council of the British Medical Association the following petition:—

> We, the members of the Beckenham and Penge Medical Society' assembled in formal meeting, do humbly petition your honourable Council as follows: That having regard to the difficulties attending the working of the medical departments of Sick Benefit societies, which have recently become acute in many districts throughout the country, your honourable Council do appoint a commission with authority to hear evidence and examine witnesses so that a definite plan may be arrived at whereby such societies can receive medical attendance, which, without pressing too hardly on the working class, should provide an honourable position and a sufficient remuneration to the medical officer. Your petitioners feel that your Council has such far-reaching weight and influence that recommendations issued by them after such careful inquiry would be accepted by the profession as a solution of the problem.
>
> And your petitioners do ever pray.

Signed on behalf of the Society { F. Sturges, President,
H. Prangley, Vice-President,
Primrose Wells, Hon. Sec.

The Inauguration of the Essex Suburban Mutual Medical Protection Society.

A largely attended meeting of medical practitioners was held at the Congregational school-rooms, East Ham, on Tuesday, Jan. 25th, to consider what steps should be taken to prevent abuse of medical charities in suburban Essex. Dr. F. J. Smith presided and the meeting was addressed by him, Mr. A. W. Beaumont, medical officer of health of East Ham, Dr. Harry Campbell, Dr. Butler-Hogan, and others. The work of the Provisional Committee was endorsed and it was unanimously resolved to form the Suburban Essex Mutual Medical Protection Society and to call a meeting of all registered medical men practising in suburban Essex at Stratford on Tuesday, Feb. 8th, to draw up rules and combine for the suppression of abuse of medical charities in the district and the promotion of professional amity. Only twenty-four hours' notice was given and fifty-five practitioners attended.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6679 births and 4440 deaths were registered during the week ending Jan. 22nd. The annual rate of mortality in these towns, which had declined in the three preceding weeks from 24·9 to 20·6 per 1000, was again 20·6 last week. In London the rate was 23·4 per 1000, while it averaged 18·8 in the thirty-two provincial towns. The lowest rates in these towns were 10·6 in Birkenhead, 13·5 in Cardiff, 14·8 in Swansea, and 15·1 in Croydon; the highest rates were 21·1 in Birmingham, 21 9 in Wolverhampton, 22 0 in Preston, and 22·8 in Liverpool. The 4440 deaths included 521 which were referred to the principal zymotic diseases, against 547 and 525 in the two preceding weeks; of these, 228 resulted from measles, 134 from whooping-cough, 55 from diphtheria, 42 from "fever" (principally enteric), 39 from scarlet fever, and 23 from diarrhœa. The lowest death-rates from these diseases were recorded in Portsmouth, Norwich, Bolton, and Preston, and the highest rates in Salford, Halifax, Gateshead, and Blackburn. The greatest mortality from measles occurred in Brighton, Swansea, Oldham, Blackburn, Halifax, and Sheffield; from scarlet fever in Sunderland and in Wolverhampton; from whooping-cough in Liverpool, Leeds, and Gateshead; and from "fever" in Salford and Halifax. The 55 deaths from diphtheria included 33 in London, 7 in Leeds, and 3 in Cardiff. No fatal case of small-pox was registered during the week under notice, either in London or in any other of the thirty-three large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 3149, against 3572. 3450, and 3253, on the three preceding Saturdays; 248 new cases were admitted during the week, against 273, 239, and 215 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 533 and 516 in the two preceding weeks, rose again last week to 567, but were 144 below the corrected average. The causes of 60, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Nottingham, Salford, Leeds, Newcastle-upon-Tyne, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24·3 and 20·4 per 1000 in the two preceding weeks, further declined to 19·0 during the week ending Jan. 22nd, and was 1·6 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·6 in Leith and 16 0 in Edinburgh to 23 8 in Perth and 27·0 in Aberdeen. The 572 deaths in these towns included 21 from whooping-cough, 15 from diarrhœa, 11 from measles, 9 from scarlet fever, 5 from diphtheria, and 3 from "fever." In all, 64 deaths resulted from these principal zymotic diseases, against 76 and 57 in the two preceding weeks. These 64 deaths were equal to an annual rate of 2.2 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had declined from 27 to 11 in the three preceding weeks, rose again to 21 last week, of which 12 occurred in Glasgow, 4 in Greenock, and 3 in Dundee. The 11 deaths from measles showed a decline of 4 from the number in the preceding week, and included 10 in Glasgow. The fatal cases of scarlet fever, which had been 8, 14, and 7 in the three preceding weeks, rose again to 9 last week, of which 3 occurred in Edinburgh, 2 in Dundee, and 2 in Greenock. The deaths from diphtheria, which had been 9 and 2 in the two preceding weeks, rose to 5 last week, and included 2 in Greenock. The 3 fatal cases of "fever" were all recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 177 and 158 in the two preceding weeks, further fell to 139 last week, and were 23 below the number in the corresponding period of last year. The causes of 30, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 31·0 and 31·8 per 1000 in the two preceding weeks, further rose to 33·0 during the week ending Jan. 22nd. During the past three weeks of the current quarter the death-rate in the city has averaged 31·9 per 1000, the rate during the same period being 23·1 in London and 20·2 in Edinburgh. The 221 deaths registered in Dublin during the week under notice showed an increase of 8 upon the number in the preceding week, and included 21 which were referred to the principal zymotic diseases, against 18 and 12 in the two preceding weeks; of these, 8 resulted from "fever," 6 from diphtheria, 3 from diarrhœa, 2 from scarlet fever, and 2 from whooping-cough. These 21 deaths were equal to an annual rate of 3·1 per 1000, the zymotic death-rate during the same period being 3·1 in London and 1·1 in Edinburgh. The deaths referred to different forms of "fever," which had been 6 and 2 in the two preceding weeks, rose again to 8 last week. The 6 fatal cases of diphtheria showed a further increase upon recent weekly numbers, and exceeded those recorded in any week for some years past. The deaths from scarlet fever, which had been 5 and 3 in the two preceding weeks, further declined to 2 last week. The 221 deaths in Dublin last week included 31 of infants under one year of age and 60 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a slight decline from the numbers recorded in the preceding week. Six inquest cases and 6 deaths from violence were registered; and 83, or more than a third, of the deaths occurred in public institutions. The causes of 15, or nearly 7 per cent., of the deaths in the city last week were not certified.

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[1] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from The Lancet Office, price 1s.

THE SERVICES.

Naval Medical Service.

Staff-Surgeon Howard James McChleary Todd has been promoted to the rank of Fleet-Surgeon in Her Majesty's Fleet. Staff-Surgeon Myles O'Connell McSwiny has also been promoted to the same rank.

Army Medical Staff.

Surgeon-Lieutenant-Colonel William A. May to be Brigade-Surgeon-Lieutenant-Colonel, vice A. L. Brown, retired. Surgeon-Major Henry E. W. Barrington retires on retired pay.

Surgeon-Major Wyatt assumes medical charge of the Station Hospital and troops at Newbridge. Surgeon-Lieutenant E. W. W. Cochrane is held in readiness to embark for India about the end of February or the beginning of March. Surgeon-Captain Cockerill has proceeded to the Station Hospital, Canterbury, for duty, and Surgeon-Major Webb has proceeded from Devonport to Exeter.

India and the Indian Medical Services.

Surgeon-Lieutenant Perry has assumed charge of the Civil Medical duties of the Dera Ghazi Khan District, relieving Surgeon-Captain Graves.

Volunteer Corps.

Rifle: 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment: Surgeon-Lieutenant R. Odell to be Surgeon-Captain. 2nd Volunteer Battalion the Royal Scots Fusiliers: Surgeon-Lieutenant-Colonel R. Girvan resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the battalion on his retirement. 6th Volunteer Battalion the Gordon Highlanders: Surgeon-Major R. S. Turner, M.D., to be Surgeon-Lieutenant-Colonel.

The Health of the Russian Navy.

According to the most recent annual report the average strength of the Russian Navy in 1893 was 28,003 men. Among them 20,717 cases of sickness were treated and 338 deaths took place, equal respectively to 739·8 and 12·07 per 1000. The principal diseases are shown in the following table:—

Diseases.	Per 1000 of strength.		
	Admitted.	Died.	Invalided.
Venereal affections	143·4	0·03	—
Diseases of the digestive apparatus	141·0	0·46	2·74
" " respiratory system	72·8	0·67	6·42
Accidents &c.	49·7	0·14	—
Influenza	37·6	—	—
Intermittent fevers	35·8	—	—
Diseases of the eyes	33·2	—	0·67
" " ears	16·1	0·07	—
Scurvy	9·2	0·03	0·10
"Typhic" affections	5·8	0·71	—
Pneumonia	4·0	0·46	0·10
Tuberculosis	3·2	2·07	1·39
Cholera	0·3	0·14	—

Generally speaking this return may be said to be a record of progress, but in some respects the sanitary condition of the Russian Navy still leaves much to be desired. The affections classed as "typhic" consisted mainly of enteric fever, the balance including two cases of spotted typhus fever, one of recurrent fever, and twelve of an ill-defined disorder presenting vague febrile signs. In all the fatal "typhic" cases the respiratory apparatus became involved for the most part in the form of capillary bronchitis. Although paludal disease is still a formidable item in the list its character is steadily improving. As a rule only six or seven days' loss of service resulted from its attacks. In some districts the poison has completely disappeared. The Caspian flotilla supplied 1515 cases of ague in 1890, whereas in the year under report there were barely 200. Amongst the civil population cholera in 1893 caused great damage, but the men of the navy not only afloat but ashore almost entirely escaped. Their barracks and ships were disinfected and ventilated, the closets were thoroughly cleansed, iron bedsteads were issued in place of the old foul cots, as long as the epidemic lasted the sailors received extra rations of superior quality, their drinking water was carefully passed through Pasteur-Chamberland filters and tempered with citric acid or red wine, all ordinary taps were closed and sealed, three times daily hot tea was served out, every man was compelled to wear a flannel belt, and all fatiguing duty was as far as possible interdicted. The result of these precautions showed itself in almost perfect immunity whilst all around thousands were dying. In Kronstadt, for example, the general death-rate from cholera was 4·0 per 1000, while among the sailors it was 0·2. During the year there were eleven cases only in the entire fleet with four deaths. It is worthy of note that whereas pneumonia was mainly destructive towards the south, other affections of the respiratory organs prevailed in the rigorous north. In ice-bound Vladivostok there were but two cases of pneumonia during the year, while in snowy Archangel the disease remained conspicuous by its absence. The continuance of scurvy in the Russian Navy is a distinct sanitary blot. The compiler thinks that since the disease invariably appears during the period from May to September it cannot be due solely to defective hygiene. Season has evidently something to do with its occurrence and perhaps, he adds, it may owe its spreading tendency to infection. Out of 4018 venereal cases 868 were syphilitic. These diseases are steadily gaining ground, especially in certain seaports, Sevastopol and Baku being among the worst. The cause of this sanitary retrogression is twofold—(1) clandestine prostitution and (2) perfunctory inspection of the men who are allowed to absent themselves from examination on any trivial pretext.

The Condition of the Army.

The correspondence between Mr. H. O. Arnold-Forster, Sir Arthur Haliburton, and others continues as lively as ever and is likely to do so until the question of army reform is thrashed out in Parliament. It seems to us, as we have already said, that on physiological and medical grounds we are, in order to create and maintain a reserve, losing a number of soldiers from the regular army just at the time that they are best fitted for service abroad with the colours. No one wants to return to long service as it existed years ago. What is wanted is that soldiers who desire to re-engage and continue in the service, instead of being relegated to the reserve, or who desire to leave the reserve and join the ranks, should have every opportunity of doing so if physically fit and of good character. As it is at present the soldier who cannot find employment in civil life and desires to re-enter the ranks of the army and go on for pension cannot do so unless he refunds his deferred pay, which is a prohibitory condition. The army requires, or would at any rate be benefited by the presence of, a certain proportion of such men, although their numbers might be limited by the requirements of the service and considerations of cost; in other words, the introduction of more elasticity into the present system is needed; and if we have understood Lord Lansdowne's remarks aright it is this that he is prepared to carry out. The fact of the British army being a voluntary one and the requirements of India and the colonies unquestionably make the problem a very difficult one to solve.

The Indian Frontier War.

There is but little to chronicle regarding matters on the Indian frontier. The wounded are reported to be doing well. The Zakka Khels are still irreconcilable and have not submitted to the terms proffered them. The Khyber is still in a disturbed state, but the Indian authorities have decided to permit caravans under the protection of military escorts to pass along the Khyber Pass, and we shall consequently soon learn whether trade with the mountain tribes and Afghanistan has been re-established.

Princess Henry of Battenberg at Netley.

On Wednesday afternoon, Jan. 26th, Princess Henry of Battenberg visited the Royal Victoria Hospital, Netley. The object of the visit was to convey a message of sympathy and admiration from the Queen to the soldiers and particularly to those who have just returned from active service. Surgeon-Major-General Nash was among those who assembled at the Hospital pier to meet her Royal Highness and party.

THE COMPOSITION OF REGIMENTS.

The *Times* of the 25th inst. contained a communication under the heading of "The Scottish Regiments" which may be read with interest at the present time in connexion with the recruiting and constitution of the army and the changes which have taken place in it during the present century and especially during the latter part of it.

The *Broad Arrow* states that "Some idea may be formed of the serious effects which the Indian Frontier Campaign has had on the strength and health of the European regiments engaged, judging from the latest returns of the Gordon Highlanders. That corps went into the field 897 strong of all ranks; its loss from killed, wounded, and sick has amounted to 377, leaving a present total strength of 520."

Correspondence.

"Audi alteram partem."

MIGRAINE AND ARTHRITIS.

To the Editors of THE LANCET.

SIRS,—These notes of six cases of acute pain in the ankle-joint commencing in young adult life I have ventured to place together, as they bear such a strong resemblance to each other, and what would explain one would probably explain all. That there is some difficulty in forming an opinion on them I have good evidence, for the patient in Case 3 alone was variously diagnosed and treated by different experienced physicians as strumous disease, rheumatoid arthritis, gout, and a sprain. Whatever the true pathology of these attacks, the later history of two of them may be some guide to giving a correct prognosis in the others.

CASE 1.—A bright, intelligent girl, very quick at learning, at the age of fourteen years suddenly one afternoon had severe pain and swelling of the right ankle. There was no history of an accident. The veins around the joint were much enlarged and the "joint throbbed." The attack passed off the same night and the joint was perfectly well for six months, when she had an exactly similar attack. Three attacks have since occurred at irregular intervals. The medical man called it "rheumatism." She suffers severely from migraine.

CASE 2.—An unmarried woman, aged fifty-two years, has had similar attacks to the above since she was fifteen years of age at very irregular intervals, but has had no attack since the catamenia ceased five years ago. The patient had been a martyr to migraine headaches until the last few years, when they have entirely left her.

CASE 3.—A strong, healthy man, aged forty-one years, has had attacks of inflammation in the right ankle since the age of sixteen years. They seldom last more than twelve hours and he can play a hard game of lawn-tennis or ride a bicycle on the second day. They are getting gradually less frequent and less severe. He has always been subject to migraine attacks, but these are becoming less troublesome.

CASE 4.—A strong, active man, a carpenter, aged twenty-six years, was under observation for Bell's paralysis when he had an attack in his right ankle. The pain was very severe for a few hours and there was swelling of the veins about the joint followed by a slight amount of synovitis. There were no gouty symptoms and a blister gave no urate of soda crystals. He had had similar attacks since he was fifteen years of age and suffered much from migraine.

CASE 5.—A bright, intelligent lad, aged eighteen years. He had had three similar attacks during the last two years. He also suffered from headaches on one side of his head, &c.

CASE 6.—A highly educated youth, aged twenty-two years, who had taken a scholarship and high honours, had his first attack at fourteen years of age and did not know how many since. They seldom laid him up for more than one day and he played and won a "single" lawn-tennis match on the third day after one attack. He dreaded his migraine far more than his bad ankle.

The attacks resemble gout, and that I confess may be the true diagnosis, but they all present these ungout-like symptoms. They all feel "unusually well" before an attack and there are no premonitory dyspeptic symptoms. In none of the attacks that came under my notice was there any marked rise of temperature and they do not tend to return on the following night. Recovery is rapid and complete, there is no tendency to spread to other joints, and they tend to get less frequent and less marked as age advances until they cease at middle life. No urate of soda crystals can be obtained from a blister.

I have seen several similar cases of which I have kept no notes, and an aged medical friend, since dead, who saw the patient in Case 3 with me in consultation told me that he himself had had similar attacks in his youth, but that they had ceased for many years. He called them "rheumatic gout," but did not pretend to understand their pathology. He gave, however, a good and true prognosis in Case 3, the only true one he had received. All these cases had what may be termed "disjointed migraine"—i.e., they had the retinal projections with "escapement-wheel" figures at one time, hemicrania at another, and numbness of lips, hand, &c., at another. Is it not possible that these joint attacks are another symptom of this obscure complaint? The distension of the temporal artery so common with the hemicrania proves that migraine does cause vaso-motor effects, and the conjunctivitis that occasionally accompanies it shows that the smaller vessels may also be affected. In some migraine patients the numbness is confined to one hand, and is it not therefore possible that these cases of arthritis or arthritic congestion are a concentration of the vaso-motor storm on a single joint?

It is difficult to believe that these attacks are due to a deposit of urate of soda, for they are too transient and there is no sign of such deposit elsewhere. There is such a total absence of constitutional symptoms that it seems impossible that they are due to rheumatism or any other form of blood-poisoning. The only remaining disease, therefore, with which they can be classed is rheumatoid arthritis, which is placed with the neuroses. I would venture to suggest, then, that these ankle attacks are of neurotic origin and that they are closely connected with that obscure nervous disease called migraine.—I am, Sirs, yours faithfully,

Jan. 15th, 1898. CLAYTON JONES, M.B. Oxon.

"LEGISLATION AS A REMEDY FOR MEDICAL GRIEVANCES."

To the Editors of THE LANCET.

SIRS,—So large a portion of space is devoted in your current issue to the debate between Mr. Brudenell Carter and Mr. Horsley and matters connected therewith that it is hardly to be wondered at that the reply of the former should have been crowded out. Yet there are one or two matters in it of such importance to the profession that I venture to ask you to afford me space to refer to them. Of these the most weighty is undoubtedly the estimate expressed by Mr. Carter, a typical member of the Council as constituted by the Act of 1858, of the position and influence of the Direct Representatives granted to the profession by the legislation of 1886. He thinks it within the bounds of possibility that in some other body not concerned officially with either education, examination, or registration, not merely a small proportion, but even a majority, or possibly the whole, of the members might be elective. He, however, just as evidently thinks that on the General Medical Council they are entirely out of place; in fact, he says in express terms (I quote from a transcript of shorthand notes) that where questions of education and examination have to be discussed and settled in detail it must be by the representatives of *the bodies that have to carry them out* and that the latter *would not accept dictation* from other persons. Mr. Carter has evidently forgotten the very recent instance in which outsiders not only interfered but compelled the Council to bow humbly to and obey their mandate.

Mr. Carter is clearly of opinion, this and other facts notwithstanding, that "everything is for the best in this best of all possible" councils except the presence upon it of the Direct Representatives, of whom he says that whilst their presence might be useful if the Council were inclined to falter in the path of duty, yet there being no evidence of this, the stimulation they supply is unnecessary, nor will the Council be much influenced by it. It remains to be seen how the profession will regard this slur upon, this insult to, those whom it has chosen to represent it and who have an equal position and voice in the Council with the nominees of the corporations. For the present, it is clear that Mr. Carter's complacent view of the general action of the Council is not shared by the profession at large, to whom we commend this and other of Mr. Carter's statements and omissions for consideration.

I am, Sirs, yours faithfully,
EDWARD C. BOURFIELD.
Old Kent-road, S.E., Jan. 21st, 1898.

To the Editors of THE LANCET.

SIRS,—Mr. Brudenell Carter in his recent address made the following statement: "...... and that Mr. Horsley assailed the action of the President (Sir Richard Quain) in a manner which induced decent people to leave the room rather than remain to listen to him." As I was present (in my official capacity as hon. secretary of the Ethical Section) during the whole sitting I can testify to this fact, that Mr. Horsley had a larger audience to listen to his paper than any of the speakers who preceded him, and although I cannot assert positively that no person, decent or otherwise, left the room while his paper was being read, yet I can most unhesitatingly assert that no considerable portion of the audience did so.

I am, Sirs, yours faithfully,
T. GARRETT HORDER.
Cardiff, Jan. 24th, 1898.

To the Editors of THE LANCET.

SIRS,—It seems to me that much of the misunderstanding between Mr. Horsley and Mr. Carter as regards the force and operations of our present Medical Acts can be easily cleared.

Mr. Horsley, in opening his address, reported by you in THE LANCET of Jan. 22nd, very properly observes that the preamble of the Act of 1858 states that it was expedient that persons requiring medical aid should be able to distinguish qualified from unqualified practitioners. So far, so good. To my mind that is the whole and sole aim and object of the Act and the only penal power under it applies to those who, by falsely assuming a title which they do not possess, would render the Act of none effect by disenabling the public to distinguish qualified from unqualified practitioners. Mr. Horsley then goes on to say: "The Act therefore was constructed not to protect a mere title but a person who practises his profession." It is to this assumption I take exception. This is merely Mr. Horsley's opinion of what the Act does, whereas I contend it does nothing of the kind. And it is from the fact that Mr. Horsley argues from this assumption that all his confusion of thought arises. I think he is right in stating that it is registration alone that gives one the right to describe oneself as a legally qualified practitioner and the Act of 1886 makes clear what diploma or diplomas shall give one the right to register and thus become "qualified." Indeed, in courts of law the fact of registration is the only question proper to be raised. But we medical men commonly use the term "qualification" to mean what degree or diploma does a man hold. So those two uses of the word "qualification" must be differentiated. Legally the only qualification is being registered. Colloquially a "qualification" is any degree, licence, or diploma that gives one the right to be registered. Here I agree with Mr. Horsley, who says: "So that our diplomas do not give us in the eyes of the law the right to practise but the right to demand that our names shall be placed on the Register" But again Mr. Horsley spoils it all by adding: "The obvious inference is that any person not on the Register should be prosecuted." So far from this being an obvious inference, to me this is no inference at all. Mr. Horsley is wrong again when he speaks of "the General Medical Council allowing the Apothecaries' Society to examine in the three" subjects. But I need not go into this question as it is so ably answered by Mr. Carter in THE LANCET of Jan. 22nd, page 204. Mr. Horsley further says: "All that is apparently wanted is a slight rearrangement of the words of the section," making it penal for anyone save registered practitioners to practise medicine, surgery, and midwifery. This may be only a slight rearrangement in words, but it is an enormous difference in fact. Very desirable no doubt, but a totally different thing.

The Act of 1858 is like a good many other Acts on a good many subjects. It gives you a penal clause, but it lays the duty of enforcing it on no one. Surely we all know many good Acts dead letters for want of provision of means to enforce them. Mr. Horsley, in his reply,[1] seems again to miss the point. He says the man in the street is not entitled to practise. I maintain he is *able* to practise provided he does not falsely represent himself to be qualified and provided he does not come within the reach of the Apothecaries' Act of 1815.

In conclusion, I think we have an admirable Direct Representative in Mr. Victor Horsley, that his report published by you in THE LANCET of Jan. 22nd is well worth our serious consideration, and that the practitioners of the country should be grateful to him on account of his courage, energy, and ability, but that he is mistaken about the force of the Medical Acts. As regards Mr. Carter we must all deplore the personal part of his attack on Mr. Horsley, particularly as reported by you in THE LANCET, pages 201 and 203 But as regards the law of the subject he is undoubtedly right, and I for one think his view of the question the right one, and as a member of the Society of Apothecaries which he so ably represents applaud his ample vindication of our status and rights. Having thus succeeded in displeasing both champions nothing now remains but for me to subscribe myself, Sirs, yours faithfully,

THOMAS CARR, M.D. Durh.
Braintree, Essex, Jan. 22nd, 1898.

To the Editors of THE LANCET.

SIRS,—In common, I can hardly doubt, with many of your readers I am surprised that the members of the South-West London Medical Society present the other night to hear Mr. Brudenell Carter should have remained to listen to his personal attack on Mr. Victor Horsley. What, one would like to know, have these miserable personalities to do with medical reform? Mr. Carter certainly has done Mr. Victor Horsley a splendid public service by affording him an opportunity of showing that, whilst smarting under an evidently grossly unfair and bitter personal attack, he was able to stand up and deliver himself of a calm, dignified, and judicial answer, which cannot fail to enhance his already high reputation as one eminently fitted to be a leader among the medical reformers. Mr. Carter tells us that he was a member of the profession before Mr. Horsley was born. *Noblesse oblige.* Age surely has its responsibilities as well as its privileges, and to be accused of being a young man is a soft impeachment which few will be found to resent, especially when youth has been productive of such brilliant achievements as Mr. Horsley's. Rightly or wrongly there can be no question of the want of confidence felt in the General Medical Council by the great mass of general practitioners. Let Mr. Brudenell Carter enter the lists as Mr. Horsley's opponent at the next election for Direct Representatives, and I venture to promise that when it is over his labours on the General Medical Council will not be greatly prolonged.

I am, Sirs, your obedient servant,
Jan. 24th, 1898. COUNTRY SURGEON.

"THE SOCIETY OF APOTHECARIES AND MR. VICTOR HORSLEY."

To the Editors of THE LANCET.

SIRS,—Mr. Upton has now spoken, as Mr. Carter promised he would. It would have been better if, before assuming that I had talked "unintelligible" nonsense, Mr. Upton had done me the honour to inquire of me whether my speech which you printed last week (in which the Society of Apothecaries was mentioned) was correctly reported, because it would have saved him from writing on my views and knowledge of the Apothecaries Act Amendment Act of 1874 much that has no meaning. The corrections, which I would have gladly supplied him and which render part of Mr. Upton's letter wholly inoperative, are contained in my letter published immediately after his in the *British Medical Journal* of Jan. 22nd.

Leaving out, therefore, the third, fourth, and part of the fifth paragraphs of Mr. Upton's letter as being not germane to the subject I must before entering upon the important matter which gave rise to Mr. Upton's letter answer two points made by Mr. Upton—firstly, that he is at a loss to know why his name should have been mentioned at all and, secondly, that he is not "the secretary" of the Society and "has in fact nothing to do with the examining functions of the Society except as their legal adviser." I mentioned Mr. Upton's name because when the matter came up at the General Medical Council the question originated in a letter signed by him and when I contested the validity of its contents the Council were given to understand that he would personally explain, as Mr. Carter said he would. This fact, in view of Mr. Upton being the legal adviser of both the Apothecaries' Society and the British Medical Association, obviously assumed a very special importance. As regards the second point it must not be understood from Mr. Upton's "correction" that he is only the legal adviser and not "the secretary," or that my original statement—namely, that he is the solicitor and secretary—is wholly incorrect, for as a matter of fact Mr. Upton is "the solicitor and clerk," and as "the clerk" he does the secretarial work of the Apothecaries' Society as shown by the official letters to the General Medical Council, which are signed by J. R. Upton, clerk to the Society. Now for the main issue.

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[1] THE LANCET, Jan. 22nd, 1898, p. 247.

On the strength of a letter written by Mr. Upton to the General Medical Council, in which he stated that a practitioner whose name had been erased from the Register and from the list of Licentiates of the Apothecaries' Society "still held the qualification of L.S.A.," the legal advisers of the General Medical Council advised the members of the Executive Committee that they should recommend the Council to restore the name of the practitioner to the Medical Register. When the matter came before the Council I drew attention to the claim that this involved on the part of Mr. Upton writing on behalf of the Apothecaries' Society (*vide* my paper published in The Lancet of Jan. 1st), and I am most agreeably surprised to find from Mr. Upton's letter that my objection is actually in his view correct. My whole contention was that a diploma—e.g., that of the Society of Apothecaries—was only of value when the person holding it was registered and when his name was on the list of diplomates and that it has no value in the absence of registration. Mr. Upton now says distinctly that the Society "never meant or intended to assert that their diploma *without registration* enables the holder to practise medicine, surgery, and midwifery." If that is so then that is exactly what I stated and I am gratified to find that I have Mr. Upton, the solicitor of the Apothecaries' Society, on my side so strongly against Mr. Brudenell Carter, the representative of the Apothecaries' Society.

We now come back to Mr. Upton's use of the word "qualification." As regards this very essential matter it is distressing to find that although, as we have just seen, in one paragraph he states satisfactorily enough that a diploma without registration is no use and does not "enable the holder to practise," he nevertheless says in an earlier paragraph that if a person who has once been granted a diploma has been struck off both the Medical Register and the list of Licentiates of the Apothecaries' Society he yet "cannot be successfully proceeded against for unqualified practice." In other words, he asserts that such a person's practice is qualified—i.e., legal; i.e., registered—which thing is an absurdity because the case considered is that of a person whose name has been erased from the Register. Thus Mr. Upton's fifth paragraph is diametrically opposed to his ninth. It is plain that both the profession and the subject are worthy of a somewhat fuller and less contradictory explanation from Mr. Upton.

I am, Sirs, yours faithfully,
Victor Horsley.

Cavendish-square, London, W., Jan. 22nd, 1898.

"THE UNQUALIFIED ASSISTANT AND THE GENERAL MEDICAL COUNCIL."

To the Editors of The Lancet.

Sirs,—We owe the destruction of the unqualified assistant entirely to the action of the Medical Defence Union, whether for ultimate good or evil is clearly a matter on which there is a very wide difference of opinion amongst the profession. One thing more we certainly must expect of the Medical Defence Union—that it shall be consistent. The General Medical Council is practically a court of law before whom solicitors and counsel appear. The prosecuting Union seems to do its work by means of its secretary. Why should it act against the unqualified practice of medicine and actively itself pursue the unqualified practice of the profession of law?

I am, Sirs, yours faithfully,
Lawson Tait.

Birmingham, Jan. 22nd, 1898.

To the Editors of The Lancet.

Sirs,—The subject of qualified *versus* unqualified assistants has a special interest for those who like myself began their student career in the year 1860. That year was unique as being between the year of compulsory registration of all medical practitioners—1859—and the year of compulsory preliminary examinations for medical students—1861. There was a great rush in 1860 to escape this and a large accession of first year's students at all the medical schools. Some students, myself included, elected to undergo the preliminary examination and were successful, others were unsuccessful and a very large proportion escaped it. Shortly after this considerable improvements were effected in the medical education which I need not detail as they are so well known and the examinations were made much more severe.

When I became a qualified assistant in 1865 I had to produce my certificate of registration before I was permitted to enter the workhouse to which my principal was surgeon as his substitute. I was also required to give proof of my qualifications before making a post-mortem examination for the coroner. Subsequently I acted as assistant to two other surgeons, and the demand for qualified assistants was general, though here and there I encountered an unqualified one and an unqualified locum tenens.

Surely the unqualified assistant and those who employ him cannot plead that he has not had every possible indulgence and every reasonable notice to quit, except in his legitimate employment as a dispenser and bookkeeper. Surely also it is a retrograde step on the part of such practitioners as have undergone preliminary examinations, greatly improved medical education, and severe professional examinations, to employ an unqualified assistant to visit and attend obstetric cases for them, thus placing him on a par with a fully qualified gentleman. If a practitioner finds his practice too large to conduct by himself he should seek the aid of a qualified gentleman to assist him as a partner rather than as an assistant, the term being an unfortunate one, too often taken by the public as implying an unqualified man.

The dispensing must, I fear, constitute a difficulty becoming more and more irksome after such a curriculum as the present one, and after such examinations as are now held. To expect a qualified assistant after a hard day's visiting and a night's midwifery to go through the drudgery of dispensing all the medicines he has prescribed himself and his principal also is hardly reasonable, and yet I shall probably be told that few (if any) practitioners can afford to keep both a qualified assistant and a dispenser. Perhaps some of the former will lead the forlorn hope, but in any case the day of the unqualified assistant is passed.

I am, Sirs, yours faithfully,
A Provincial Surgeon.

Jan. 24th, 1898.

*** We do not see that any good purpose will be served by publishing more letters on this topic at present. Our readers have been able to hear all sides and the correspondence fitly closes with "A Provincial Surgeon's" letter.—Ed. L.

THE VALUE OF A DEFENCE UNION.

To the Editors of The Lancet.

Sirs,—As I have had a recent personal experience of the value of medical defence I think it worth laying before your readers, in order that they may not be content to merely discuss the matter but may also, if they have not yet done so, place themselves in safety from any cost in money or anxiety about such things. Last November I was elected honorary surgeon to the Bradford Eye and Ear Hospital and at intervals during the following fortnight paragraphs appeared in the tattle column of a local evening paper in appreciation of an unsuccessful candidate, deprecating my appointment and suggesting that the election had not been quite square. The matter was at once placed by me in the hands of the Medical Defence Union with the result that the newspaper twice published apologies, paid £25 to a local charity nominated by me, paid all legal expenses, and to-night published a statement of the payment of these moneys. This attack came like a bolt from the blue. Had I not had the Medical Defence Union to fall back on I would have had to suffer in silence; as it was, the result speaks for itself.

I am, Sirs, yours faithfully,
JAMES KERR, M A., M.D. Cantab.,
Honorary Surgeon, Bradford Eye and Ear Hospital.
Bradford, Jan. 24th, 1898.

THE MARKING OF INFECTED HOUSES.

To the Editors of THE LANCET.

SIRS,—The College of Physicians of Philadelphia will at its next meeting in February discuss the regulation of the Board of Health placarding houses in which are contagious diseases. A member of the College has informed me that such a custom would not be tolerated in England and I will be grateful to you for any information on the rules and regulations of the London Board of Health in this matter of specifying houses in which there are contagious diseases.

I am, Sirs, yours faithfully,
GEO. WOODWARD,
Member, Board of Health, Philadelphia.
Bureau of Health, Philadelphia, Jan. 11th, 1898.

⁂ If circumstances should ever arise making such placarding an advantage to the public weal we believe that Englishmen would be sufficiently good citizens to submit at once to the regulation. The practice is, however, unknown in modern England.—ED. L.

"HYDROCYANIC ACID AS AN ANTIDOTE IN CHLOROFORM POISONING."

To the Editors of THE LANCET.

SIRS,—It is true that Dr. Lauder Brunton in his excellent work on Therapeutics[1] states that hydrocyanic acid is "one of the most powerful and rapid poisons known" and that it has "a special paralysing effect upon the respiratory centre," but it is also well known that different doses of the same drug may produce entirely different effects. As Dr. Brunton very aptly puts it in his more recent work,[2] "A stroke from a switch will quicken any animal to increased exertion, but a blow from a bludgeon may knock it down and render it incapable of any exertion at all."

The use of hydrocyanic acid as an antidote to chloroform is an almost typical illustration of this. When given to a healthy animal in large toxic doses it speedily causes death, the latter occurring so rapidly that it requires a keen observer to note any very numerous train of symptoms. When, however, a smaller but still toxic dose is given definite symptoms (which are divided into three stages by Dr. Brunton) can be observed. With a still smaller dose—a dose which is the full medicinal or, perhaps, slightly over medicinal without being fatal—it is possible to produce certain results which are directly antagonistic upon the heart and respiration to those caused by over-doses of chloroform; this is the stage which is aimed at. In a healthy animal such a dose will within a few seconds produce respirations which are at first somewhat irregular and slow, but speedily become strong and powerful, whilst the pulse is at first slightly slower, then quickly increased in frequency and somewhat irregular, in a short time becoming full and regular.[3] Upon the heart, when the animal is deeply anæsthetised, prussic acid in these doses seems to have a distinctly beneficial effect in relieving the congested, semi-paralysed condition into which that organ has been thrown. Another great advantage, too, that this antidote possesses is that when once respiration has recommenced the pharmacological action of the drug tells us that the latter will greatly assist in maintaining it until the centre has sufficiently recovered to be able to look after itself, as we know that the visible action of the acid will last for about half or three-quarters of an hour.

I was particularly struck when observing its action upon the first few cases with the rapidity with which animals recovered from prolonged operations under chloroform when a small dose of hydrocyanic acid was given to them. I formed the opinion at the time that this was largely due to the stronger and deeper inspirations and expirations respectively causing a greater amount of fresh air to be inhaled and also more of the chloroform vapour to be expelled. This seems, too, to afford a reasonable explanation.

I am, Sirs, yours faithfully,
FREDK. HOBDAY.
Royal Veterinary College, London, N.W., Jan. 24th, 1898.

"TRANSMISSION OF SYPHILIS TO THE THIRD GENERATION."

To the Editors of THE LANCET.

SIRS,—Dr. George Ogilvie's conclusions on hereditary immunity in the third portion of his interesting paper, which is referred to in THE LANCET of Jan. 15th, are to a considerable extent founded on the discredit thrown by Professor Neumann upon Fergusson's observations on mitigated disease in Portugal in 1812. Dr. Ogilvie considers on those grounds that Mr. Henry Lee's views on individual hereditary immunity, dependent as they were to some extent upon Fergusson's observations, seem to "stand on a weak foundation"; that "the reports from different Russian, German, and English regiments adduced by Ferguson and Lee have, if possible, still less claim to trustworthiness"; and that the sad state of the British army at the present time in India (which I might say is a counterpart to the state of the army noted by Fergusson in Portugal) is "sufficient to considerably shake any theory of general immunity." The observations of William Fergusson (not Ferguson), for two years the Inspector-General of Hospitals to the Portuguese army, seem to me to be so conclusive and, moreover, verified at the time by Staff-Surgeon Jebb that it is impossible to accept Dr. Ogilvie's interpretation.

Everyone will agree that hereditary immunity is not the only cause of modified syphilis in the male. Neisser, while attributing the diminution of malignant syphilis (in his paper on Malignant Syphilis in the *British Dermatological Journal* for January, 1897) to hygienic, preventive, and therapeutic causes, which Dr. Ogilvie acknowledges, nevertheless says: "Nor have I noted during the recent great extension of syphilis in Russia that an unusual proportion of cases of malignant syphilis has been noted ...... it is interesting in this reference to draw attention to the fact that Epstein has recently recorded a remarkable number of cases of malignant syphilis, amongst the Jews ...... he is inclined to account for his observations on the hypothesis that the individuals of a community which has been free from syphilis tend to show the malignant type more frequently when at length attacked than the members of a population which has experienced the disease for generations." That is Fergusson's theory, which to be fully appreciated should be read in its entirety in the fourth volume of the Transactions of the Royal Medical and Chirurgical Society. I am, Sirs, yours faithfully,

JOHN A. SHAW-MACKENZIE.
Grosvenor-street, W., Jan. 18th, 1898.

"THE MECHANISM OF DEATH FROM CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—I note in THE LANCET of Dec. 4th, 1897, a letter by Mr. Alexander Wilson called forth by my criticisms on his article published in your issue of Sept. 11th. His first point is that I did not read his paper carefully nor give his expressions their proper value. I read the paper sufficiently carefully to notice the immediate juxtaposition of the expressions "free respiration" and "breathing deeply," with the expression "some peculiarity about the colour of the face," this last denoting an attitude of mind so slovenly and inexact that it is impossible to consider the two former as necessarily accurate. Similarly in Case 3 the very point of my criticism is that with observation so inaccurate that the intense circulatory failure present passed entirely unnoticed by the anæsthetist and was only discovered on making an incision the further statement that respiration was going on freely cannot be taken on trust. As the facts in these two cases are not unimpeachable their value as the basis of a theory is gone.

As regards the question asked by Mr. Wilson with respect to Case 7 I am glad to say that no patient of mine has died by being suffocated by the root of his tongue, for I have hitherto always recognised the state of affairs and brought the tongue forward. That this death was the result of suffocation and not of heart failure is almost certain from the following two facts: first, the presence of snoring which, whether due to falling back of the tongue or to paralysis of the soft palate muscles, is evidence of vibration of air produced by its being drawn through a narrowed orifice—that is, of obstruction; and, secondly, the subsequent congestion of the face which is precisely what would occur with obstruction to respiration and which at all events during the administration of chloroform is probably not caused in any other way. There are, then, solid grounds for considering that there was obstruction to respiration in this case and none for considering that there was primary circulatory failure. If this gradual suffocation be granted the mode of death is what one would expect with a medulla dulled beyond recovery. It is beside the point to try to justify the scantiness of information given in this case and in Case 6 by saying that it is quoted from Snow. By quoting it as he does Mr. Wilson tacitly admits that he considers that the description as he gives it adds weight to his theory, and this, as I have shown, it does not.

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[1] Pharmacology, Therapeutics, and Materia Medica. Third edition. Pp. 586 and 234.

[2] Action of Medicines, p. 34.

[3] Journal of Comparative Pathology and Therapeutics, 1893, p. 107 et seq. Idem, 1896, p. 101 et seq.

In Case 1 I realise that Mr. Wilson's contention is that shock may be produced by chloroform poisoning, but he does not prove it. He entirely fails to realise that the fact that he "considers the symptoms were caused by chloroform," though interesting, is of no moment. Others will consider with myself that the boy was not under the anæsthetic and was accordingly susceptible to shock from a powerful stimulus, but that equally is of no moment. Opinions have no place in a theory, which must consist entirely of facts and of inductions from them. In this case the "shock" immediately a most powerful stimulus just as it would have done had no chloroform been given, and can accordingly be amply explained without calling in chloroform to account for it. There is no shred of proof that death was due to chloroform poisoning and much to show that it was not, so that the case is quite useless as one on which to build up a theory as to the mechanism of death from that cause. In fact, as I said in other words in my first letter, Mr. Wilson makes no attempt to prove by the exclusion of other causes that the deaths he describes were due to chloroform poisoning nor any to show that primary circulatory failure occurred in a single one. Let me repeat that in one case the state of the circulation is never mentioned, and yet Mr. Wilson thinks it helps to prove that chloroform fatalities are due to primary failure of the circulation!—I am, Sirs, yours faithfully,

Clayton A. Lane, M.D. Lond.,
Surgeon-Lieutenant I.M.S.
Camp Shinowrie.

TREATMENT OF PNEUMONIA BY INHALATIONS OF OXYGEN GAS.

To the Editors of The Lancet.

Sirs,—I have recently had under my care a case of extensive double pneumonia in which I used inhalations of oxygen, a few particulars of which may interest your readers. The patient was a strong, healthy woman, aged thirty-two years. She had a rigor one Saturday night and I saw her on the following Sunday afternoon when I found her to be suffering from extensive double pneumonia for which I prescribed appropriate treatment. I was summoned hastily the morning after (Monday) to see her as she was much worse. On my arrival I found the patient deeply cyanosed with signs of heart failure and dilatation of the right chamber; the pulse was scarcely perceptible at the wrist and the respirations were 54. She was practically dying. I thought it was a very suitable case for the inhalation of oxygen gas and through the kindness of my friend, Dr. Alcock, was fortunately enabled to administer it within half an hour. The immediate improvement was very striking. After five minutes' administration the patient improved so much that from being comatose she became quite conscious; the pulse could be counted at the wrist, the heart sounds became distinct, and the lividity was disappearing. The administration was continued for another five minutes with continued improvement of the patient and disappearance of the cyanosis. The administration was now stopped for ten minutes and again resumed for five minutes longer. The condition of the patient was now fairly satisfactory under the circumstances. I remained with her three hours longer, repeating the administration every half-hour a few minutes at a time, and I considered her so much improved that, yielding to the demands of general practice, I thought I might leave her for a time, giving instructions to the nurse to summon me at once if she saw any signs of returning "blueness." This unfortunately was not done and when I returned after an interval of about three hours I found that the patient had just died. I am, Sirs, yours faithfully,

Goole, Jan. 17th, 1898. A. M. Erskine.

"SANTONIN IN SPRUE."

To the Editors of The Lancet.

Sirs,—I notice in The Lancet of Jan. 15th a letter from Dr. Charles Begg in which a reference is made to Dr. Thin's work on Sprue and think it desirable to express how greatly that work assisted me when in practice in Fiji at that time. I write of prior to the publication of Davidson's "Diseases of Warm Climates." Dr. Thin's was the only available account of this important, prevalent, and frequently fatal disease, and if it had not been for it I should have landed in the tropics without either information or guidance on this matter. In all the cases I had search was made for intestinal parasites, but though in a few cases ankylostomata were found in many cases they were absent and never present in sufficient quantities to justify their being considered a factor. My experience fully coincides with Dr. Thin's—namely, that when sprue has become thoroughly established unless a proper course of treatment is adopted and persevered in the disease invariably in time ends fatally. As to treatment the purely milk diet (half milk, half barley-water, slightly warm) from three to four ounces every hour with general hygienic precautions, warm clothing, flannel binder, &c., invariably gave good results if followed by removal to a cool climate. For diarrhœa salol and bismuth powders or $AgNO_3$ enemata were occasionally required. In semi-dysenteric cases simaruba (as advised by Dr. Manson) is of great use. Opium in any form was unsatisfactory. For constipation morning doses of sodæ sulphas either alone or combined with decoctum aloes may be given.—I am, Sirs, yours faithfully,

Charles T. W. Hirsch,
Late District Medical Officer for Rewa, Colonial Medical Service, Fiji.
Charlinch, Rectory-place, Woolwich, Jan. 24th, 1898.

"IMPRISONED TOOTH: AN OBSCURE CAUSE OF CERVICAL ABSCESS."

To the Editors of The Lancet.

Sirs,—My attention has been called to an article on the above subject by Mr. T. R. Jessop of Leeds, published in The Lancet of Jan. 15th, p. 150, which, I feel, demands some notice.

Under an impression that I was sufficiently acquainted with the pathology of alveolar abscess, or what is known of it, arising from unirrupted and necrosed teeth, also defectively developed and incarcerated teeth and other causes which give rise to inflammation in and about the surrounding structures and tissues of the mouth ending in abscess pointing either internally or externally—these are, I consider, so common and should be so readily understood by every properly educated dental surgeon—that I have not recently thought it worth while to call attention to the subject through the medium of the medical press, although some years since I have read papers before the British Medical Association and other societies which have mostly been published in some of the weekly journals; nor should I now have alluded to the subject but for reading Mr. T. R. Jessop's article, in which he quotes two cases that are as familiar to the hospital dental surgeon as varicose veins are to the general surgeon and which should be as easily diagnosed.

I consider Mr. Jessop's article a grave reflection on the professional knowledge of the dental surgeons in his district. Recrimination, however, is not my purpose in this communication, but I could quote a large number of cases which had run the gauntlet of more than one public hospital, some of which had never been seen by a dental surgeon before I saw them. Two cases are fresh in my memory. One, a soldier in the artillery then quartered at Trowbridge, had been for some time a patient at one of the London hospitals suffering from alveolar fistula and had eventually left uncured. His health had suffered considerably by the constant drain from the sinus and he was discharged from the service. He subsequently turned up as an out-patient at this hospital and after being treated medically for a time I was asked to see him. The case was a simple one to diagnose; a probe was passed along a sinus extending from the symphysis menti to beyond the second molar tooth. No dead bone could be detected, but feeling certain the mischief was caused by an unirrupted wisdom tooth I decided to cut down to the bone over the space where the wisdom tooth should be and which was somewhat prominent. After fully exposing the bony surface I found the end of the sinus and passed a probe through it on to a cusp of an incarcerated wisdom tooth; the plate of bone covering it was removed and after it the tooth. In a fortnight from this time the whole sinus was obliterated and the man got rapidly well.

A similar case, that of a woman, who was brought to me by the late Mr. Biggs with a sinus pointing at the symphysis. This was still more simple as it was caused by a necrosed central incisor (non-carious). This woman had also been drifting about and was told at one hospital that nothing could be done for her short of taking out a piece of the jaw. This she fortunately did not submit to. After removal of the necrosed incisor she made a rapid recovery.

A case which has only recently come under my notice was that of a man, thirty-four years of age, who had an abscess pointing externally under the left malar bone; this was opened and the pus evacuated, he having been taken into hospital for that purpose. After being in the house a month and getting no better I was asked to see him and I found four or five necrosed stumps in the upper jaw on the same side; these were removed and he got rapidly well, as indeed after removal of the cause they all do.

I have only cited these as typical cases and there seems to be no rule as to where these abscesses may point. I have seen them point in the neck, over the acromion, at the sternal end of the clavicle, and in other out-of-the-way places. Quite 20 per cent. of these are seen and treated by the general practitioner or general surgeon before a dentist sees them at all.

The gist of Mr. Jessop's remarks on these cases would imply that a dental surgeon is incapable of forming a correct diagnosis, or if diagnosed should be handed over to the so-called "realm of surgery" for operation. In the foregoing remarks I have pointed out how seldom it happens that a dental surgeon sees such cases in their initial stage, or indeed before they have passed out of the "realm of surgery" uncured after having run a long and disastrous course, all of which would have been averted at an earlier stage had an expert first seen them.

I am, Sirs, yours faithfully,
CHARLES GAINE, M.R.C.S. Eng.,
Dental Surgeon to the Royal United Hospital, Bath.
Jan. 24th, 1898.

LEPROSY IN LONDON.

To the Editors of THE LANCET.

SIRS,—A few days ago I was called to see a patient whom I found, to my surprise, suffering from leprosy in its worst form. As I have had good occasion during my travels in China, Iceland, and the Baltic provinces of Russia to see similar cases I diagnosed it at once and thought it my duty to report the case under the Contagious Diseases Act to the medical officer of health of the district. If I may rely upon the statement made to me, my patient, although living for the last seven years in the middle of London and no doubt suffering from the disease for a long time, has been refused admission by several hospitals and homes for incurables. Considering the spreading of this disease in the Eastern Province of Prussia (Ost-Preussen), in the Austrian province of Bosnia, and in Russia, and the serious view taken by the International Leprosy Conference lately held in Berlin,[1] I should be very much obliged to know whether this case is an isolated one in England or whether cases of this old scourge of human kind have been observed by others.

I am, Sirs, yours faithfully,
OSCAR LEVY, M.D., L.R.C.P., M.R.C.S.
Vernon-place, W.C., Jan. 24th, 1898.

THE PLAGUE IN INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

IT has been stated that cases of pestis minor do not occur during an epidemic—but only as preceding an epidemic or in mild outbreaks of their own. Here, at any rate, is an instance, and many others have been observed also. Seventeen Europeans have been attacked in Poona, with only one death, while the mortality throughout the district has exceeded 75 per cent. Notwithstanding the hundreds of British troops which have been daily employed in the town either on cordon duty, or as search parties for the sick or dead, or for disinfection of houses, not a single case has occurred among them.

A recrudescence of the epidemic is being experienced in Poona. While the mortality in the General Hospital in August last was 57 per cent. with 110 admissions, in September it was 58 per cent. with 340 admissions; in October 63 per cent. with 908 admissions; and in November 68 per cent. with 1421 admissions. For the first three weeks in December the mortality has been over 73 per cent., but the number of cases is somewhat diminished. These returns are much more favourable than those for the whole district, where 80 per cent at least is probably the average rate of mortality. The city of Poona is almost deserted, half the houses at least seem shut up and the estimated population is less than half its usual number. The birth-rate for the past six months is only one-fifth of the average—this alone showing the exodus from the city—while the mortality returns show more than five times the average number of deaths.

In Bombay the increase of cases still continues. 200 deaths from plague being recorded for the last week of 1897, although the recrudescence there has not yet attained the severity of the primary outbreak at the corresponding period last December. The mortality, however, is fearfully high, over 70 per cent., and probably more than 20,000 people have died from plague in Bombay during the past year. While all returns, except from the hospitals, are to a great extent faulty, approximate estimates can fairly be made. At the commencement of the outbreaks deaths from plague were probably not returned as plague at all but from fevers and lung diseases indiscriminately. The excess of the mortality over the average was thus the only guide. There being no satisfactory system of registration—the attendant at the burning or burial ground accepting the statements of the friends as to the cause of death—it is only the total mortality which can be accepted as a basis for any calculation. Again, it is almost impossible to estimate the correct number of the sick or of the dead because they are secreted from fear of detection and the dread of disinfection, hospital treatment, or segregation. It is very certain that the excess mortality over the average is very much larger than the returns of plague. For example, while for the past three months 4056 cases of plague have been reported for Poona only 2953 deaths have been attributed to it, whereas the excess mortality over the average amounts to no less than 3787. This notwithstanding that all cases of death for which a distinct cause is not known are returned as due to plague and that from ten to twenty dead bodies are discovered daily.

As time goes on more and more elaborate measures are being taken to combat this disease. While it is still raging with great virulence at Poona, Sholapur, and a few other places, it is declining in some and merely dragging on its existence in a large number. The cooler weather of winter seems favourable for its development (perhaps because the natives at night time huddle themselves together in close apartments), while it is checked by the onset of the hot season (perhaps because they can then sleep out of doors). So that we may look for a decline all round within the course of the next month or two. In addition to treatment of the sick in hospitals, provided at nearly every place where the plague has broken out, there are now observation camps or wards for the doubtful cases and segregation camps for those who have come from infected places. At several railway stations the clothes and baggage of all third-class passengers are being disinfected and the passengers themselves made to bathe in disinfecting fluid. In other places, again, a military or police cordon is being adopted under strict regulations. Infected houses are being disinfected with solution of perchloride of mercury or carbolic acid and afterwards limewashed and all attendants at funerals are compelled to go for a time to the segregation camps. In Poona every house, whether infected or not, is in process of disinfection. Search parties are examining the houses of the natives for sick and dead, as the apprehension against the hospitals and camps has not yet subsided and many cases continue to be secreted. Such are the measures which are now almost everywhere being adopted.

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[1] Vide Mittheilungen und Verhandlungen der Internationalen Wissenschaftlichen Lepra-Conferenz zu Berlin im October, 1897. Berlin: Aug. Hirschwald.

With regard to cases it is found that those with cerebral symptoms, those with hæmorrhages, those with double cervical or parotid glands, and those with early pneumonia are very fatal. Pregnant women almost invariably abort and their mortality is very high (85 per cent.). Some of the earliest symptoms observed before marked fever or glandular enlargement has occurred are, an unsteady gait, a peculiar glassy appearance of the eye with injection of the conjunctiva at some distance from the cornea, a tendency to drowsiness, and a peculiar form of speech. Of sequelæ chronic sores from suppurating glands are the most common, but inflammatory affections of the joints, loss of coördination of the muscles, and panophthalmitis are frequent. The conditions for discharging a patient at the Poona General Hospital are chiefly that the temperature must have been normal for five days, that all sores must have healed up, and that the patient can walk well. The exact duration of a patient's infectiveness is unknown.

It seems an extraordinary thing that in the absence of the health officer for Bombay on considerable leave at a time when plague is raging fiercely throughout the city the person appointed as acting health officer should be not only without a qualification in public health, but be not even a medical practitioner. Whatever experience in some subordinate office this gentleman may have obtained by long service it is absolutely impossible that he can be properly fitted to fill such an important post. I understand, moreover, that he is in receipt of a salary which would command the services of a properly qualified man. In the interests of the public health I commend this appointment to the notice of the Government. I cannot but feel, however, that this action on the part of the municipality is a distinct insult to the medical profession.

Out of the 1891 Census population of about 120,000 there have been during the past year 10,000 deaths, and this, be it remembered, where the birth-rate indicates a reduction of the population to considerably less than half its usual number.

At Satara plague is on the increase, while at Belgaum only a few cases remain.

M. Haffkine is now at Poona inoculating any who are willing to submit to the process. The plague there shows a decline.

Jan. 7th.

BIRMINGHAM.

(From our own Correspondent.)

The Children's Hospital.

The thirty-seventh annual report was read at a meeting of this charity on Jan. 25th. It stated that the number of in-patients treated in 1897 were 919, as compared with 992 in 1896; out-patients 13 009, against 12,987; the detention-rate was 21·36 days, against 21·7; the death-rate calculated on the in-patients was 8·8 per cent. The use of the twenty beds at Moseley Hall had been of the greatest advantage. Forty-five patients had been treated in the diphtheria ward during the year. The expenditure amounted to £4283, the total income falling short of this by £32 2*s*. 9*d*. notwithstanding that the year began with a deficiency of £397 14*s*. 10*d*. The Lord Mayor, who presided at the meeting, commented upon the high death-rate, which was due mainly to cases of diphtheria, and the usual votes of thanks were passed.

The Dental Hospital.

The thirty-eighth annual meeting of the governors was held on Jan. 26th. The financial statement showed a balance of £234 4*s*. 3*d*., of which £200 would be reserved for building at the end of the lease. The number of operations under ether was 31 and under nitrous oxide gas 700. It was pointed out that the institution was behind the times with regard to sanitation and convenience and that a new hospital equipped in modern fashion is much needed.

Mason University College.

The impetus given by the first meeting of the governors under the new scheme is destined to have important and far-reaching effect. The whole question of future prosperity, as lucidly pointed out by Mr. Joseph Chamberlain at the luncheon, is largely one of funds. A very high figure was mentioned in connexion with this aspect of the subject—namely, £250,000 for endowment and administrative purposes. The local brewers have contributed liberally towards the founding of a chemical chair to the amount of £20,000, and though as yet no list has been published it is confidently expected that a generous response will be made to the appeal.

Sir Willoughby Wade.

The retirement of Sir Willoughby Wade from Birmingham is a source of sincere regret to the profession and his many friends. It is understood that the health of Lady Wade is the reason for this determination. The choice of Florence as their future home will, it is hoped, realise the expectation of improved health to Lady Wade, and admit of a prolonged and happy life to both.

Jan. 28th.

LIVERPOOL.

(From our own Correspondent.)

Liverpool Northern Hospital.

The annual meeting of the subscribers to this charity was held in the town-hall on Jan. 19th, under the presidency of the Lord Mayor. The report states that the work of the hospital has been satisfactorily carried on during the year 1897. The hospital contains 155 beds. The number of in-patients attended to amounted to 1437; the out-patients numbered 6444, involving 18,146 attendances. The ordinary expenditure reached £7110 19*s*. 7*d*., against £6519 5*s*. 9*d*. in 1896. There is a balance of £1169 8*s*. 9*d*. owing to the bankers. The outstanding liabilities were £782 16*s*. 3*d*., against £862 4*s*. in 1896. The receipts from all sources have been £6767 16*s*. 11*d*., and were derived as follows:—Legacies, £1290 15*s*. 1*d*.; donations, £524 8*s*. 4*d*.; Hospital Saturday and Sunday Fund, £1482; subscriptions £1857 6*s*. 7*d*.; other sources £1613·6*s*. 11*d*. The convalescent fund continues to be of great value and enables the committee to send patients to convalescent institutions as a means of hastening their recovery. The horse ambulance, introduced in the year 1883 at the instance of Mr. Joynson and claimed to be the first institution of the kind in the United Kingdom, continues to be of the greatest service to the public. The nursing institution in connexion with the hospital has proved of great value both to the hospital and the general public. The nurses receive excellent training and none but those fully competent are sent out. The work of the new hospital is progressing favourably, and it is hoped that the new nurses' home may be ready for occupation in the course of a few months. It is satisfactory to find that the appeal of the committee for a special fund for the new hospital has been liberally responded to. Of the £40,000 asked for £39,938 2*s*. 7*d*. have been received, including a grant of £10,000 from the corporation of Liverpool. After purchasing the site, furnishing the new hospital, transferring £4000 against the accumulated debt, and investing £8417 11*s*. 6*d*. for maintenance there was a balance at the bankers' of £9600 19*s*. 11*d*.

Liverpool Northern Hospital—Commemoration Banquet.

The approaching demolition of the old Liverpool Northern Hospital to give place to the new building in course of erection suggested the idea of holding a gathering of past and present residents and honorary medical officers with the object of visiting for the last time an institution associated in the minds of so many with pleasant and interesting reminiscences. A banquet was decided upon as the fittest mode of commemorating this event. Old members of the honorary and resident staffs—physicians and surgeons from all parts of England many of whom have risen to eminence—evinced their sympathy with the object by coming from long distances. The banquet, which took place on Saturday, Jan. 22nd, at the Exchange Station Hotel under the presidency of Dr. Frederick T. Roberts, of University College Hospital, London, a former resident at the Northern Hospital, fully justified the promoters in anticipating a successful gathering. Sixty-six gentlemen sat down to dinner, including Mr. Reginald Harrison

(London), a former resident, Dr. E. H. Dickinson. Mr. Chauncy Puzey, Dr. James Barr. Dr. T. R. Bradshaw, Dr. Macfie Campbell (president of the Liverpool Medical Institution), Dr. T. R. Glynn, Dr. R. Caton, Fleet-Surgeon Lyon Vasey, Brigade-Surgeon-Lieutenant-Colonel Oldham, Brigade-Surgeon-Lieutenant-Colonel Norris, Dr. J. H. Finegan, Colonel Macfie, C.B., Mr. Louis S. Cohen (one of the David Lewis trustees), and Mr. J. E. Sheppard (chairman of the committee of the Northern Hospital). After the toast of "The Queen" had been duly honoured the chairman proposed the toast of "The Northern Hospital" in an able speech, relating many amusing incidences which had happened when he resided at the hospital. He laid special stress on the many opportunities and the wide field of experience afforded by the central position of the hospital on a populous and "fighting" neighbourhood, its proximity to the docks where accidents so frequently occurred being particularly favourable to the acquisition of surgical knowledge. In 1863, when quite a young man, he was appointed junior house surgeon with charge of medical cases and two years later, to the disapproval of the local press on account of his youth, became honorary physician, a post which he held till 1869, when he removed to London. He also made amusing reference to the little "tiffs" with the house committee and their jealousies towards the medical staff—frictions which he was delighted to hear were now a thing of the past and he had much pleasure in congratulating the medical and lay element of the hospital upon being such a happy family. He paid a special tribute to the nurses of former days, a much abused body who, though not by any means so highly trained and refined as those of the existing system, were nevertheless a devoted and sympathetic class of women, and he particularly wished to say a few kind words on their behalf. He would also like to record his thanks and gratitude to Dr. A. T. H. Waters, an old physician to the hospital and latterly the senior physician to the Liverpool Royal Infirmary, for many acts of kindness and consideration shown to him when a young man. He was delighted to have seen the progress made in the erection of the new hospital which was being constructed on the most modern lines; at the same time he could not repress a regretful feeling at the demolition of the dear old building of happy memory. The toast was responded to by Mr. J. E. Sheppard, the chairman of the hospital committee, who endorsed Dr. Roberts's statement of the kindly relations now existing between the committee and the medical staff. The toast of "The Honorary Staff, Past and Present," proposed by Dr. W. Permewan, a former house surgeon, was replied to by Dr. Glynn, Dr. E. H. Dickinson, and Mr. Chauncy Puzey, the last-named receiving an ovation. Mr. Reginald Harrison and Mr. F. Pearce replied for "The Residents, Past and Present." Colonel Macfie, C.B., proposed the toast of "The Nursing and Permanent Staffs," which was duly replied to by Mr. J. Unsworth, the secretary of the hospital. The musical portion of the programme was well rendered by the present resident staff as well as by a string band, and Dr. Roberts by special request sang the "Death of Nelson," which evoked much applause.

Death of Dr. Charles Hayes Higgins, of Birkenhead.

The death occurred on Jan. 14th, at the age of eighty-six years, of Dr. C. H. Higgins, the oldest medical practitioner in Birkenhead. He was the eldest son of the late Colonel Higgins, of the Honourable East India Company's Service. He received his medical education at Bristol, Guy's, Paris, and Edinburgh. He was elected to the honorary fellowship of the Royal College of Surgeons of England in 1844 and subsequently graduated at the University of St. Andrews as M.D. He filled several offices in connexion with the medical charities of Birkenhead and district, amongst which were the honorary surgeoncy to the Birkenhead Borough Hospital and the physiciancy to the Birkenhead Eye and Ear Hospital and Dispensary. He was formerly president of the Birkenhead Medical Society. He was an enthusiastic volunteer, holding at one time the rank of surgeon-major in the 1st Cheshire Engineer Volunteers. He contributed several interesting communications to the medical press.

Jan. 25th.

GIFT TO THE NEW INFIRMARY, PAISLEY.—Mr. James Coats, jun., of Ferguslie House, has offered to completely equip a room in the infirmary for pathological work, an offer which the Infirmary Board has accepted.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh University.

AT a meeting of the University Court held on Monday, Jan. 17th, Dr. A. G. Miller (Edinburgh) was appointed additional examiner in clinical surgery for a period of two years. At the same meeting it was intimated that a donation of £1000 had been made by Sir William Priestley, M.P. for the University of St. Andrews and the University of Edinburgh, towards the cost of re-decorating the library hall. The donation was gratefully accepted.

The Cameron Prize.

This prize, which is open for competition annually to any person who in the previous five years has made any "highly important and valuable additions to practical therapeutics," has been awarded to Professor Thomas R. Fraser, F.R.S., in recognition of work done by him in connexion with the therapeutics of strophanthus.

Edinburgh Royal Infirmary.

On Monday, Jan. 17th, a meeting of the contributors to the Royal Infirmary was held to receive the managers' report for the past year. The cases treated to a termination during the year numbered 8999. The ordinary receipts for the year were practically the same as for the previous year, the expenditure, however, showing an increase of £1803. The extraordinary expenditure amounted to £4764, that sum having been expended on the new pathological department, electric light, alterations in operating theatres, &c. Under the extension fund there was an expenditure of £6898, chiefly for the new laundry. The estimated cost of the new pavilion, including the electric lighting and heating apparatus, was £39,000 Mr. Haldane, in moving the adoption of the report, stated that the managers contemplated the erection of two additional pavilions, one for ophthalmic diseases and the other mainly for diseases of the skin.

The Longmore Hospital for Incurables, Edinburgh.

On Monday, Jan. 24th, the annual meeting in connexion with the Royal Association for Incurables was held in this hospital. The report stated that the additions and alterations at present in progress would probably be completed in the summer. The additional expenditure which would be necessary after the opening of these additions would be £1250 per annum. The report pointed out the necessity for an increase in the subscriptions, especially from other parts of Scotland than Edinburgh, the patients being drawn from all parts of the country.

Edinburgh Royal Hospital for Sick Children.

Mr. Harold J. Stiles, F.R C.S. Edin., has been appointed surgeon to this hospital in place of Mr. Joseph Bell, F.R.C.S. Edin., who has been made a consulting surgeon.

Edinburgh Infectious Diseases Hospital.

The Edinburgh corporation are building a new infectious diseases hospital arranged on the pavilion system, with about forty separate blocks, including administrative offices, nurses' home, servants' home, &c. The committee, after a careful consideration of the various schemes of ventilating and warming—mechanical and natural—applicable to the special requirements, considered that none of them were entirely suitable, and finally decided to have a competition, open to all engineers, a premium being offered for the best scheme. Competitions of this kind are not unusual for architectural work, but this is practically the first instance of such a competition for ventilating and warming. A large number of plans were submitted, under motto, from every part of the kingdom. It is announced that the successful competitors are Messrs. Dargue, Griffiths, and Co., Limited, Lord-street, Liverpool, who have already been instructed to proceed.

Students' Conference at Glasgow.

The conference of delegates from the students' representative councils of the four universities in Scotland was continued at Glasgow University on Jan. 15th. Among the numerous subjects discussed reference was made to the "consuls" at foreign universities. The Edinburgh Students' Council had arranged that each "consul" should collect all necessary information about the classes in the university of the town where he lived, so that when a student was going abroad he could learn something about the place he intended to visit. Mr. Smart (Aberdeen) called attention to the effect which the recent regulations of the General Medical Council would have upon fifth-year students. He thought that if students were prevented from holding assistantships during their last year of medical study they would be induced to attend the university classes all the five years instead of devoting the last year to clinical work.

The Reconstruction of Glasgow Royal Infirmary.

Sketch plans showing the proposed arrangement of the new pavilions have now been prepared by the architect and have been forwarded by the subscribers' executive committee to the managers of the infirmary. They have also been submitted to the medical and surgical staffs, and there is therefore every reason to anticipate that in their final form they will meet the recognised conditions of hospital construction. It is hoped that the actual work of erection may be commenced in the course of a few months. On Jan. 19th Sir Squire Bancroft gave a series of readings from Dickens's "Christmas Carol" in aid of the reconstruction fund.

The Outbreak of Glanders in Glasgow.

The local health authorities have decided to send a deputation to the President of the Board of Agriculture to support the following recommendations adopted on the recommendation of Professor James McCall: power to licence stables, &c.; to test with mallein all studs in which glanders has by clinical evidence declared itself; to compel separation of the horses which react to mallein; to prohibit the sale of such horses and to re-test them until they cease to react to mallein.

University of Glasgow.

The court has appointed Mr. W. R. Lang, B.Sc., F.C.S., to be lecturer on organic chemistry in the university. There are to be two systematic courses, the one commencing in January and the other in April. Mr. Lang has for some years been senior assistant to Professor Ferguson.

University of Aberdeen.

The University Court of the University of Aberdeen has appointed to be additional examiner in medical jurisprudence and public health for a period of one year (in room of the late Dr. F. W. Barry) James Peter Watt, M.A. Aberd., M.B., C.M. Edin., medical officer of health for the county of Aberdeenshire; and to be additional examiner in Materia Medica for a period of three years (in room of Dr., now Professor, Stockman, University of Glasgow), Francis Warner, M.D. Lond., London Hospital Medical College.

Aberdeen University Endowment Association.

This association, which was formed at the instance of the General Council of the University of Aberdeen, has just issued an important appeal as to the most urgent wants of the University. It is proposed that the first efforts be directed towards the completion of the endowment of a professorship of history and archæology, for which an aggregate sum of £10,000 is aimed at. For this purpose the Burnett trustees are accumulating the funds under their charge, which now amount to a little over a capital sum of £5000, besides an annual revenue from land of about £40. In the second place the provision of a botanic garden and of funds for its maintenance is insisted on. A small piece of suitable ground near King's College is available. The first cost of laying out this space is put down at the figure of £200 only, and the annual expense of maintaining it with rigid economy as an open-air garden without greenhouses, estimated at £100, capitalised at thirty-three years, would amount to £3300—in all, £3500. The provision of additional funds for the administration of the University Library and for the purchase of books and the endowment of a lectureship in German is also earnestly recommended for early attention. In connexion with the library it may be added that the New Spalding Club are to permit the printing of twenty-five extra copies of the selected club publications for use by the University in establishing exchange relations with foreign academies, and that Messrs. A. King and Co., University Press, Aberdeen, have generously offered to further the scheme by supplying the extra copies of New Spalding Club books printed by them free of all charge to the University.

Jan. 25th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Taxation of District Lunatic Asylums.

IT will be remembered that an institution auxiliary to the Richmond Lunatic Asylum has been established at Portrane in the county of Dublin. The collector of county cess recently demanded its payment for the half year during which the demesne at Portrane has been in the possession of the Board of Control. The latter refused to pay the tax on two grounds—first, because the land and premises were Crown lands, being vested in commissioners appointed by the Lord-Lieutenant; and secondly, because they were of a public nature and exempt as such under the Valuation Acts. The amount in dispute was small, but the question of principle was considered of such importance that it formed the subject of an elaborate judgment by the Lord Chief Justice delivered in the Queen's Bench Division on the 24th inst. The Lord Chief Baron and Mr. Justice O'Brien, moreover, concurred with him in holding that those asylums were "in the nature of Government institutions administered and occupied by the servants of the Crown and therefore exempt from taxation."

The Royal Zoological Society of Ireland.

The annual meeting of the Royal Zoological Society of Ireland took place on the 25th inst. at the Royal College of Physicians. The report of the Council was read by the hon. secretary, Professor D. J. Cunningham, and showed that the popularity of the gardens as a place of resort was increasing, as proved by the rise in the gate receipts. In February, 1897, a deputation consisting of the Hon. Mr. Justice Boyd, Dr. C. B. Ball, and Dr. C. A. Stevenson, accompanied by Mr. Lecky, M.P., and Sir Richard Sankey, waited on Mr. Hanbury at the Treasury for the purpose of pressing the claims of the society to a grant, it being over ten years since the Science and Art Department had conferred on it the sum of £3000, long since expended in the erection of buildings and in improvements in the gardens. In last March the Aquarium House was formally reopened by Her Excellency the Countess Cadogan. The committee, headed by Dr. Samuel Gordon and Lord Powerscourt, having for its object the erection of a memorial building to bear the name of the former hon. secretary of the society, the late Dr. Samuel Haughton, has received much public sympathy and support. It is to be hoped that the memorial will be worthy of its subject.

Mater Misericordiæ Hospital, Dublin.

The members of the resident medical staff of the Mater Misericordiæ Hospital held their annual dinner on the 18th inst. when about fifty guests were entertained. Mr. T. B. Kerr, M.B. Dub., senior house surgeon, occupied the chair.

Hospital Sunday in Dublin.

The list of subscriptions from the churches of all the Protestant denominations to the hospitals of Dublin for the year 1897 has just appeared. The morning of Hospital Sunday in November was most unpropitious and the state of the weather doubtless affected the fund injuriously. The total (£4364), however, proves that there is still a liberal and generous public who are interested in the hospitals.

Death of Robert Abraham, M.D. R.U.I.

I regret to announce the death of Dr. Abraham, of Aughnacloy, co. Tyrone, which occurred at his brother's residence, Belfast, on Jan. 14th. Dr. Abraham studied at Belfast and Dublin and graduated M.D. of the Royal University in 1885. He was also a Licentiate of the Royal College of Physicians and Surgeons of Ireland. Dr. Abraham practised most successfully at his native place (Aughnacloy), where he was medical officer of the Ballymagran Dispensary and medical attendant of the Royal Irish Constabulary. He was most popular with his patients and his funeral on Jan. 17th was largely attended, especially by the poor, by whom he was much liked.

The Royal Victoria Hospital, Belfast.

At a special meeting of the City Corporation of Belfast on Jan. 19th the following resolution, which was passed on Dec. 22nd, 1897, was unanimously confirmed: "That a Bill to authorise the commissioners for general control and correspondence and for the superintending and directing the erection, establishment, and regulation of asylums for the lunatic poor of Ireland, to transfer certain lands for hospital purposes to the Corporation of Belfast and to the trustees of the Royal Victoria Hospital, Belfast, be promoted in Parliament in the ensuing session, and we determine that the costs and expenses attending the promotion of such Bill shall be defrayed out of the general purposes fund or rate."

The Forster Green Consumption Hospital, Belfast.

At a meeting of the subscribers of this hospital held on Jan. 21st it was reported that there had been 57 intern and 544 extern patients during the year. The new hospital at Fortbreda was opened on Oct. 30th, 1897, for inspection and a few days later the patients were removed from the old building in Fisherwick-place, Belfast, to the present beautiful hospital. The receipts for current expenses amount to £827 15*s.* 4*d.*, against an expenditure of £825 8*s.* 7*d.* The contributions last year to the Endowment Fund were £755. At the meeting the very pleasing announcement was made that Mr. Forster Green (who was present) had given a cheque in the name of the treasurer for £5238 to wipe off the whole of the building debt This last and most princely gift makes Mr. Green's total contributions to this hospital reach a sum of nearly £19,000. Mr. Forster Green is indeed the "father and helper of the Consumption Hospital" and he has proved himself to be the most generous contributor to hospitals in Belfast. He is a member of the Society of Friends.

The Water-supply of Belfast.

At the meeting of the Commissioners on Jan. 20th in Belfast a most important discussion took place in reference to the water-supply of that city. At present there is about 220 days' supply for the city and districts, but owing to the very rapid increase in the population and the continued erection and occupation of new buildings, in addition to the recent extension of the city boundary, it is doubtful whether there may not be difficulty in supplying the inhabitants with an adequate quantity of water. During the past twelve months domestic supplies of water have been granted to 3502 new houses, as well as building supplies to 3018 new buildings and special quantities for 331 trade purposes. As a result thirteen miles of new mains were laid and during the coming year many more will be needed to meet the requirements of the extended city boundary. Should, however, a spell of dry weather set in before the first instalment of water from the new Mourne source is available there might be great difficulty in supplying the inhabitants; hence extreme care must be taken in preventing any waste of water, and there is a strong feeling in Belfast that the Commissioners should push on rapidly with the necessary works to bring the new supply soon to Belfast. At present it is thought it will be several years before this new source is available and at the meeting on Jan. 20th some criticism was made as to why the new reservoir in the Silent Valley was not proceeded with. The chairman said it would not be constructed at present as it would cost £300,000. It is hinted in the district that the place selected is so porous in its nature that it has been found very difficult to construct a reservoir there.

Outbreak of Influenza.

At present there is a widespread epidemic of influenza in Belfast, but although a great many have been attacked the type of the disease is, as a rule, mild and there is much less after-depression than in former years.

Jan. 25th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Therapeutic Use of Salts of Silver in the Treatment of Diseases of the Eye.

AT the meeting of the Academy of Medicine held on Jan. 11th M. Darier stated that in purulent ophthalmia, and indeed, in all conditions affecting the secretory functions of the conjunctiva, nitrate of silver is recognised, so to speak, as a specific, but that its action is somewhat too caustic. He therefore proposed to use instead some salts or combinations of silver of an organic nature, for these, owing to their penetrating and highly antiseptic properties, gave just as good results as the nitrate without giving rise to the pain and the violent reactions which accompany this latter salt. Protargol, a combination of silver with protein, seems superior to every other salt of silver. It has great penetrative power and is strongly bactericidal, it is not irritating, and solutions of it will keep for a long time without undergoing any change. It is not precipitated from its solutions by either albumins or alkalies. It can be used in combination with cocaine, a method which seems to open up a new field in the therapeutics of conjunctival affections.

The Case of M. Heim.

The appeal in this case, referred to in my letter which appeared in THE LANCET of Jan. 1st, was to have been heard before the Superior Council of Public Instruction upon Jan. 15th. The press has begun a violent campaign in M. Heim's favour owing to certain personal animosities which have come to light. The appeal, however, was not heard, for the Council decided to remit the hearing until next session—i.e., six months hence—M. Heim having entered some new facts in his favour since the first hearing.

The Serum Therapeutics of Leprosy.

At the meeting of the Academy of Medicine held on Jan. 11th M. Hallopeau read a paper on the work of M. Olaya Laverde dealing with a new sero-therapeutic treatment of leprosy. M. Laverde rubbed down some leprous tubercles with sterilised water and injected the fluid thus obtained. He found the patients thus treated improved both rapidly and in a considerable degree. The commission appointed to examine these results came to the conclusion that this new method of treatment was quite worth following up and that there seemed every reason to hope that it would not add one more to the many therapeutic illusions which have so often come to light in connexion with leprosy.

The Surgical Treatment of Profuse Hæmorrhage in Diffuse Ulceration of the Stomach.

At the meeting of the Academy of Medicine held on Jan. 18th M. Dieulafoy made an important communication of which the following is an abstract. One of his patients was seized with a very profuse hæmorrhage and lost in the course of thirty hours between four and five litres of blood. A gastric ulcer was suspected, but at the post mortem examination there was found not the ordinary circular ulcer but a general ulcerated condition though of a very superficial nature. Another patient, aged twenty-two years, was also suddenly seized with hæmatemesis and was promptly admitted to hospital, where M. Cazin performed laparotomy. Upon opening the stomach he found not an ordinary gastric ulcer but a superficially ulcerated patch the size of a penny. He pulled up the ulcerated mucous membrane into a fold, ligatured it, and the patient recovered perfectly. Altogether M. Dieulafoy is aware of seven cases of this kind of ulceration. It is well known that besides the simple ulcer described by Cruveilhier there may exist in the stomach a condition of very superficial loss of the substance of its walls, which is the initial phase of an ulcer and which may be followed by the gravest consequences. There is often no suspicion of anything being amiss until the occurrence of a sudden and profuse hæmorrhage. Any patient who vomits half a litre or a litre of blood at one time, especially if the hæmorrhage returns within twenty-four hours, will surely die if not operated on without a moment's delay. If the surgeon does not find an ordinary ulcer he will find a superficially ulcerated patch and should by all means attempt to ligature this bleeding region.

The Organisation for Disinfection in Paris.

M. Landrin has laid before the Municipal Council a report upon the results shown by the municipal organisation for disinfection. From this report it appears that in seven years with a staff which numbers eighty people the organisation has carried out in Paris more than 171,000 disinfections, the annual average being at present nearly 40,000. In 1886, before the service was organised, there died in Paris nearly 6000 persons carried off by epidemic diseases. Ten years afterwards, in 1896, the numbers, which had been gradually falling, fell to below 2000, that is to say, that three or four thousand human lives were saved every year. Without doubt the works which have been carried out of bringing water straight from the springs have contributed greatly to the amelioration of the sanitary condition of Paris, but disinfection has also played a large part. The total mortality, which was 54,536 in 1892, the date at which the disinfecting service was first organised, fell in 1897 to 46 987, that is to say, an average of 18·54 *per* 1000 inhabitants in place of 22·47. The principal part of this very considerable diminution in the mortality of Paris is accounted for chiefly by the diminution in zymotic diseases. The mortality from these diseases, which was formerly one-tenth of the whole, fell gradually to one-eighteenth between 1891 and 1895, one-twenty-sixth in 1896, and one-twenty-seventh in 1897. Enteric fever in 1892 accounted for 691 deaths and in 1897 for 231. In 1892 there were 42 deaths from small-pox and only 12 in 1897. In 1892 there were 909 cases of measles and only 811 in 1897. The deaths from scarletfever, which were 158 in 1892, fell to 76 in 1897. There were 334 cases of whooping-cough in 1892 and only 282 in 1897. Finally, diphtheria, which gave rise to 1403 deaths in 1892, was the cause of only 306 in 1897. M. Landrin observed that tuberculosis remained stationary because prophylaxis against this terrible disease, which is accountable for a quarter of the whole mortality, is not yet a definite part of our social system. He reminded his audience that both the municipal council and the Government are ready to make a great effort to fight against tuberculosis. In addition to the measures taken in hospitals and the system of treating the poor at their own homes, as well as those unfortunates who are under the care of the Assistance Publique, measures were taken during 1897 by the municipal disinfecting organisation with the view of carrying out a more complete and methodical campaign against tuberculosis. The report concludes with the recommendation that measles, which is to-day one of the most fatal zymotics, should be made a compulsorily notifiable disease under the regulation of Nov. 30th, 1892.

Jan. 24th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Researches on Cholera Antitoxin.

PROFESSOR PFEIFFER and Dr. Marx, of the Institution for Infectious Diseases in Berlin, have published the following preliminary communication in the last number of the *Deutsche Medicinische Wochenschrift*. 1. In rabbits a single subcutaneous injection of cultures of cholera bacillus in which the organisms have been killed causes the development of powerful bactericidal substances in the blood. 2. The same is the case when cultures of enteric fever bacilli are injected. 3. Antitoxic substances were not discovered in the leucocytes. 4. After the discovery of the toxophoric cells in the spinal substance by Professor Ehrlich the organs of immunised animals were examined as to the quantity of antitoxin present. 5. Blood, serum, cerebral substance, spinal substance lymphatic glands, salivary glands, liver, lungs, kidneys, muscles, spleen, and bone marrow were examined. The antitoxic action of the blood was the most marked of all, but a considerable quantity of antitoxin was also present in the bone marrow, in the lymphatic glands, and especially in the spleen. In two instances the immunising values of the spleen were respectively twice and four times greater than that of the blood serum. 6. The antitoxins contained in the spleen are easily soluble in water. 7. The above facts prove that these organs are the places where the specific antitoxins of cholera are found. A detailed communication on the above subjects will soon appear in the German *Journal of Hygiene and Infectious Diseases*.

Skiagraphy in Diseases of the Stomach and Intestines.

In the *Deutsche Medicinische Wochenschrift* Dr. Boas and Dr. Levy-Dorn, of Berlin, have described a new method of skiagraphical observation of the gastro-intestinal canal. They point out that attempts to observe the stomach by aid of the x rays have been made ever since Roentgen's discovery was announced, but neither the filling of the stomach with solutions which obstruct the rays nor the introduction of metallic probes through the œsophagus have succeeded in giving useful results. For the skiagraphic exploration of the intestines no method at all has hitherto been invented. Dr. Boas and Dr. Levy-Dorn have now succeeded in discovering a way of ascertaining the position of the fundus of the stomach, the existence of stenosis of the pylorus and the intestines and the amount of contractility possessed by the gastric and intestinal muscles. The principle of this method is that a capsule of gelatin filled with metallic bismuth and covered with celluloid is swallowed by the patient. The bismuth being opaque to the x rays and the celluloid not soluble in the gastric and intestinal juices the position of the capsule may be seen on the fluorescent screen without photography during its way from the stomach to the anus. In the great majority of cases the capsule was seen on the great curvature of the stomach or in the cæcum near the ileo-cæcal valve. Through the other parts of the intestines it obviously passes so quickly that very frequent observations are necessary to ascertain its position. After twenty-four hours as a rule the capsule was found in the cæcum. In cases of pyloric stenosis the capsule generally remains several days in the stomach, a fact of great diagnostic value. When there is no stenosis present the capsule as a rule is passed in the fæces in from two to six days. The method may be applied in cases of intestinal stenosis also, but it is a drawback that the capsule is not soluble, so that if it is unable to pass through the stenosis an immediate operation must be performed. Dr. Boas and Dr. Levy-Dorn intend to use capsules which are insoluble in the gastro-intestinal juices but may be dissolved by chemical agents.

The Medical Courts of Honour.

The question of medical courts of honour, to which allusion has already been made in these columns,[1] has entered on a new stage. It will be remembered that the propositions of the Government were twice discussed in the medical chambers. The first Bill was amended by these bodies and was subsequently, on the desire of the Government, considered by them a second time. Nearly all the provincial chambers declared their adhesion to the opinion which they had expressed at first, and the Berlin chamber even refused to discuss the Bill over again. The Minister of Public Instruction, Dr. Bosse, to whose department medical questions in Prussia belong, has now written to the conjoint committee of the medical chambers a long letter which has nearly the form of an ultimatum. Dr. Bosse points out that it was in consequence of the wishes expressed by the representatives of the medical profession that the Government had agreed to this Bill. He says that the Government itself has no interest in this matter and will certainly drop the Bill if the chambers persist in their hostile attitude. He warns them that the laws against unqualified practice so urgently desired by their constituents will not be enacted and that other measures intended to improve the social condition of the profession will not be considered apart from legislation on ethical misdemeanours. The Minister then goes through each of the amendments of the medical chambers. One of the features of the Bill was that army medical officers and civilian medical officers in the Government service were exempted from the jurisdiction of the medical courts of honour. This section, which was one of the principal points of controversy between the Government and the medical profession, is expressly and definitively maintained by Dr. Boose. On the other hand the Minister agrees with the opinion of the chambers that a verdict of guilty ought not to be delivered unless two-thirds of the members of the court are in favour of it; in the original Bill, however, an absolute majority was sufficient. Another very important question is whether a medical man shall be held responsible for things not directly connected with his professional duties. The medical chambers have asked that the courts of honour shall only be required to censure the professional misdemeanours of a practitioner, whilst the Government desires that the behaviour of a medical man both in and out of professional life shall be subjected to their jurisdiction. As a provision of this kind may easily bring about prosecutions for political and other reasons the whole Bill will possibly be refused when the Government insists. The right of appeal which the chambers wished to be exclusively the privilege of the defendant will, according to the desire of the Government, be given to the prosecutor too. The original Bill proposed that the court of appeal should consist of the director and three members of the medical department and three members of the medical profession, but the committee of the medical chambers are desirous that it shall be composed of members of the chambers exclusively. Since the letter of the Minister has been published a very animated discussion has arisen in the lay and medical press. It is at present impossible to say what the fate of the Bill will be. If the Government chooses to disregard the wishes of the representatives of the profession and brings the Bill before Parliament it is certain to be passed. Unlike the French Parliament, where there are a good many members belonging to the medical profession, the German Parliament has only a very few medical members and the same is the case in the Prussian Diet. The medical papers naturally call attention to the disadvantage at which medical men are thereby placed and demand that in the forthcoming elections more attention shall be paid to their interests so as to avoid legislation which is not in accordance with the requirements of the profession.

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[1] THE LANCET, 1896 ,vol. i., p. 1178, and vol. ii., p. 1856.

Jan. 25th.

ROME.

(From our own Correspondent.)

The Bread Riots.

"Oh, God, that bread should be so dear, And flesh and blood so cheap"—the bitter cry of Hood's seamstress in the "Song of the Shirt"—is finding an echo all through Italy, particularly in the Adriatic communes where flour stores and bakers' shops have been sacked, the municipal authorities put in terror of their lives, and tranquility restored only by the military arm. The rise in the price of grain has had a corresponding effect on that of bread, at a time, too, when "miseria" is intensified by lack of work and when in all the great cities, nowhere more than in Rome, the ranks of mendicancy are reinforced by robust men and well-built youths importuning the public for charity because "da due giorni non hanno assaggiato cibo" (for two days they have not tasted food). The spectacle is a harrowing and also an ominous one and something very like panic has seized the Government and prefects alike. Measures in defiance of all fiscal necessity have had to be adopted to meet the aggressive mendicancy now patrolling the thoroughfares. Florence, for instance, has taken the initiative in lightening or temporarily removing the octroi duty on grain and in distributing bread gratuitously. Nor is the medical philanthropist idle. Professor Celli, who holds the chair of Hygiene in Rome, has been instructing the baking fraternity as to how to turn out a loaf yielding the maximum of nutriment at the minimum of cost. But all this endeavour, laudable as it is, can make small head against the "fons et origo" of Italy's misfortunes—the maintenance of a combatant force by land and sea out of all proportion to her means. Her people suffer in consequence from every kind of privation, mental nutrition being as badly provided for as physical. The schools of the lower grades are badly equipped, their teachers underpaid, and their accommodation open to every sanitary objection. Her higher education, her whole academic system, is conducted on "half-rations," no faculty more than the medical feeling the want of well-appointed clinical and experimental *locales*. Minister after Minister of Public Instruction has to meet the pathetic appeal of university after university for extended hospital and laboratory accommodation with a monotonous "non possumus" till the annual debate on the budget of Public Instruction has come to be an interchange of passionate petition on the one side and of protesting official impotence on the other. The State's impoverished resources are further aggravated by the frequent change of administration. "Solution of continuity," in the old surgical phrase, interrupts the salutary programme of this or that Minister often in sight of the goal. No one is more cognisant of this than Dr. Guido Baccelli, whose far-reaching projects of academic reform have never surmounted the stage of "first-reading." Interviewed the other day by the representatives of a Neapolitan journal the medical statesman recapitulated the schemes, scholastic and academic, with which his name is identified and passed on to the agricultural question, which, if solved aright with the coöperation of science and the practical recognition of Italy's magnificent natural resources, would tend to make the periodical bread riots from which she suffers a nightmare of the past. Had his Excellency been adequately seconded when in office we should have had "cattedre agricole ambulanti" (agricultural chairs on circuit) to bring the farmer and even the "contadino" (peasant) up to the capacity of his French or Swiss counterpart for extracting wealth from the soil. There is, however, one innovation to which Dr. Baccelli will not lend himself and that is the exclusion of English-speaking practitioners from Italy if unprovided with an Italian diploma. Significantly enough, the agitation in that sense is "hanging fire," forgotten in this other agitation which has its origin in the "pecuniary anæmia" for which the English-speaking world brings the most efficacious of remedies.

Horned Cattle and the Plague.

The Direzione di Sanità in Rome has been receiving urgent demands as to whether, in consequence of the recrudescence of the pestis bubonica in the Bombay Presidency, the importation of hides from India will be once more prohibited. Fortunately science has come to the rescue of an industry which Italy can ill afford to see suspended or paralysed and the Direzione is enabled to meet these demands with a reply in the negative. Experiments in Italian laboratories, checked by similar experiments in those of Germany and summarised for official use by Dr. Luigi Pagliani, Professor of Hygiene in the University of Turin, have put it beyond a doubt that "bovini" (horned cattle) are not liable to the pestis and that *a fortiori* their hides, particularly in the dressed state ("pelli da concia"), cannot be supposed to convey the infection.

Jan. 23rd.

Medical News.

Society of Apothecaries of London.—The following candidates have passed in the subjects indicated:—

Surgery.—J. Buckley (Section I.), Manchester; W. J. H. Dawson, St. Thomas's Hospital; J. H. C. Fegan, Charing-cross Hospital; H. F. Forty, Middlesex Hospital; E. J. Gruchy, London Hospital; S. E. H. Martin, Royal Free Hospital; and G. C. Walker, Liverpool.

Medicine.—J. Buckley (Section I.), Manchester; J. B. Cautley (Section I.), St. Bartholomew's Hospital; W. F. Chrispin, Leeds; H. C. Cooper, St. George's Hospital; G. J. D. Davies, Leeds; G. M. F. Pereira, Calcutta and Royal Free Hospital; T. B. Sellors, Middlesex Hospital; C. H. St. M. W. Toke, St. George's Hospital; and J. H. Wilson, Middlesex Hospital.

Forensic Medicine.—J. Buckley, Manchester; J. B. Cautley, St. Bartholomew's Hospital; J. H. Chambers, Manchester; H. C. Cooper, St. George's Hospital; G. J. D. Davies, Leeds; W. J. Henson, Guy's Hospital; G. M. F. Pereira, Calcutta and Royal Free Hospital; T. B. Sellors, Middlesex Hospital; and C. H. St. M. W. Toke, St. George's Hospital.

Midwifery.—W. F. Chrispin, Leeds; R. A. Lewty, Leeds and St. Mary's Hospital; H. T. L. Roberts, St. Mary's Hospital; J. Spencer, Leeds; and J. H. Wilson, Middlesex Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery: Messrs. J. H. Chambers, W. F. Chrispin, W. J. H. Dawson, J. H. C. Fegan, J. Spencer, G. C. Walker, and J. H. Wilson, and Miss S. E. H. Martin.

Hunterian Society of London.—A pathological meeting of this society was held at the London Institution on Jan. 12th, Dr. F. Charlewood Turner being in the chair.—Mr. Targett showed a specimen of unusual Rupture of the Uterus.—Dr. Keith exhibited, for Dr. F. J. Smith, the Heart of a Boy which showed incomplete closure of the ventricular septum in its upper portion associated with pulmonary stenosis.—Dr. F. J. Smith exhibited (1) a Stonemason's Lung in which there were multiple papillomata associated with great rigidity of the bronchial tubes; (2) a Suprarenal Capsule into which hæmorrhage had taken place, the patient dying from septicæmia; and (3) a Colon the surface of which was slaty black and granular with curious nodular swellings; the symptoms were those of chronic dysentery.—Dr. Dawson showed a specimen of Dilated Bronchial Tubes of a few months' standing in a case of aneurysm of the first part of the aorta.—Dr. Arthur Davies exhibited the Heart taken from a case of phthisis in which the free edge of the mitral valve was thickened from old mischief and attached to it were two large deposits of firm lymph, each of about the size of half a shelled walnut and partly blocking the orifice. There was no sign of ulceration of the endocardium. The weight was six ounces. There was ulceration of the large intestine throughout the entire length. The kidneys were large with almost white cortices.—Dr. Fortescue Fox showed a microscopic specimen of Carcinoma of the Pylorus in which the points of interest had been the difficulty of diagnosis and the formation of an abscess in connexion with the malignant disease.—Mr. A. H. Tubby exhibited a specimen of Inveterate Congenital Talipes Equino-varus which he had successfully removed by amputation six inches below the knee-joint.—Remarks on the case were made by the Vice-President, Dr. Best, and Dr. J. H. Sequeira.

THE SANITARY INSTITUTE.—The Council have accepted an invitation from the Lord Mayor and City Council of Birmingham to hold its seventeenth congress and exhibition in that city in September next.

HEALTH OF CORNWALL.—The Sanitary Committee of the Cornwall County Council report that the cases notified during December under the Infectious Diseases Act amounted to 205 against 85 in November. This is due to the typhoid fever epidemic at Camborne, the cause of which is at present being investigated by the Local Government Board inspector.

SALISBURY DISPENSARY.—The annual meeting of the Salisbury Dispensary was held on Jan 15th under the presidency of Archdeacon Lear. The report showed that the institution was in a satisfactory position. The number of provident members was 8349, an increase of seven on the year. The payments amounted to £1254, being £731 for the Salisbury district and £523 for the outlying districts.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 19th, Dr. Cattle, President, being in the chair.—Dr. Waring read a paper on Uterine Toilette. Intra-uterine treatment in cases of septic endometritis was generally discussed, special attention being drawn to the advantages of packing the uterus with iodoform gauzes soaked in iodoform emulsion as a means not only of encouraging drainage, but also on account of its promoting a healthy restoration on cicatrisation of the endometrium. The influences of intra-uterine treatment with gauze packing upon peri-uterine inflammatory conditions was emphasised and cases of acute septic endometritis associated with parametritis and perimetritis were quoted in which treatment by curetting and subsequent application of antiseptics and gauze packing had been followed by a rapid subsidence of the inflammatory conditions.—Dr. Cattle, Dr. Wood, Dr. Hunter, Dr. Willis, Dr. Mutch, Mr. Anderson, and Dr. Tresidder spoke, and Dr. Waring replied.

LITERARY INTELLIGENCE.—Mr. Young J. Pentland, Teviot-place, Edinburgh, and 38, West Smithfield, E.C., will shortly publish the first volume of a Text-book of Physiology, edited by Professor E. A. Schäfer, of University College. It contains 996 pages royal octavo, with three coloured plates and 92 figures in the text. The price is 24*s*. It is divided into seventeen sections, the authors of which are Dr. W. D. Halliburton, Professor Schäfer, Dr. Arthur Gamgee, Dr. E. Waymouth Reid, Dr. E. H. Starling, Mr. B Moore, Mr. J. N. Langley, Dr. J. S. Edkins, Dr. F. Gowland Hopkins, and Dr. M. S. Pembrey. Mr. Pentland also announces the contents of the second volume, which will complete the work.—The fourth new and popular edition of "The Care of the Sick at Home and in the Hospital: a Handbook for Families and for Nurses," by the late Dr. Th. Billroth, is in the press and will shortly be ready for issue. The translation by J. Bentall Endean was specially authorised by Dr. Billroth and the new edition has been revised and enlarged. It will be published by Messrs. Sampson Low, Marston and Co.

PRESENTATIONS TO MEDICAL MEN.—On the afternoon of Wednesday, the 19th inst., Thomas Easton, M.D. Edin., Stranraer, N.B., was made the recipient of a testimonial on the occasion of his leaving the district. The presentation took the form of a silver salver bearing a suitable inscription, accompanied by a cheque representing about £100, and was made at a cake and wine banquet presided over by Provost MacRobert. The utmost regret was expressed at Dr. Easton leaving the district in which he had held the leading practice for nearly thirteen years. Dr. Easton acknowledged the kindness of his many friends and intimated that he was about to set out on a voyage round the world for his health, but stated that the presentation and good wishes expressed would be an encouragement to him in whatever sphere of life he might hereafter move.—Mr. D. B. Foley, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., of Barnsley-road, Wombwell, Barnsley, was the recipient on the 20th inst. from the members of the Wombwell centre of the St. John Ambulance Association of a marble timepiece and bronze ornaments.—At the distribution of prizes in connexion with the Dudley and Stourbridge centres of the St. John Ambulance Association, held at the Town Hall, Dudley, on Jan. 24th Mr. J. H. Wilkinson, L.R.C.P. Lond., M.R.C.S. Eng., the honorary instructor, was presented by the ambulance classes with a silver paper-knife.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—The following candidates, having passed the Examination for Membership of the Royal College of Physicians of Ireland, were admitted as Members on Friday, the 14th inst.: James Byrne Coleman, M.D. R U.I., and Francis Charles Martley, M.B. Cantab.

SUPERANNUATION ALLOWANCE. — Mr. Richard Greene, F.R C.P., L.R.C.S. Edin., for twenty years medical superintendent of the County Asylum at Berry Wood, near Northampton, has been granted by the Northampton County Council a retiring pension of £850 a year.

VACCINATION IN THE BARTON REGIS (BRISTOL) UNION.—At the meeting of the Barton Regis Board of Guardians held on Jan. 14th the quarterly report of the vaccination officer which was read stated that there were 145 defaulters under the Vaccination Act against 205 last quarter. Of this latter number 66 had sent in the statutory declaration and 13 were fined.

THE BATHS OF BATH.—At a meeting of the Baths Committee of Bath held on Jan. 21st a resolution was passed expressing great satisfaction with the result of the mayor's conference with the members of the medical profession practising in the city and inviting them to form an advisory body to whom such medical questions connected with the management of the baths as may be deemed advisable can be referred by the Baths Committee.

BRADFORD AND DISTRICT MEDICO-ETHICAL SOCIETY.—The annual meeting of this society was held on Jan. 19th when the annual report and the treasurer's report were read and adopted. The treasurer's report showed that there was still a small balance in hand. The larger part of the society's income for the past year had been spent in actively promoting the interests of the profession, more particularly in taking such steps as led the School Board to withdraw its objectionable regulation "refusing to recognise certificates of unfitness to attend school supplied by medical practitioners." Dr. Hime was re-elected President for the third time. Mr. Miall was re-elected Vice-president also for the third time. Dr. Dunlop and Dr. Mackenzie were appointed honorary secretaries. Dr. March was re-elected treasurer. The following committee-men were appointed: Dr. Goyder, Dr. Bronner, Mr. Mossop, Mr. Horrocks, Dr. Althorp, and Dr. Manknell. The President delivered a brief address in which he referred to the progress made by the committee appointed to inquire into hospital abuse. He also mentioned with satisfaction that prompt and effective steps had been taken by the Medical Defence Association to inflict punishment on a Bradford daily paper for offensive references to a member of this society.

HOSPITAL REFORM ASSOCIATION.—The council of the association in presenting their first annual report congratulate the members on the progress which has been made in the promotion of hospital reform. Thirteen important meetings have been held since Oct. 1st, 1896, the date on which the association was instituted. The last six of these meetings were as follows:—(*a*) Meeting of the council in London on May 19th, 1897, when the honorary secretary announced that a memorial to the Royal College of Physicians of London had been referred for consideration to the council of that body. (*b*) Meeting of the profession at Manchester on May 25th. (*c*) Meeting of the profession at Bristol on June 16th. (*d*) Conference at St. Martin's Town Hall, London, on Oct. 21st, under the presidency of Lord Stamford. Sir Henry Burdett, Sir William Broadbent, Mr. C. S. Loch, Mr. Victor Horsley, Dr. Ward Cousins, Dr. W. P. Herringham, Dr. J. G. Glover, and others spoke at this conference and a resolution was passed asking the council to draw up a scheme of reform. (*e*) Meeting of the profession at Brighton on Nov. 5th. (*f*) Meeting of the Manchester Investigation Committee on Nov. 13th; the secretary afterwards attended a meeting of the profession at Liverpool and opened a discussion. After giving details relative to these meetings the council point out that at no previous time has the question been so much discussed by the medical and lay press as is now the case. It was entirely owing to the efforts of the association that an investigation committee was appointed to report on the Manchester medical charities. A proposal to appoint a similar committee at Brighton has not met with much encouragement from the managers of the hospitals in that town, but the large general hospitals in the metropolis have appointed a committee to draw up a scheme for the better administration of medical relief in the out-patient and casualty departments.

University of Cambridge.—Mr. Osbert Salvin, F.R.S., has been elected an honorary Fellow of Trinity Hall; Mr. Biffen, Caius, has been appointed Demonstrator of Botany; Mr. Kempson, Caius, Demonstrator of Anatomy; and Mr. Pearson, Christ's, Assistant Curator of the Herbarium. Dr. W. H. R. Rivers, St. John's, University Lecturer in Physiological Psychology, has received the degree of Master of Arts, *honoris causâ*; and the same degree has been conferred on Dr. Giles, the new Professor of Chinese. The degree of B.C. was conferred on Jan. 13th upon Mr. H. R. Langmore, M.B., St. John's. None of the candidates for the M.C. degree at the recent examination were successful. Two Shuttleworth scholarships of £55 a year for Botany and Zoology will be awarded at Caius College in March next. Candidates must be medical students of at least eight terms' standing.

Corporate and Medical Reform Committee.—At a meeting of the Executive Committee held at the residence of Dr. Tom R. Taylor, F.R.C.S. Eng., who presided, Mr. Victor Horsley's report to the registered practitioners of England and Wales was taken into consideration and the following resolutions were unanimously adopted:—1. That this committee, consisting of constituents of Mr. Horsley, thanks him for his able report published in the medical papers on the 22nd inst. 2. That Mr. Horsley is earnestly invited to employ his high talents, influence, and energy, not upon points over which our Direct Representatives can in the Council exercise no effectual control, but in coördinating the action and combining the energies of the profession in order to effect in Parliament various specified amendments to the Medical Acts. 3. That it will aid such action if Mr. Horsley will invite the support of his Direct Representative colleagues and of the corporate members in a requisition to the President to convene a meeting of the Council whereby the disposition of the individual members of the Council will be ascertained. With a vote of thanks to the chairman the meeting adjourned *sine die*.

Diphtheria in London.—The first fortnight of the present registration year showed a continuance of the declining fatality of diphtheria in London which began in the week ended on Christmas day. In that week 56 registered deaths followed 63 in the week preceding, and in the closing week of 1897 53 deaths from the disease were recorded. In the opening week of the current year, ended on Jan. 8th, the registered deaths further fell to 50, and in the next succeeding week the total was only 44. Still, this last figure was 6 in excess of the corrected decennial average and included 10 deaths in Islington, 4 in Hackney, and 3 in Bethnal-green sanitary areas. Five of the 44 deaths were of infants and 25 in the next four years of life, only one occurring of a person aged over twenty years. In the Outer Ring there were registered 10 deaths from diphtheria, of which 4 occurred in the West Ham registration district. Last week the total of registered deaths in London fell again, the figure reached being 33, and 5 below the corrected decennial average for the particular week. Of this total 3 belonged to Fulham and 3 to Shoreditch sanitary areas. All 33 deaths were of persons aged under twenty years and 25 occurred in children under the age of five years. Last Saturday there were 1045 patients still in London hospitals on account of diphtheria. There were only 7 registered deaths in the Outer Ring of the metropolis, of which 3 occurred in Tottenham registration sub-district.

BOOKS, ETC., RECEIVED.

Adlard and Son, Bartholomew-close, and 30, Hanover-square, London.

Prize Essays on Leprosy. By J. A. Thompson, M.D., D.P.H., and James Cantlie, M.B., F.R.C.S. Vol. LXII. 1897.

Baillière, J. B., et Fils, Paris.

Lexique-formulaire des Nouveautés Médicales. Par Professeur Paul Lefert. 1898.

Baillière, Tindall, and Cox, King William-street, Strand, London.

Stewart Clark: One of Nature's Noblemen. By S. E. S. C. 1898. Price 7*s.* 6*d.*

The Tallerman by Superheated Dry Air. Case Notes and Medical Reports, with Numerous Illustrations. Edited by A. Shadwell, M.A., M.B. Oxon., M.R.C.P. 1898. Price 3*s.* 6*d.* net.

Bauermeister, F., Glasgow.

Jahresbericht über die Fortschritte auf dem Gebiete der Chirurgie. Von Dr. Hildebrand. II. Jahrgang. Bericht über das Jahr 1896. Price 25*s.*

Cassell and Co., London.

The Year-Book of Treatment for 1898.

Churchill, J. & A., Great Marlborough-street, London.

St. Thomas's Hospital Reports. New Series. Edited by Dr. H. Mackenzie and Mr. G. H. Makins. Vol. XXV. 1897. Price 8*s.* 6*d.*

Text-book of Nervous Diseases. By C. L. Dana, A.M., M.D. Fourth Edition. Illustrated. 1898. Price 20*s.*

Fannin and Co., Grafton-street, Dublin.

Transactions of the Royal Academy of Medicine in Ireland. Vol. XV. Edited by J. B. Story, M.B., F.R.C.S. 1897.

Kegan Paul, Trench, Trübner, and Co., Charing-cross-road, London.

Ignorance. A Study of the Causes and Effects of Popular Thought, with some Educational Suggestions. By M. R. P. Dorman, M.A., M.B. Cantab. 1898.

Lippincott, J. B., Company, London.

Vade Mecum of Ophthalmological Therapeutics. By Dr. E. Landolt and Dr. P. Gygax. Translated by Dr. E. Neyman. 1898. Price 3*s.* 6*d.*

Fat and Blood: An Essay on the Treatment of certain Forms of Neurasthenia and Hysteria. By S. Weir Mitchell, M.D., LL.D. Harv. Seventh edition. 1898. Price 5*s.*

Longmans, Green, and Co., Paternoster-row, London.

Introduction to Chemical Methods of Clinical Diagnosis. By Dr. H. Tappeiner. Translated from the sixth German edition, with an Appendix on Micro-biological Methods of Diagnosis, by E. T. McWeeney, M.A., M.D. Irel. 1898. Price 3*s.* 6*d.*

Macmillan and Co., London.

Raid and Reform. By a Pretoria Prisoner. Alfred P. Hillier, B.A., M.D., C.M. With Two Essays on the Antiquity of Man in South Africa. 1898. Price 6*s.* net.

A Text-book of Zoology. By T. T. Parker, D.Sc., F.R.S., and William A. Haswell, M.A., D.Sc., F.R.S. In two vols. Vols. I. and II. Illustrated. 1897. Price 36*s.* net.

Methuen and Co., Essex-street, London, W.C.

Workhouses and Pauperism, and Women's Work in the Administration of the Poor Law. By Louisa Twining. 1898. Price 2*s.* 6*d.*

Segg, J. P. and Co., Regent-street, London.

Oral Surgery. By E. W. Roughton, B.S., M.D. Lond., F.R.C.S. Illustrated.

Sell, H., 167, Fleet-street, London.

Sell's Dictionary of the World's Press. 1898. Price 7*s.* 6*d.*

Thacker, Spink and Co., Calcutta.

The Pathology of Relapsing Fever. By L. J. Pisani. F.R.C.S. Eng. 1897.

The F. A. Davis Co., Philadelphia.

Elements of Latin. By G. D. Crothers, A.M., M.D., and H. H. Bice, A.M. 1898.

Outlines of Rural Hygiene. By H. B. Bashore, M.D. With an Appendix on the Normal Distribution of Chlorine, by Professor H. E. Smith. Illustrated. 1897.

Unwin, T. Fisher, Paternoster-square, London.

How to be Happy though Married: being a Handbook to Marriage. By a Graduate in the University of Matrimony. 50th thousand. 1898.

Voss, Leopold, Hamburg and Leipzig.

Atlas der Syphilis und Syphilisähnlichen Hautkrankheiten für Studirende und Aerzte. Von Dr. M. Chotzen. Hefte 5 und 6. 1897.

West, Newman and Co., Hatton-garden, London.

The Centuries: A Chronological Synopsis of History on the "Space-for-time" Method. Second edition. 1897.

Williams and Norgate, Henrietta-street, Covent-garden, London.

On Partial Stationary Cataracts. By H. Wintersteiner, M.D., English edition of Augenaerztliche Unterrichtstafeln. Edited by Professor H. Magnus. Part XI. Coloured plates, with a text.

Williams, Joseph, Great Portland-street, London, W.

The Rightly-produced Voice. By E. Davidson Palmer, Mus. Bac. Oxon. 1897. Price 2*s.* 6*d.*

Wynkoop Hallenbeck Crawford Co., State Printers, Albany and New York.

State of New York. State Commission in Lunacy. Eighth Annual Report. Oct. 1st, 1895, to Sept. 30th, 1896.

A Manuscript Document constituting Real Evidence against Irresponsibility in Intoxication, and Analysis. By A. Fournet (Swan Sonnenschein and Co., London. 1898).—New Edition of Donald Currie and Co.'s Roller Map of South Africa (Donald Currie and Co., Fenchurch-street, London. 1898).—The Physiology of Love: a Study in Stirpiculture. By H. Seymour. Illustrated (L. N. Fowler and Co., Imperial Arcade, Ludgate-circus, London. Price 1*s.*)—Dod's Parliamentary Companion, 1898 (Whittaker and Co., White-street, London. Price 4*s.* 6*d.*).—Magazines, &c., for February: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Chapman's Magazine, Myra's Journal, Pall Mall Magazine, Windsor Magazine, Cornhill Magazine, Blackwood's Magazine, Pearson's Magazine, English Illustrated Magazine, Knowledge, Humanitarian.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Armstrong, Hubert, M.B., Ch.B. Vict., has been appointed House Surgeon to the Infirmary for Children, Myrtle-street, Liverpool, vice B. Curtis Kelly, resigned.

Bradford, John, L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed Parochial Medical Officer and Public Vaccinator for Carluke, vice R. Stewart.

Bray, N. J. Northey, M.R.C.S., has been appointed Medical Officer to the Barry Branch of the Iron and Steel Shipbuilders' Society, vice Geo. Neale, resigned.

Brodrick, C. C., L.R.C.P., L.R.C.S., has been re-appointed Medical Officer of Health by the Tavistock Rural District Council.

Browne, R., M.D. Dub., F.R.C.S. Irel., has been appointed Medical Officer of Health by the Commissioners of the Rathmines Township, vice M. A. Ward.

Cook. J. N., L.R.C.P. Lond., M.R.C.S., has been appointed Health Officer for Calcutta, vice W. J. R. Simpson.

Dyball, Brennan, M.B., B.S. Lond., F.R.C.S., L.R.C.P. Lond., has been appointed Resident Casualty Officer at the General Infirmary, Leeds.

Evans, H. T., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health for the Bedwellty Urban Sanitary District, vice J. T. James, resigned.

Evans, Percy C., M D. Lond., L.R C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Surgeon for the Docks District of the Cardiff Provident Dispensary.

Hailey, M. M., L R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health by the Newport Pagnell Urban District Council.

Halliday, F. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for Wortley.

Hope, G., L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Medical Officer for the Seventh Sanitary District of the Brentford Union.

Jones, Charles Sturges, M.R.C.S. Eng., L.S.A., has been re-appointed Medical Officer of Health for Chichester.

Middlemist, Geo. E., M.B., has been appointed Second Assistant Medical Officer to the County Asylum, Dorchester, vice W. R. Hanbury, resigned.

Milner, E. T., M.B. Oxon., M.R.C.S., has been appointed an Honorary Surgeon to the Salford Royal Hospital.

Montgomerie, Hugh Mayer, M.D., C.M. Edin., has been re-elected Physician to the West Cornwall Infirmary and Dispensary, Penzance.

Morris, F. Temple, L.R.C.P., M.R.C.S., has been appointed Surgeon for the Cathays District of the Cardiff Provident Dispensary.

Normington, A. B., M.B., Ch.B. Vict., has been appointed Medical Officer for the Workhouse, Stoke-upon-Trent Union.

Ray, J. H., M.B., Ch.M. Vict., F.R.C.S., L.R.C.P. Lond., M.R.C.S., has been appointed an Honorary Assistant Surgeon to the Salford Royal Hospital.

Reed, J. S., L.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Surgeon to the Gorleston Cottage Hospital.

Rose, J. A., M.B., C.M. Aberd., has been appointed a Medical Officer in the Government Service at Uganda.

Stanley, Arthur, M.D., B.S. Lond., D.P.H., has been appointed a Medical Officer of Health for Shanghai, China.

Strickland, J. F., M.B., C.M. Edin., has been appointed Assistant House Surgeon to the Infirmary for Children, Myrtle-street, Liverpool.

Symons, John, M.R.C.S., L.S.A., has been re-elected Surgeon to the West Cornwall Infirmary and Dispensary, Penzance.

Tipple, E., L.R.C.P. Edin., M.R.C.S., has been re-appointed an Honorary Surgeon to the Gorleston Cottage Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Berry Wood Asylum, Northampton.—Assistant Medical Officer for five years, unmarried. Salary £150, increasing to £200, with board, lodging, washing, and attendance.

Bradford Children's Hospital.—House Surgeon (to Dispense). Salary £60, with board, residence, and washing.

Charing-cross Hospital, London.—Resident Medical Officer. Salary £100 a year, with board and residence.

Chelsea, Brompton, and Belgrave Dispensary, 41, Sloane-square, S.W.—Honorary Visiting Surgeon to the Western District.

Chelsea Hospital for Women, Fulham-road, S.W.—Clinical Assistant.

Children's Hospital, Nottingham.—House Surgeon (non-resident) for six months. Salary at the rate of £100 per annum.

Evelina Hospital for Sick Children, Southwark Bridge-road, London.—Senior Resident Medical Officer. Salary £70, with board and washing.

Hospital for Sick Children, Great Ormond-street, Bloomsbury, London.—House Surgecn for six months. Must be unmarried. Salary £20, with board and residence in the hospital.

Hull Royal Infirmary.—Junior Assistant House Surgeon for one year. Salary £40, with board and lodging. Also Honorary Assistant Surgeon for the Out-patient Department for five years.

Huntingdon County Hospital, Huntingdon.—House Surgeon for one year. Salary £50 per annum, with board and washing.

Manchester Children's Hospital, Pendlebury.—Junior Resident Medical Officer for one year. Salary £80 per annum, with board and lodging. Also Medical Officer for the Dispensary. Salary £150 per annum.

Metropolitan Asylums Board.—Assistant Medical Officer at the North-Western Fever Hospital, Haverstock-hill, N.W.—Unmarried. Salary first year, £160, £180 the second year, and £200 the third and subsequent years of service, with board, lodging, attendance and washing (subject to certain statutory deduction). Applications to the Clerk to the Board, Norfolk-street, Strand, W.C.

Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E.—Junior Resident Medical Officer for six months. Salary at the rate of £30 per annum, with board, attendance, and washing.

National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen-square, Bloomsbury, London.—Anæsthetist.

Rotherham Hospital and Dispensary.—Assistant House Surgeon. Salary, £30 per annum, with board, lodging, and washing.

Royal Albert Hospital, Devonport.—Assistant House Surgeon for six months. Board, lodging, and washing provided.

Royal Hospital for Diseases of the Chest, City-road, London.—Surgeon.

Seamen's Hospital Society (Dreadnought), Greenwich.—House Surgeon for Branch Hospital, Royal Victoria and Albert Docks, E. Salary £75 per annum, with board and residence and an additional £25 per annum if certain clinical work is performed satisfactorily.

Stamford, Rutland, and General Infirmary, Stamford.—House Surgeon for two years, unmarried. Salary, £100 per annum, with board, lodging, and washing.

Stockport Infirmary—Junior Assistant House Surgeon for six months. Salary £2 per mensem, with residence, board, and washing.

Sunderland Eye Infirmary.—House Surgeon. Salary £150 annually (non-resident).

University College, London.—Assistant Physician.

Wisbech Union.—Medical Officer and Public Vaccinator for the First, Second (a), and Eighth Districts of the Union. Salary for the First District £50 per annum, for the second (a) district £10 per annum, and for the Eighth District £15 per annum, together with certain extra fees. Applications to the Clerk, Union Offices, Wisbech.

Worcester County and City Lunatic Asylum, Powick.—Head Medical Superintendent. Salary commencing at £800 per annum, with partly furnished house, coals, gas, washing, garden produce, &c. Applications to the Clerk to the Committee, 40, Foregate-street, Worcester.

Births, Marriages, and Deaths.

BIRTHS.

Bödeker.—On Nov. 24th, 1897, at Harvey-hill, Kikuyu, British East Africa, the wife of Henry Albert Bödeker, M.B., C.M., of a son.

Freer.—On Jan. 20th, at Helmwood, Woodford-green, Essex, Maude, the wife of Gerald Dudley Freer, M.R.C.S., L.R.C.P. (Colonial Surgeon Resident, Penang, Straits Settlements), of a son.

Rawlinson.—On Jan. 23rd, at Stuart House, Bognor, the wife of F. Juland Rawlinson, F.R.C.S., of a daughter.

Wickham.—On Jan. 24th, at Westbourne-road, Barnsbury, N., the wife of O. A. Wickham, M.R.C.S., L.R.C.P. Lond., of a daughter.

Yelf.—On Jan. 22nd, at Moreton-in-Marsh, Glos., the wife of Robert E. B. Yelf, M.B., of a son.

MARRIAGES.

Havelock—Low.—At Seaview, Monifieth, on Jan. 18th, by the Rev. Jas. Gerard Young, D.D., John G. Havelock, M.D., medical superintendent, Royal Asylum, Sunnyside, Montrose, to Edith Margaret, third daughter of James F. Low, Esq., of Seaview, Monifieth, Forfarshire, and Balmakewan, Kincardineshire.

Helby—Marshall.—On Jan. 19th, at the parish church, Newent, Ernest Hasler Helby, L.R.C.P. Lond., M.R.C.S. Eng., and D.P.H., youngest son of Captain Helby, R.N., of Southhill, Paignton, Devon, to Agnes Maud Sankey, eldest daughter of W. Norris Marshall, The Red House, Newent, Glos'ter.

Powell—Wagner.—On Jan. 20th, at St. Mark's, Surbiton, John James Powell, M.R.C.S., L.R.C.P. Lond., of Norwood Lodge, Weybridge, to Leila Catherine Kellock, eldest daughter of Orlando Henry Wagner, formerly of Christ's Hospital.

Storrs—Phillips.—On Jan. 25th, at St. Peter's, Earley, Reading, by the Rev. H. J. Storrs, late Vicar of Eastham, Cheshire, father of the bridegroom, assisted by Rev. C. E. Storrs, D.D., rector of Selsey, uncle of the bridegroom, the Rev. A. Grisewood, M.A., rector of Daylesford, cousin of the bride, and the Rev. F. T. Colson, M.A., Vicar of St. John's, Reading, Kenneth Simonds Storrs, M.B. Cantab., of Springfield, Chelmsford, to Rosa Mary, fourth daughter of Major Phillips, late of the 8th Hussars, of Inglemere, Reading.

DEATHS.

Aitken.—On Jan. 22nd, at 28, Northenden-road, Sale, William Browne Aitken, M.B., C.M., eldest son of the late Thomas Aitken, M.D., Inverness, in his 35th year.

Armstrong.—On Jan. 22nd, at Oakamoor, Barnes, S.W., Samuel Armstrong, M.R.C.S., aged 61 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (2nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.). Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (3rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2 30 P.M.).

FRIDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (5th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (1st).—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Eden: Lantern Demonstration of the Age Changes in the Placenta and the Fœtal Membranes.—Dr. T. J. Bokenham: The Immunisation of Animals against Streptococcus Infection, with an account of the Properties acquired by the Serum of Animals thus rendered Immune (with lantern illustrations).

WEDNESDAY (2nd). — OBSTETRICAL SOCIETY OF LONDON. — 8 P.M. Annual Meeting. Specimens will be shown by Dr. Dakin and others. Dr. Cullingworth (President): The Annual Address.

THURSDAY (3rd).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, W.).—8.30 P.M. Mr. Mansell Moullin: The Treatment of Malignant Growths by Toxins.

FRIDAY (4th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8 P.M. Discussion on the Transmission and Dissemination of Cancer (opened by Mr. C. A. Ballance).

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.15 P.M. Discussion on the Serum Treatment of Disease (introduced by Dr. G. Sims Woodhead). The following members have promised to take part in the discussion—Dr. Toogood, Dr. Hartt, Dr. Dockrell, Dr. Herschell, and Dr. Ezard.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (31st).—THE AFTER-CARE ASSOCIATION FOR POOR PERSONS DISCHARGED RECOVERED FROM ASYLUMS FOR THE INSANE (84, Brook-street, W.).—3 P.M. Annual Meeting.

TUESDAY (1st). — WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4.30 P.M. Dr. H. Campbell: Cases of Localised Muscular Wasting.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Ormerod: Lecture.

CITY ORTHOPÆDIC HOSPITAL.—5.30 P.M. Mr. C. Williams; Rachitic Deformities.

ROYAL INSTITUTION.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

WEDNESDAY (2nd).—SOCIETY OF ARTS.—8 P.M. Mr. J. Fuerst: The Cinematograph.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: Emergency Operations.

THURSDAY (3rd).—CHARING-CROSS HOSPITAL.—4 P.M. Mr. Wallis: Demonstration of Selected Surgical Cases. (Post-graduate Class.)

ROYAL INSTITUTION.—3 P.M. Prof. Dewar: The Halogen Group of Elements.

EAST LONDON HOSPITAL FOR CHILDREN (Shadwell, E.).—4 P.M. Dr. H. B. Donkin: Cases in the Wards.

FRIDAY (4th).—ROYAL INSTITUTION.—9 P.M. Mr. A. A. Campbell Swinton: Some New Studies in Cathode and Roentgen Radiations.

SATURDAY (5th).—ROYAL INSTITUTION.—3 P.M. Prof. P. Geddes: Cyprus.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 27th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan. 21	30 41	S.W.	...	62	57	52	53	53	Overcast
" 22	30 41	W.	...	76	57	50	50	51	Cloudy
" 23	30 67	S.W.	...	51	49	38	38	39	Foggy
" 24	30·52	WNW	...	51	50	39	46	48	Overcast
" 25	30 50	N.W.	...	49	48	44	43	45	Overcast
" 26	30·40	S.W.	...	50	49	45	43	46	Overcast
" 27	30·42	S.W.	...	50	47	44	42	45	Overcast

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume, were given in THE LANCET of Jan. 1st.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

NEW FIELD FOR THE X RAYS.

WE extract the following advertisement from a contemporary. We think the advertiser proves a certain fitness for the occupation he desires by the up-to-date wording of his advertisement:—

> "Smart, reliable, and highly successful advertisement canvasser (twenty-eight) shortly disengaged. Present position nearly five years, during which time he has greatly increased returns. Never yet been discharged from a firm. Proofs of ability. Good provincial paper preferred. Known to all principal advertisers and agents generally. Character will bear X rays. Wants permanency.—G. C., care of, &c."

"MR. HALL HAINS'S DEFENCE FUND."

To the Editors of The Lancet.

Sirs,—I have now either received or been promised just over £100 for the above fund, and in accordance with Mr. Hall Hains's wishes it is proposed to close the subscription list after this week. If, therefore, any other of your readers care to subscribe I shall be pleased to receive any additional subscriptions as soon as possible. Many decline to subscribe on the ground that they consider Mr. Hall Hains should have belonged to the Medical Defence Union. The importance of every medical man taking this precaution is quite appreciated. At the same time, however, it is easy to be wise after the event and a final appeal is made to those who have neglected to insure themselves in this manner. I am, Sirs, yours faithfully,

Herbert Carre-Smith,
Hon. Secretary and Treasurer to the Fund.

3, Turnham-green-terrace, Chiswick, W., Jan. 18th, 1898.

	£	s.	d.		£	s.	d.
Amount previously acknowledged	99	2	6	Mr. Edmund Owen, F.R.C.S. Eng.	1	1	0

A PROLIFIC MOTHER.

To the Editors of The Lancet.

Sirs,—On Saturday afternoon, Jan. 22nd, I was called to see Mrs. A——. I discovered her in the fourth month of pregnancy. Mrs. A—— was married in the month of March, 1878, being then about twenty years of age. She has never had twins. She has given birth to sixteen living children at full time. She had one abortion at the third month and another at the fifth month and now she is in the fourth month of her nineteenth pregnancy, all in less than twenty years. I think her case is worth putting on record. It should be added that Mrs. A—— brought up the first twelve of her children by the breast and the milk never left her during the whole time. Before one child was weaned its successor was ready to begin. She brought up the remaining four on the bottle. She is a thin but not a worn-out looking woman.

I am, Sirs, yours faithfully,

Jan. 25th, 1898. M.B.

A SATURDAY'S MOON.

The fair weather that has largely prevailed during the past week would have been a great blow to the gentleman who exactly fifty years ago wrote to the Astronomical Society from Bruges to the effect that in the registers kept by his grandfather, his father, and himself, during a period of about eighty years, a new moon occurring on Saturday was followed, nineteen times out of twenty, by twenty days of rain and wind. Several years later our contemporary the *Athenæum* gave publicity to Mr. Forster, his theory, and his observations, and the author of "A Budget of Paradoxes" dealt with them exhaustively, with the result that a sailor's superstition well known to many persons was placed on record, that Saturday's moon would be sure to bring bad weather. Probably even sailors have nowadays forgotten all about it, for the spread of education is destructive to folk-lore. It would be interesting to know if anyone thought of it last Saturday at all or if any maiden in any country district remembered that last Saturday was the first new moon of the year. Custom once enjoined that upon the night of the first moon after Jan. 1st a young maiden who wished to pry into futurity should sit astride upon a convenient gate or stile, and after repeating an incantation that asked the moon in somewhat halting rhymes to show her her lover, go home and dream, or try to dream, of him whom fate would allot to her as a husband. Whether if the January moon fell upon a Saturday a stormy wedlock was portended is not known; presumably the coincidence is too rare for the accumulation of statistics, and statisticians as persevering as Mr. Forster, of Bruges, and his ancestors are not often to be found even when the facts to be recorded are perfectly useless and absurd.

THE TREATMENT OF INFANTILE ATROPHY.

To the Editors of The Lancet.

Sirs,—There is, perhaps, no department of the work of the general practitioner that gives him more anxiety than the care of sickly and weak children. These children are born and appear to thrive for a time but soon droop and fall off, and with one complication and another (for which they are liberally supplied with medicine) they become more and more emaciated and soon die. This is seen again and again, especially in crowded districts, mining centres, &c. The young practitioner generally rushes to drugs, and I take it that no one is free from this delinquency. I have had this matter brought very forcibly to my notice of late by witnessing a very remarkable cure in my own practice without the aid of drugs. We all know the picture of the child the victim of marasmus—poor, sickly, pinched, emaciated, with bowels in a constant state of disorder. Such was the condition of a child recently in my practice with the addition of prolapse of the anus. The patient was a male child, three months old, and the mother had already lost two from the same cause. She said she could not rear them, which is the usual surmise. She was somewhat anæmic in appearance and about twenty-four years of age, and had been in the infirmary for hysteria and other complaints as well. On inquiry it was found that the mother's milk was very deficient and that the child did not thrive on the bottle. After prescribing a wash of a vegetable astringent for the prolapsed rectum the mother was told to diet the child much on the following lines. [Much of it is carefully detailed in Keating's Cyclopædia of Diseases of Children, vol. i.] To make up a bottle of: cream, three tablespoonfuls; milk, two tablespoonfuls; lime-water, nine tablespoonfuls, and a pinch (nearly a teaspoonful) of sugar of milk. This last had to be ordered. To prepare a bottle of this night and morning. The child was able to take it and was soon able to consume it in quantity, so that more had to be prepared for night consumption. Medicines were avoided. As day by day went on and the child gathered strength one or more articles of diet were added to vary the feeding, whey being substituted for lime-water, bread sops being given now and then, Mellin's food allowed, and so forth. I have now to report, at the end of four months, that the child is strong and healthy like any other robust child, with fat legs and arms, and altogether a picture to look at as contrasted with the previous condition. I do not say that every child will behave the same, but it should encourage the general practitioner not to give up for lost these cases of general marasmus; and though they may treat them successfully for a time with condensed milk, mercury powders, and the usual armamentarium, as I have myself done, still I have seen no case that has impressed me so much for permanent good and definite results as the one I narrate. I am, Sirs, yours faithfully,

Jan 17th, 1898. J. W. Martin, F.R.C.P. Edin.

BY THE WAY.

We recently published a short article protesting against a tramway for the Victoria Embankment. The following reference to this stupid scheme appears in the *Pall Mall Gazette* of Jan. 24th:—

> "The more one looks into the proposal of the London County Council to run a double set of tramway lines along the Victoria Embankment, the more objectionable does the scheme appear. That of the London Tramways Company seven years ago was, comparatively speaking, unobjectionable, although we could not see our way to support even it. But this present scheme is an outrage. The only decent thoroughfare and riverside promenade which the whole county can boast is threatened with utter and irretrievable spoliation and for no public benefit whatever. Whereas the London Tramways Company were content to bring their lines across Westminster-bridge to a terminus by Charing-cross railway arch the L.C.C. would gaily plough up the Embankment from end to end to insert four lines of parallel iron girders bedded in cement the whole distance from Westminster-bridge to Blackfriars. The idea is so atrocious that we cannot conceive of the House of Commons entertaining it for five minutes."

THE "LUNAR" ENVELOPE.

Messrs. Reynolds and Branson, of Leeds, have submitted to us a novelty of practical utility which should meet with patronage. The very general adoption nowadays of sanitary towels in place of the long-used diapers is frequently a source of difficulty to ladies who when travelling do not know what to do with them where there is no fire available to consume them. Placed in the "Lunar" envelope and left in the bed-room it is thought that servants will quickly comprehend the meaning of the printed words "Please burn this," and will deal with them as desired. It was a happy inspiration which suggested the use of the adjective "Lunar."

THE PRODUCTION OF COD-LIVER OIL.

"The Lofoten Islands and their Principal Product" is the title of a well-illustrated *brochure* descriptive of the cod-liver oil industry in Norway which has been issued by Messrs. Parke, Davis, and Company. The country and its inhabitants are described and interesting details in the natural history of the *Gadus morrhua* are given. The average liver of the cod weighs about half a pound and measures about fourteen inches in length. When healthy and fat it is cream-coloured and soft. The pamphlet is made the more valuable by the inclusion of a coloured plate giving a comparison of healthy and diseased livers.

(1) THE CHEERFUL VENTILATING STOVE; and (2) THE ANTI-FOULING AND NON-CONTAGIOUS CLOSET AND SEAT.

Mr. John Lanyon, architect and civil engineer, of Northern Bank Chambers, Royal Avenue, Belfast, has recently brought two appliances of sanitary importance to our notice. The first he calls the cheerful ventilating stove and, from a coloured drawing we have inspected, it certainly would appear to merit its title. One feature about it is that it may be adapted to the extraction of the air of an apartment, thus providing a means of ventilation. It is stated that when these stoves were tested by an anemometer, there being an ordinary fire burning, the velocity in the extract flue was found to exceed 500 ft. per minute, which would represent nearly a velocity of 100 cubic feet per minute in a 6 in. flue, 200 cubic feet in a 9 in. flue, and upwards of 270 cubic feet in a 10 in. flue. The fuel employed is coke. The same inventor has designed a very important improvement in the construction of a closet and seat. The seat is hollowed out at the back to prevent soiling by men using the closet, in the front it is curved out and hollowed so as to offer no lodgment for any objectionable discharge from either men or women. The front of the seat is so constructed as to oblige persons using the closet to sit down in the centre of the "ope." The sides are sloping and arranged on a hollowed curve to fit the body. This curve is reduced towards the front so as to offer no difficulty in leaving the seat when getting up. The basin of the closet again is so designed that the full head of flush water is kept on the whole time and there is no splashing, the excreta being effectually swept out.

AN AUTOMATIC SAFETY GUARD FOR "MOTOR" AND OTHER MECHANICALLY DRIVEN VEHICLES.

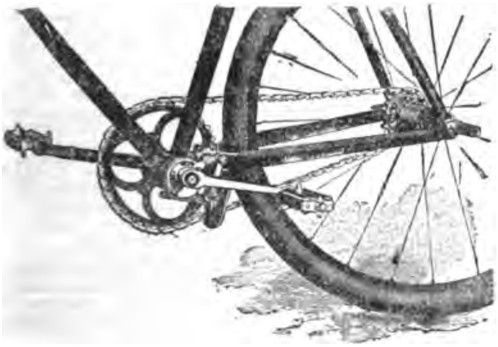
THE guards which are in general use leave much room for improvement and fatal accidents are chronicled from time to time notwithstanding their use. As a rule the guards do not reach to the ground and it is quite possible for a person to be drawn under a car and crushed to death. With the objects of avoiding such accidents the Richter Manufacturing Company, of Bradford, have placed a guard upon the market which has attached to the front platform a bush of twigs or other suitable material extending above and below the platform. By a system of wires and levers the brush is made to drop and sweep along the ground should the guard meet with an obstacle. The tendency is to brush the object on one side, but should this not be effected the body is scooped upon the platform and the upper part of the brush prevents the object from being thrown into the road. The invention is a simple one and certainly deserves attention.

ELECTRICAL TEMPERATURE INDICATOR.

MR. EDWARD DALE, A.I.E.E., engineer, of Crane-villa, Crane-street, Salisbury, is the inventor and patentee of an ingenious and delicate electro-thermometer. It may be so finely adjusted as to lead to the lighting of an incandescent lamp on breathing upon the metallic surface of the indicator. We found no difficulty in making this adjustment for temperatures near to 100° F. The indicator is constructed on well-known lines. It consists of a metal air-expansion box which is very sensitive to temperature changes. The expansion produced establishes an electric circuit, so that a lamp placed in the circuit will light as soon as contact is effected. This invention would seem well adapted for making precise observations in regard to temperature in clinical practice.

A NEW CYCLE BRAKE AND COASTER.

THE accompanying illustration shows a new brake and coaster that is fitted to the Eclipse cycles, the agents for which are Messrs. Green and Co., 9, Snow-hill, E.C. The brake acts, as all really efficient brakes should, upon the back wheel, and will be seen below the bottom bracket in the illustration. The "coaster" mechanism consists of an automatic clutch on the sprocket wheel which is thrown out of gear by holding the pedals still, the machine still moving with the feet stationary on the pedals. To apply the brake back-pressure is put upon the pedals and the machine can be stopped dead if desired. We have not had an opportunity of practically trying the invention, but an experiment upon a home trainer would seem to show that the new brake is capable of performing all that is claimed for it by the inventors. As quite a large number of cycling accidents are caused by the rider losing control of his machine when going down hill the invention seems to be a step in the right direction.



THE STORY OF A BARBER SURGEON.

THE following delightful story appears in the *Daily Telegraph*:—An inhabitant of a little village near Mainz fell down and seriously injured his arm which became swollen and very painful. The village barber surgeon was appealed to and ordered applications of Goulard water—in German, Bleiwasser. The patient's wife, however, being very anxious, on arriving at the village shop made a mistake and asked for Wasserblei, or blacklead. On arriving at home she mixed this with water and rubbed it well over the injured arm, finally polishing the limb with flannel. This treatment had an excellent effect, the pain disappeared and the swelling went down. Next morning the barber called to see how the patient was getting on and was met by the delighted wife who congratulated him on the efficacy of his treatment. Upon seeing the arm, however, which of course was quite black, he was horrified. "What," he said, "no pain, of course he doesn't feel any pain, the arm is quite dead, gangrene has set in, and if the arm is not taken off at once he will die." A surgeon was duly sent for who of course discovered the real state of the case. What happened to the barber is unfortunately not stated, but we fear that most unqualified practitioners do not see such favourable results from their prescriptions as did their German brother.

THE BIRMINGHAM CALF LYMPH ESTABLISHMENT.

WE have received tubes of vaccine from this institution for which certain important claims are made. Thus, in accordance with the recommendation contained in Paragraph 448 of the Final Report of the Royal Commission on Vaccination the glycerinated lymph is put up in small tubes sufficient for the vaccination of one person. Since this vaccine is also under the constant control of the bacteriological laboratory of the Birmingham Medical School the product may be relied upon as active and aseptic. The agents for the tubes are Messrs. Wyleys, Limited, of 52, Moor-street, Birmingham.

"A TESTIMONIAL TO DR. WM. ARLIDGE."

To the Editors of THE LANCET.

SIRS,—Will you kindly insert in THE LANCET the following additional subscriptions to the Arlidge Testimonial Fund. The second subjoined list of donors I have been asked to forward to you, and your insertion of it will much oblige.

I am, Sirs, yours faithfully,

CHAS. F. MOORE.

10, Upper Merrion-street, Dublin, Jan. 22nd, 1898.

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◆

Sin. Diplom.—We have every sympathy with the plight of the unqualified assistant, but we must point out that the General Medical Council gave long warning. There has been no change of policy on the part of the Council; they have only carried out intentions which were previously implied.

Z. is recommended to apply to his family medical man for the information he seeks. There is no reliable book, and if there were he would be very ill-advised to attempt to benefit by its teachings.

A. B. C.—The best books are: "The Artificial Feeding of Infants," by Dr. W. B. Cheadle, and "The Natural and Artificial Methods of Feeding Infants and Young Children," by Dr. E. Cautley.

Dr. F. H. Burton Brown.—Under the circumstances mentioned we see no harm in the acceptation of the appointment.

Etiquette.—To make such calls would be in accordance with old-established custom.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Wolverhampton Chronicle, Scotsman, Blackburn Standard, Cambrian, North Wales Chronicle, Ayrshire Post, Huddersfield Chronicle, Times of India, Pioneer Mail, South Eastern Gazette, Sheffield Independent, West Briton Advertiser, Architect, Cumberland Adertiser, South Durham Mercury, Builder, Yorkshire Post, Grimsby News, North Eastern Daily Gazette, Birmingham Post, Cape Argus, Liverpool Daily Post, Manchester Guardian, Leeds Mercury, Western Morning News, Eastern Daily Press, Bradford Observer, Wolverhampton Chronicle, Hampshire Post, Retford News, Carlisle Patriot, Bristol Mercury, Royal Cornwall Gazette, Leicester Post, Newcastle Leader, Bicester Advertiser, Peterborough Advertiser, Somerset County Herald, Bridgwater Independent, Dundee Advertiser, Sussex Daily News, Cambridge Express, Lancaster Guardian, Essex County Standard, Derby Daily Telegraph, Norfolk Chronicle, Carnarvon Herald, Cheltenham Free Press, Brighton Gazette, Sun, Sanitary Record, Mining Journal, Public Health Engineer, Reading Mercury, City Press, Consett Guardian, Local Government Chronicle, Hertfordshire Mercury, Surrey Advertiser, South Wales Argus, Local Government Journal, South Wales Daily Argus, Weekly Free Press, Aberdeen Herald, Western Mail, West Middlesex Herald, Long Eaton, Heanor, and Ilkeston Journal, Faversham News, Darlaston Herald, North British Daily Mail, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Mons. J. Astier, Paris; Mr. J. Ashton, Lond.; *Les Archives de Médecine des Enfants*, Paris, Editor of; Messrs. Armbrecht, Nelson, and Co., Lond.; Mr C. Allen, Walsall; Dr. F. Arnold, Bulawayo; Mr. R. B. Anderson, Lond.; Mr. M. Aitken, Sale.

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ABSTRACT OF A

Post-Graduate Lecture

ON

NASAL POLYPI: THEIR DIAGNOSIS AND RADICAL TREATMENT.

Delivered at the Eye, Ear, and Throat Infirmary, Edinburgh,

BY G. HUNTER MACKENZIE, M.D. EDIN.,
SURGEON FOR THROAT DISEASES TO THE INFIRMARY; PRESIDENT OF THE FIFESHIRE MEDICAL ASSOCIATION.

GENTLEMEN,—Mucous polypi of the nose are of such frequent occurrence as to be familiar objects to most practitioners and their diagnosis and treatment are consequently considered matters of extreme simplicity and involving no great difficulty. This is undoubtedly true in many instances, for their appearances, when of large size and situated in the anterior part of a roomy nostril, are very characteristic and readily recognised. Then in regard to treatment, what, it may be asked, is easier than to lay hold of them with forceps and remove them? In some cases, however, their diagnosis is not easy and in all their radical treatment—by which is meant their complete removal and the prevention of their recurrence—is a matter demanding the exercise of much skill and patience. It is to the diagnosis of obscure and the radical treatment of all cases to which I now wish briefly to direct attention.

The diagnosis of nasal polypi may be rendered obscure by their situation, by their size, by certain peculiarities in the internal configuration of the nares, or by combinations of these. When a polypus develops in the posterior region of what is not unfrequently an abnormally narrow nostril it may not be readily discernible even on effective illumination of the nasal cavity. It may be obscured by or may simulate a little mucus and even when this has been blown away by the patient or mopped out by the surgeon it still may escape detection. Fortunately, there is one test which materially aids in the diagnosis of polypus of the posterior nares. Such a polypus, growing as it does from the roof and hanging in the posterior and roomier part of the nose, is usually pedunculated and moves freely on forcible respiration. Hence if the patient be instructed to firmly close one nostril and blow forcibly through the other the polypus will be distinctly observed to advance and recede with expiration and inspiration, and not unfrequently during inspiration it disappears entirely from view. The polypus, in fact, acts as a valve, usually permitting inspiration and impeding or completely preventing expiration, and I consider that a patient who presents this symptom is bound to have polypus in his posterior nares. It is certainly a valuable aid in diagnosis and I have repeatedly met with cases in which the presence of a mucous polypus in the posterior nares was overlooked until the application of this test. This mobility with forced expiration is, as you will presently see, a feature of considerable value in treatment as well as in diagnosis.

The region of the middle turbinate body and the superior meatus of the nose are localities where small mucous polypi may also not be of easy detection. You are aware that these are the favourite areas for the development of polypi, which, when large, grow downwards and become prominent objects in the nasal cavity. When of small size, mere buds in fact, and nestling in the clefts and recesses which are usually present in these regions, they are very liable to be overlooked. In order to discover them it is necessary in the first place to clear away any mucus or pus that may be present and then make gentle use of the probe by means of which they can be more or less freely moved. It is important to remember that the small buds in this region, being sessile, and lying outwith the main respiratory tract, do not respond to the test of moving with forced respiration as in the case of the post-nasal variety. Another cause of the failure to detect nasal polypi is the fact of their being situated behind bony or cartilaginous projections from the walls of the nasal passages or marked deviations of the septum, and I have repeatedly seen cases in which polypi could be seen and treated only after removal of these abnormalities. Again, one may meet with instances in which certain of the above conditions are combined, such as post-nasal growths or supra-nasal buds with congenital narrowing of the nares or projections of their walls. Sometimes the nostril may be represented by an anterior and posterior chamber connected by a narrow slit caused by a septal deviation and forming a sort of hour-glass arrangement with polypi in both chambers. At other times one nostril is markedly widened at the expense of its fellow. In the latter case polypi in the one nostril might be diagnosed and treated with comparative ease and the very reverse in the other.

But if, under such combinations of circumstances as I have depicted to you, nasal polypi are apt to be overlooked, their radical treatment, as you will readily assume, is likely to be a matter of even greater difficulty than the diagnosis. In reference to the particular method to be employed this much may be affirmed, that whilst the forceps used in the ordinary way may suffice for the removal of large polypi in roomy nostrils they are quite ineffective in the class of cases now under consideration, and, moreover, in all classes their use, when not followed by cauterisation, affords no guarantee that the polypi have been completely removed and no buds or pieces left. So-called recurrence after removal has hitherto been one of the most marked features of mucous polypi of the nose, but this term is a misnomer, for the growths have simply not been removed in their entirety and what has not been removed cannot recur. Even removal of a portion of bone along with the polypi does not indicate that all have been thoroughly cleaned out. The ordinary polypus forceps, in short, is not fitted for the fine class of work necessary to the thorough eradication of the variety of nasal polypi now under consideration and the consequence is that it has been discarded by most of those who have large and special experience of this department of surgery.

In such cases as I have now brought under your consideration instead of the forceps we now operate with the snare and in my own practice at least with the curette. The snare may be cold or heated by electricity; I prefer it cold especially when delicate manipulations are necessary, and finish with the application of the electro-cautery point to the seat of attachment of the polypi. It is probably unnecessary to add that these operations are performed under a local or general anæsthetic and with the aid of the speculum and strongly reflected light, so that nothing is snared or cauterised but what can be seen. I do not believe in the efficacy of chromic acid as a caustic after the removal of polypi; it certainly is much inferior to the electro-cautery as a preventive of recurrence. In the post-nasal (valvular) variety it is necessary to have the coöperation of the patient in snaring the growth and hence a general anæsthetic cannot be employed. The snare having been inserted vertically is turned horizontally when it reaches the posterior nares and the patient having been instructed to blow the polypus forward, which, as already stated, he is usually able to do, it is then caught in the snare and removed. In cases with small sessile polypus buds on the middle turbinate body and in the superior meatus the application of the snare is sometimes not easy on account of the diminutive size of the growths and the absence of pedicles. Here they may be simply destroyed with the electro-cautery, but it is in this class that I have found the use of the curette particularly advantageous; its action is much more rapid than the cautery, for with it I have repeatedly completely cleared the superior meatus at one sitting, passing the instrument quickly and firmly several times from behind forward. The curettes which I use have been made for me by Messrs. Young and Son, of Forrest-road, Edinburgh, are fitted with adjustable handles and have variously shaped scraping surfaces so as to suit them to the peculiarities of each individual case. Smart hæmorrhage ensues after their use, but this can easily be arrested by tamponade and does not recur. They may be used under a general anæsthetic.

I have been asked a most pertinent question by a member of this clinique. Is there any efficacious local medicinal means for the removal or the prevention of the recurrence of nasal polypi? I do not know of any such. I have at various times made trials of tannic acid, of absolute alcohol, and of many other recommended applications, but have never had any success with them. Some of them are painful, most are useless, and all are tedious. I was very recently interviewed by a woman who had several polypi removed by a surgeon, using the forceps only, about three months ago. Since then she has been snuffing up tannic acid almost daily. I now find the middle turbinate body covered with, and the superior meatus full of, healthy polypus buds, with the probability that in a few months the patient would be as bad as ever. Without going into the details of many of my cases I may say that I have good reasons for recommending you to operate on the lines I have laid down for you, for by doing so not only may all polypi be removed but their recurrence will most likely be prevented.

In considering the symptomatology of mucous polypus there are two features which when present may materially or even gravely affect the prognosis. These are a discharge of pus and a discharge of blood from the nose. It occasionally happens that polypi are found embedded and surrounded by a copious purulent secretion which when removed rapidly collects and frequently has a putrefactive odour. The discharge may be unilateral or more rarely bilateral and is a source of great annoyance to the patient. This symptom points to implication of one or other of the accessory cavities of the nose, usually the antrum, and the probability is that not only is this cavity the seat of an empyema but also of polypoid degeneration of its lining mucous membrane. I have lately seen a case of nasal polypi in both nostrils with profuse discharge of putrid pus in which both antra and both frontal sinuses were opened and found full of small polypi embedded in pus.

Regarding the treatment of these cases it is necessary in the first place to completely clear away all polypi from the nose. The accessory cavities ought not to be opened until some time has been allowed to test the results of intra-nasal treatment, for I have known a case of nasal polypus with empyema of the antrum completely recover after removal of the polypi and without opening the cavity. In most instances, however, it is necessary to open, curette, and drain the antrum or sinus or both.

Hæmorrhage as a concomitant of mucous polypus of the nose is of bad significance with one exception. The exception is what is known as "bleeding polypus of the nose," a variety which usually affects women and curiously enough is almost invariably located in the left nostril. It is of the nature of an angioma, is single, and is attached to the anterior part of the septum. The angioma is of easy treatment. It is simply snipped off and its base touched with the electro-cautery; recurrence, as a rule, does not take place.

Hæmorrhage in a mucous polypus almost invariably indicates a high degree of malignancy and is one of the earliest and most persistent symptoms. The naked-eye appearances in the early stages in such cases may be very similar to ordinary mucous polypi or more commonly the growths may be mottled and blood-stained. A characteristic feature of the hæmorrhage is the ease with which it may be induced, as, for instance, by simple and gentle probing. At the present time I have under my care, in conjunction with Dr. Affleck, a lady suffering from malignant polypus of the nose. Curiously enough she has polypi in both nostrils; in the right they are the ordinary mucous polypi and have been easily removed without bleeding; in the left they are exceedingly vascular and whilst in the early stages they presented many resemblances to simple polypi they subsequently became so massed and matted together as to appear one dense, black, bloody mass, filling the entire nostril and invading the antrum, the cheek, and the mouth. Microscopical examination has so far failed to reveal the exact nature of the growth, as on each of the two occasions on which examinations were made by expert microscopists the report received was "simple mucous polypus."

The treatment of malignant polypus depends upon the degree of malignancy, the stage of the disease, and the age and condition of the patient. In early sarcoma an operation may under favourable conditions be performed with a fair prospect of success, but in cases with a higher degree of malignancy the disease is usually too advanced and too inaccessible and disposed to recur to justify any attempts at removal.

[A demonstration of illustrative cases followed.]

BARNSTAPLE AND NORTH DEVON DISPENSARY.—The annual meeting of the Barnstaple and North Devon Dispensary was held on Jan. 26th. The annual report showed that 2812 patients had been treated as against 2891 in 1896. The total income was £614 and the expenditure £534.

THE BACTERIOLOGICAL DIAGNOSIS OF CERTAIN INFECTIOUS DISEASES IN CONNEXION WITH PUBLIC HEALTH WORK.[1]

BY SHERIDAN DELÉPINE, M.B., B.SC.,

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I. INTRODUCTION.

(*A*) A QUARTER of a century has not elapsed since the time when we generally considered disease to be essentially a disorder of function or structure. The belief in the action of external causes did undoubtedly exist in the mind of our predecessors, but few would have been prepared to admit, as proved, thirty years ago, that such prevalent diseases as tuberculosis and malaria were due to the penetration into, and evolution in, our bodies of living organisms which, by their invasion, multiplication and development, were mainly responsible for the course which these diseases take. The transient action of physical or chemical factors and the existence of a number of diathetic tendencies were chiefly blamed, and the course of disease, according to the then current notions, was determined by the lesions resulting from the disordered activities of the tissues composing the body. A chill, retained bile, sudden stoppage of perspiration, exposure to damp, to heat, to cold, &c., were thought enough to disturb the nervous or circulatory mechanism of one or other organ; as a result of this we had diseases of the liver, kidney, heart, &c. The lesions found in these organs were made responsible for most of the symptoms observed. These lesions in the mind of most constituted the disease.

There were miasmatic or contagious diseases in which the existence of a contagium was admitted, often on a theoretical basis, but the diagnosis of these diseases was based entirely on the study of symptoms and lesions. The only information which was sought was that which could be found by anatomical or physiological methods during life or after death. The medical man was occasionally helped by events when a doubtful case, say of diphtheria, would prove its nature by infecting other persons. That this spontaneous experimental method was not always taken advantage of is well proved by the fact that the contagious nature of such a prevalent disease as tuberculosis was overlooked by the great bulk of the medical profession for many centuries.

There is not one of us who has not experienced either in his own practice or in that of his colleagues and even of his teachers how often symptoms and even lesions are deceptive. We are constantly reminded by the results of necropsies, by unexpected deaths or recoveries, how uncertain the diagnosis of atypical cases of disease is. When we find general tuberculosis or chronic septic diseases mistaken for typhoid fever, cases of scarlet fever or septic tonsillitis taken for diphtheria—and that not always by inexperienced men but even by high authorities—we cannot help feeling that any method which could in any degree make diagnosis more certain would be a great boon to human kind. This desire, which is common to all thoughtful medical men, is perhaps felt more keenly by medical officers of health.

By a discovery of certain pathogenic germs it is possible to foretell more accurately the ultimate issue of the reaction which they produce than it is to surmise what will occur by the observation of the phenomena arising at any of the intermediate stages of the reaction; this is a clear and well-admitted result of the work of Pasteur and of his successors. A membranous sore-throat, a pleuritic effusion, may leave us in doubt as to the probable nature of a case; but the discovery of the bacillus of tuberculosis, of diphtheria, of typhoid fever, &c., will at once remove any doubt from our mind and indicate at the same time the most suitable method of dealing with the case.

(*B*) I have reminded you in a very general and superficial way of these few elementary facts to make clear to you the spirit in which I approach the subject on which I have been asked to address you. The ordinary methods of clinical diagnosis are still relied upon in most districts. Statistical returns, preventive measures, are still based on them. Yet in the case of some of the most prevalent diseases microbiology has given us the means of obtaining results which, if not perfect in every respect, are much more accurate and speedy than the ordinary clinical methods. If I am correct in making this statement—and I hope I shall prove this to be the case—it is highly desirable that advantage should be taken of these new methods by all medical men and more especially by those who have charge of health offices.

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[1] A paper read at the Conference of Medical Officers of Health at the Sixteenth Congress of the Sanitary Institute, Leeds, on Sept. 15th, 1897.

It is of the highest importance that errors of diagnosis should be reduced to the utmost. Errors of diagnosis vitiate and render partly useless much of our work, and that for a number of reasons. 1. Statistical returns indicate to us the prevalence of certain diseases at various times and in various places and also the amount of improvement which preventive measures have produced, but these returns will be misleading if not based on sufficiently accurate data, comparable with each other wherever and by whomsoever they have been collected. 2. Isolation of patients affected with a certain contagious disease in hospitals provided for that disease becomes a source of contagion if patients affected with other diseases are sent by mistake to those hospitals. 3. The cost of isolation is thereby increased as well as the waste of working energy. 4. The knowledge of disease and of its treatment is retarded owing to the fact that practices based on error, not being checked, are allowed to grow into routine, supposed cases of recovery from certain diseases are recorded where the disease never existed, fatal terminations follow supposed mild illnesses which should have taken a benign course, and doubt is made to reign where progress might have been expected. It must be well understood that I speak of those errors of diagnosis to which the most careful and experienced men are liable. As to those errors which are the result of gross ignorance or of systematic practice I do not even allude to them here as their existence should be ignored, but so far as they are a discredit to our profession any method which should give the means of checking such abuses would be of great value.

I think that so far I have expressed nothing which will not be readily admitted. There remains for me to prove by practical results that we have now at our disposal several bacteriological methods giving us the means of increasing considerably the accuracy of *early diagnosis* of a certain number of infectious diseases. As these methods have been extensively tried in my laboratory at the Owens College for the last five years I am able to submit to you the results of my personal experience.

The diseases with regard to which I have been able to give assistance to the Public Health Department of Manchester and surrounding towns have been chiefly tuberculosis, typhoid fever, diphtheria, cholera, epidemic diarrhœa or gastro-enteritis, hydrophobia, anthrax and food poisoning. This naturally does not include all the cases in which assistance may be given by bacteriology. To show how the work is done and answers administrative purposes it will be sufficient to refer specially to three diseases which are constantly with us, and the bacteriological diagnosis of which is based on four different types of methods. I refer to tuberculosis, diphtheria, and typhoid fever.

II. TUBERCULOSIS, WITH SOME REMARKS ON SUMMER DIARRHŒA.

With regard to tuberculosis, this not being yet a notifiable disease, there is no question of case diagnosis[2]; our work has been chiefly directed to the detection of tuberculous milk. During the twelve months ending with last August 103 specimens of milk have been sent to me for examination.

Of these twenty-four had been collected for Dr. Niven in Manchester byres from cows affected with tuberculosis, most of which had also disease of the udder. These specimens were collected by Mr. King, the chief veterinary inspector, and his assistants, and sent immediately to the laboratory. I need hardly say how important a part of a systematic inspection of cowsheds the examination of milk is. This was abundantly proved by the results obtained.

The milk being drawn direct from the udder of an infected cow into a sterilised vessel is that of a single animal and is unmixed with milk of other cows. On arrival at the laboratory the sample is at once examined in the following way. 80 c.c. of the milk are centrifugalised in two stout cylindrical test-tubes holding 40 c.c. each. For this purpose I use a centrifugal machine giving 3000 revolutions to the minute and I allow the machine to work for fifteen minutes. The tubes have been previously sterilised by steam. They are kept closed with an indiarubber cap till the moment they are used. When this part of the process is completed the thickness of the layer of cream and the diameter of the sediment are measured, the colour of the milk and sediment are noted, and the reaction and specific gravity of the milk left in the bottle are taken. These preliminary tests are useful chiefly to give a general idea of the state of the specimens as they reach the laboratory and seldom yield information of any importance except for purposes of control. Microscopical preparations are then made with the cream and sediment of the centrifugalised milk. One drop of the cream is taken with a sterilised platinum loop and spread on a cover-glass and allowed to dry; the cream together with the milk is then removed by means of a wide pipette connected with a vacuum apparatus, this is done with the tube standing vertically and without disturbing the sediment. When only a thin layer of milk remains the tube is inclined gently so as to expose the sediment which adheres firmly to the bottom of the tube and a small drop of it is taken and spread on a cover-glass; this is done with a platinum loop holding from 2 to 3 milligrammes. Several cover-glasses are prepared in this way. Some drops of cream and sediment can then be examined at once for the detection of cells, foreign bodies, and motile bacteria. The other drops spread in thin layers are allowed to dry, passed three times through the flame of a Bunsen burner and then left for several hours (usually twenty-four) in a mixture of equal parts of ether and absolute alcohol. At the end of that time the alcohol and ether are heated over a water bath to complete the extraction of the fat, the cover-glasses are taken out, washed with absolute alcohol, and are then ready for staining by one of the usual methods. If they are stained for tubercle bacilli the "Ziehl Neelsen" method is most suitable. But if one desires to stain the preparations with ordinary solutions of aniline dyes for special purposes the film should be submitted first to the action of some dilute acid for a few seconds. I find that sulphuric acid 10 per cent. answers very well for this purpose. If acid be not used the proteid matter coagulated on the cover-glass in the spaces between the fat glands stains deeply and neither micro-organisms nor cells can be seen distinctly. This allows one, however, to obtain a permanent preparation showing clearly the number and size of the fat globules. Immediately after preparing the films two guinea-pigs are inoculated, each with the sediment of 40 c.c. of milk. The sediment contained in each tube is mixed with a little of the supernatant milk, so as to make a total quantity of 2 c.c. for subcutaneous injections and 5 c.c. for peritoneal inoculations.

The results obtained by these methods have already been recorded in Dr. Niven's "Report on the Manchester Cowsheds" issued at the beginning of 1897. In Professor Hope's "Report of the (Liverpool) Medical Officer of Health on Tuberculosis as affecting the Milk-Supply of the City" (May 6th, 1897) the results of another investigation, having for its object the detection of tubercle bacilli in milk supplied to cities, are given. Both in Manchester and in Liverpool a large number of specimens supplied from the country to town milk-sellers have been collected by inspectors at railway stations or elsewhere as the milk reached town. I have examined all the specimens collected in Manchester and part of the specimens collected in Liverpool—in all eighty samples. The method followed by me was exactly the same as the one already described.

Regarding the value of the methods I have described I may say at once that the microscopical method is of very little use for the detection of tuberculous milk. It is only when tubercle bacilli are very abundant that they can be discovered without a considerable loss of time. Even after separating the sediment in which a large portion of the bacilli are found it is necessary to examine several preparations before one or two bacilli can be discovered. The amount of sediment obtained from 80 c.c. of milk seldom exceeds, it is true, 200 milligrammes, but supposing there were 300 bacilli in the 80 c.c. of milk examined and that 200 had been carried down into the sediment (many are carried up with the cream) the search might be very lengthy. If the bacilli were very equally distributed in the sediment each milligramme of the sediment would contain one bacillus, and as each film is prepared with two or three milligrammes of sediment not more than two bacilli should be expected on each preparation. But many of the bacilli are found in small groups of three, five, ten, or more. It is not likely, therefore, that there would be more than forty of these groups in the sediment, and it might be necessary to examine as many as five drops before bacilli were detected even in the case of a milk containing the large number of bacilli I have supposed. On this supposition there should be nearly 10,000 bacilli in a pint of milk, and yet it might take several hours to detect them unless, as sometimes is the case, some were found in the first drop examined. This shows that when tubercle bacilli are easily found in a sample of milk by the microscopical method, the bacilli are usually very abundant, but when the tubercle bacillus is not found, even after a search extending over several hours, it is not safe to assume that the milk was not tuberculous and incapable of doing harm. On the other hand it is well known that when a guinea-pig is inoculated with even a few bacilli it invariably becomes tuberculous. Were they ten times less numerous than I have supposed in the example I have just given, the number of tubercle bacilli found in the sediment of 40 c.c. of milk would be still easily detected, since material containing eight or ten tubercle bacilli, revealable by ordinary staining reactions, would be enough to produce tuberculosis in the guinea-pig. There can be therefore no doubt as to the superiority of the inoculation method when exact results are wanted. This is well shown by the outcome of the investigations to which I have already referred. Taking only two of the series of samples I have examined: Of twenty-four specimens of unmixed milk obtained from tuberculous cows, two were found by microscopical examination to contain tubercle bacilli clearly demonstrable; six were found to be tuberculous by the inoculation method, including the two in which bacilli had been detected microscopically. Of forty-five specimens of mixed milk (in which the milk of tuberculous cows was diluted with milk of non-tuberculous cows) it was not possible in any case to discover the tubercle bacilli by a careful examination of two drops of sediment. Three of these specimens were proved to be tuberculous by the inoculation method.

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[2] We hope however to be able, before long, to extend our work in that direction.

The microscopical examination, however, is not without use, for in all the cases which were proved to be tuberculous by inoculation the milk was found to contain a large number of leucocytes and epithelial cells; this presence of cells was also recognised in milk coming from udders affected with non-tuberculous mammitis and therefore is not diagnostic of tuberculosis, but tuberculosis was never communicated in my experiments by milk poor in cells. This is a confirmation of the well-known fact that the milk of tuberculous cows does not as a rule become infectious when the udder is not tuberculous.

The testing of milk by inoculation is not only useful with regard to tuberculosis, for in a large proportion of cases milk which has been badly kept exhibits virulent properties in various degrees. Thus, after excluding the tuberculous samples, I can classify the samples I have examined as follows:—

—	Unmixed milk.	Mixed milk.
	Per cent.	Per cent.
With no noxious properties	60·5	40·8
Slightly irritating	38·5	40 8
Highly virulent—i.e., causing acute purulent peritonitis or rapidly fatal septicæmia	—	19·2

It will be at once evident that the properties of mixed milk which are capable of producing mischief are much greater than that of unmixed milk. I cannot here enter into details which have been recently published in the *Journal of Comparative Pathology and Therapeutics* (December, 1897), but I may state that this difference is chiefly due to the multiplication of micro-organisms which are introduced into the milk at the time of milking or afterwards when the milk is unduly exposed to various contaminations; when the temperature is favourable the microbes multiply very rapidly. This occurs chiefly in summer and I have found good reasons to believe that it is a very important cause of summer diarrhœa.

It is well to remember that the bacillus which is most to blame, increases rapidly in number when milk is kept, and especially when kept at summer temperature, causes great mortality in the guinea-pigs inoculated peritoneally. It is therefore most important in conducting any investigation on tuberculosis to inoculate as soon as possible after milking in order to prevent the mortality and lesions due to that microbe.[3] There remains only to add that to ensure thoroughness in investigations of this kind it is desirable that certain data should be supplied with each sample of milk. The following schedule which I have adopted for unmixed milk collected in the stable has been of great use to me.

This Label is to be fixed to each Sample of Milk sent to the Bacteriological Laboratory for Analysis, and all the information obtainable entered under the following heads.

Name of Farm *Lab. M. No.*
Situation
Description of Cow
No. of Cows kept in same Byre
Byre:—Clean, Not clean; *Ventilated*: Well, Badly;
Lighted: Well, Badly.
Hands of Milker:—Clean, Not clean. *Teats*:—Clean, Not clean.
Does the Cow show any evidence of Disease? *Where?* }
Has the Cow been submitted to tuberculin test? *Reaction*:
Yes or No.
Nature of Food.
Quantity of Milk yielded
Date of Milking *hour* A.—P.M. *Signature of*
" *Bottling Sample* *id.* A.—P.M. *Inspector*
Bottle sterilised or not

N.B.—Bottle, which should hold 8 oz., can be sterilised by boiling half-hour in water after cleaning. Stopper should be of indiarubber and also sterilised.

With regard to unmixed milk it is desirable to know (1) the farm from which the milk comes; (2) the time of milking; (3) the time of collecting the specimen; (4) the temperature of the milk at the time of collection, and also the external temperature; and (5) that the bottle in which the specimen was collected had been sterilised. Other questions are of interest from an administrative point of view, but for investigation purposes the above are the most useful in helping to interpret the results obtained.

(To be continued.)

THE HISTORY OF TYPHOID FEVER IN MUNICH.[1]

BY CHRISTOPHER CHILDS, M.D. OXON., D.P.H.

THE history of typhoid fever in Munich during the last fifty years is for many reasons of the greatest interest. The extraordinary prevalence of this disease in the city during the sixth, seventh, and eighth decades of this century and its extraordinary reduction since 1880 probably present a unique record in epidemiological history. Especial interest is added to this record by the fact that Professor von Pettenkofer and his school concluded long ago that no connexion could be traced between the incidence of typhoid fever and the distribution of the drinking water in the city, but that a very distinct causal relation was indicated between the incidence of the typhoid fever and the conditions of the soil. There is probably no place in the world which has afforded or can afford such opportunities for deciding how far the nature and conditions of the soil and how far the character and distribution of the water-supply have contributed to the production and reduction of epidemics of typhoid fever; and since the conditions of the disease-incidence, of the soil, and of the water-supply have been most carefully and systematically observed by Pettenkofer and other high authorities in Munich during the last forty years their records are worthy of the attention of every student of epidemiology.

From Tables I. and II. it will be seen that the mean annual mortality from typhoid fever per 100,000 inhabitants in Munich was—202·4 in the sixth decade; 147·8 in the seventh decade; 116·7 in the eighth decade; 16 0 in the ninth decade; and 5 6 in the period 1891–1896. It will be noticed that the course of the disease was varied by large epidemic waves which extended over periods of nine, seven, nine, and five years respectively. These waves gradually decreased in magnitude and towards the end of 1880 collapsed abruptly; they have not risen again. The mean annual typhoid mortality, which had been 116·7 in the eighth decade, was suddenly decreased to 16, so that the mean annual typhoid mortality of the ninth decade was less than one-seventh of what it was in the eighth. During the six years 1891–1896 it has been still further reduced to 5·6—i.e., less than one-twentieth of what it was in the eighth decade. During the last three years it has been only 3·2. The epidemics may be said to have ceased in the autumn of 1880.

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[3] Or else the milk must be kept in ice from the time of collection to that of examination.

[1] A paper read at the meeting of the Epidemiological Society of London on Jan. 21st, 1898.

TABLE I.—*Deaths from Typhoid Fever in Munich.*

Year.	Inhabitants.	Annual.	Per 100,000 inhabitants.	Year.	Inhabitants.	Annual.	Per 100,000 inhabitants.
1851	123,957	123	99·0	1874	181,300	289	159·0
1852	125,588	152	121·0	1875	187,200	227	121·0
1853	127,219	236	184·0	1876	193,024	130	67 0
1854	128,850	293	227·0	1877	205,000	173	84·0
1855	130,481	253	193·0	1878	211,300	116	55·0
1856	132,112	384	291·0	1879	217,400	236	109·0
1857	133,847	390	291·0	1880	223,700	160	72·0
1858	135,733	453	334·0	1881	230,028	41	18·0
1859	137,006	240	175·0	1882	236,400	42	18·0
1860	140,624	153	109·0	1883	242,800	45	19·0
1861	144,334	172	119·0	1884	249,200	34	14 0
1862	148,200	300	202 0	1885	255,600	45	18 0
1863	154,602	252	163 0	1886	262,000	55	21·0
1864	160.828	397	247·0	1887	268,400	28	10·0
1865	167,054	338	202 0	1888*	292,800	31	10·5
1866	168,265	342	203·0	1889	306,000	31	10·1
1867	169,476	88	52·0	1890	331,000	28	8 5
1868	170,688	136	80 0	1891	357,000	24	6·4
1869	170,000	190	111·0	1892	372,000	11	3 0
1870	170,000	254	149·0	1893	385,000	57	14·8
1871	170,000	220	129 0	1894	393,000	10	2 5
1872	169,693	407	240 0	1895	400,000	15	3 7
1873	175,500	230	131·0	1896	412,000	14	3·4

* This table is taken from Pettenkofer's "Munich a Healthy City" up to 1887 inclusive; after 1887 from returns obtained from the Statistical Bureau.

TABLE II.—*Deaths from Typhoid Fever in Munich.*

—	Total.	Total annual mean.	Annual mean per 100,000.
1851 to 1860	2676	267 6	202·4
1861 to 1870	2469	246·9	147·8
1871 to 1880	2188	218·8	116·7
1881 to 1890	383	38·3	16·0
1891 to 1896	131	21·8	5 6

The mean annual death-rate from typhoid fever per 100 000 in England and Wales has decreased considerably since 1870, but not nearly so much as in Munich.

This rate was 32·55 in the eighth decade; 19 76 in the ninth decade; and 17·38 in the period 1891–1895—*i.e.*, there was a reduction in the ninth decade nearly to one-half of what it was in the eighth; since 1890 the reduction has been continued to a very slight extent. Whilst in England and Wales the reduction has been nearly to one-half, in Munich it has been more than twenty-fold.

Evidence indicating that the records of this extraordinary reduction of typhoid fever mortality in Munich have not been miscalculated or exaggerated owing to errors in diagnosis.—The eminent pathologist, Professor von Buhl, drew up lists showing the monthly averages of deaths from typhoid fever which occurred in the Munich hospital and were verified by post-mortem examination during the years 1854 to 1864. Professor von Pettenkofer drew up similar lists of monthly averages of the deaths from typhoid fever recorded by the Munich physicians as occurring in the whole city during the years 1851 to 1867 and compared them with the lists of Professor von Buhl. Table III. shows these lists compared together. If the diagnosis of the cases recorded in the whole city were correct it might be expected that the monthly averages of these cases—taken over a long period of time—would bear an approximate ratio to the monthly averages recorded and verified in the hospital. As seen in Table III. the conformity between these ratios is very remarkable.

TABLE III.—*Showing the Monthly Average of Cases of Death from Typhoid Fever.*

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	—
(*a*)	33·5	36·8	31 8	23·1	17·6	15 2	15·8	16·7	16·1	15·0	19·0	28·5	In the whole city.
(*b*)	13·1	14·1	12·4	6·9	5 2	5 2	6·0	4·8	6·8	4·2	7·6	12·2	In the hospital.
(*c*)	12·8	14·1	12·2	8·8	6·7	6 7	6·0	6·4	6·2	5·7	7·3	10·9	*In the whole city* ÷ 2·61.

(*a*) Recorded in the whole city of Munich from 1851 to 1867 (Pettenkofer).

(*b*) Recorded in the hospital and verified by post-mortem examination during the years 1854–1864 (by Buhl).

(*c*) Recorded in the whole city (as above); divided by the factor 2 61. The factor 2·61 is obtained by dividing the maximum monthly average of the whole city by the maximum of the hospital. ("Munich a Healthy City.")

The great and unmistakeable decrease of typhoid fever in Munich is confirmed by Chief Staff-Surgeon Port's careful observations of the progress of the disease in the garrisons of the city (vide Table IV.).

TABLE IV.—*Mortality from Typhoid Fever in the Munich Garrisons from 1850 to 1881.*[2]

Year.	Strength.	Deaths in year.	Per 1000.	Year.	Strength.	Deaths in year.	Per 1000.
1850	5876	41	7 0	1874	6615	71	10·7
1851	6030	44	7·3	1875	6380	29	4 5
1852	5476	37	6·7	1876	5944	9	1 5
1853	5592	62	11·1	1877	5637	19	3 4
1854	5380	61	11·3	1878	6130	2	0 3
1855	5445	77	14·1	1879	6066	22	3·6
1856	4875	29	18 2	1880	5997	6	1·0
1857	4828	58	10·8	1881	5490	0	0 0
1858	4931	80	16·2	1882	6848	2	0·3
1859	5901	59	10·0	1883	7035	1	0·14
1860	5781	31	5·3	1884	7112	3	0 42
1861	5719	24	4·2	1885	6820	1	0·15
1862	5582	55	9·8	1886	6552	1	0·15
1863	5300	27	5 1	1887	6912	2	0·29
1864	5312	62	11·6	1888	7527	2	0·26
1865	5090	21	4·1	1889	7395	0	0 00
1866	—	67	—	1890	7398	2	0 27
1867	5646	8	1·4	1891	—	—	—
1868	—	23	—	1892	—	—	—
1869	6188	33	5·3	1893	—	—	—
1870	(½)—	15	—	1894	—	—	—
1871	(½)—	14	—	1895	—	—	—
1872	5523	55	9 9	1896	—	—	—
1873	5915	42	7·1				

The mortality from typhoid fever per 1000 men in these garrisons in the sixth decade was 11 80; in the seventh decade was 5 93; in the eighth decade was 4·67; and in the ninth decade was 0·19.

The great decrease of typhoid fever in Munich during the ninth decade is also corroborated by Ziemssen's tables, which show that the decrease of morbidity (as indicated by the number of cases of typhoid fever admitted to the hospital) was even a little greater than the decrease of typhoid mortality as recorded in the whole city.

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[2] Port: Archiv für Hygiene, 1883, p. 67.

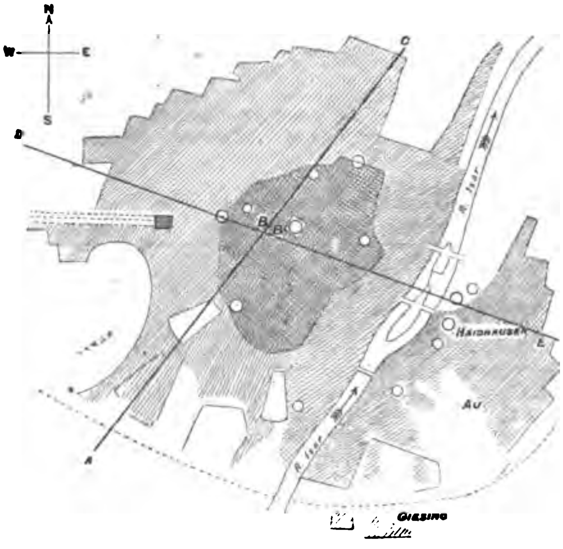
TABLE V.—*Von Ziemssen's Tables.*

—	Period.	Total No.	Annual mean.	Ratio of the annual means.
1) No. of deaths from typhoid fever recorded in Munich	(A) 1866–1880 (B) 1881–1888	3198 321	213·2 40·1	5·31 to 1·00
(2) No. of cases of typhoid fever admitted to hospital	(A) 1866–1880 (B) 1881–1888	8932 831	595 104	5·72 to 1·00
(3) Mortality per 100,000 recorded in the city	(A) 1866–1880 (B) 1881–1888	— —	117·4 16·0	7·33 to 1·00
4) No. of cases admitted to hospital per 100,000 inhabitants	(A) 1866–1888 (B) 1881–1888	— —	332 42	7·909 to 1·00

THE CITY OF MUNICH AND ITS SURROUNDINGS.

Situated about 1700 feet above the sea on a plateau which slopes gently downwards and northwards from the Alps towards the valley of the Danube, Munich is built on the old gravel bed of the River Isar. About four-fifths of the city (including the oldest part) lie on the left or west side of the river, the remaining fifth being built on the more highly situated bank on the right. This gravel bed varies in thickness from about 10 ft. in the northern part of the city to about 50 ft. and more in the southern part. Immediately beneath the gravel is extended a vast stratum of impermeable marl (named Flinz). Over the surface of the marl flows the subsoil water (Grundwasser), a great subterranean stream, not only underlying the whole city, but extending for great distances beneath the surface of the Munich plateau. This subsoil water has its source chiefly from the wide expanse of uninhabited area which extends at a higher elevation to the south of the city. It flows in a north-easterly direction, almost parallel to that of the River Isar. The level of the subsoil water is liable to variations remotely dependent on the preceding rainfall. The range of these oscillations extends from 0 up to about 8 ft.; more usually, however, only from 1 ft. to 2 ft. They show remarkable uniformity throughout the area of the whole city. Speaking generally, the level of the subsoil water is highest in the summer and autumn, lowest in the winter months. The surface of the impermeable Flinz slopes gently downwards in a northerly direction (though not so much as the surface of the soil) and presents many inequalities—elevations, depressions, and horizontal stretches—which greatly modify the depth and current of the subsoil water. When the level of the subsoil water is low it stagnates in some of the depressions, leaving some of the elevations dry; whereas when the level is high it flows freely over the inequalities, washes through and cleanses the overlying gravel, removing from it the impurities which have accumulated during the previous drought. Chemical analysis shows the subsoil water to be of comparative purity before it enters under the area of the city (see Table VI., *b* and *c*); as it enters under the inhabited parts it shows signs of great and increasing pollution (see Table VI., *e*, *g*, and *h*). Exceptions to these rules are found in the subsoil water in those districts adjoining the River Isar, where it has been shown from its exceptional purity and from the variations in its level to be derived directly from the river (see Table VI., *f*, *m*, and *n*). The subsoil water has been found to be purer as a rule when it falls, more polluted when it rises. Numerous branches of the River Isar still flow through the heart of the city, forming a meshwork of streams (Stadtbäche), which run with great swiftness through and around the older part, covered generally by the streets and buildings, but coming here and there into view, and reuniting to the south of the city to form larger streams which discharge eventually into the Isar.

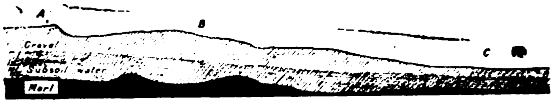
FIG. 1.



MAP OF MUNICH.

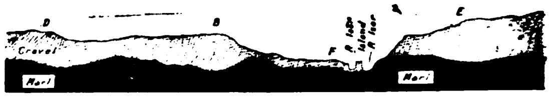
The diagonal lines indicate the inhabited parts of the city. The darker centre indicates the old city. The sources of the public water-supplies are indicated by circles. B B marks the well in the Courts of Justice (Stadtgerichtshof).

FIG. 2.



Geological section of Munich through the line A B C in the map (Fig. 1) showing the approximate height and flow of the subsoil water.

FIG. 3.



Geological section of Munich through D B E in the Map (Fig. 1), showing the gravel bed on which the city is built.

DRAINAGE OF MUNICH DURING THE SIXTH DECADE.

From time immemorial until 1858 nearly all excreta were deposited in privies and cesspits, so constructed that their liquid contents drained away into the porous soil. By similar arrangements the slops and liquid refuse from the houses were allowed to soak away into the soil. The remaining refuse appears to have been discharged into the city streams and the river. In 1858 an order was issued that all cesspits in the city should be made watertight. The inspection, emptying, and repairing of these cesspits were entrusted to the officials of the municipal authorities. This order could only be carried out by degrees. The slops and other liquid refuse from houses, &c., were still committed chiefly to the soil until 1878; but from that year up to the present time they have gradually been cut off from the soil and conveyed into the city sewers. Until 1858 only the old city and some of the suburbs on the right of the Isar appear to have had sewers. After that time the systematic drainage of those parts surrounding the old city (Max-vorstadt and Ludwig-vorstadt) was begun and carried on until 1878. Since then—from 1881 up to the present time—the sewerage and house-drainage of the rapidly growing city have been gradually improved and carried out according to the plans of the English sanitary engineer, Mr. Gordon. Since 1893 the old watertight cesspits have been rapidly replaced by water-closets.

WATER-SUPPLIES OF MUNICH: FROM 1851 TO 1865.

During this period and from the beginning of the century the city was supplied with drinking water entirely from the subsoil water—partly by the Royal waterworks (seven in number), partly by the municipal waterworks (six in number), and partly by private wells. Three of the Royal waterworks collected water from three different springs on the east side of the river and four from four large wells in different districts of the old city. The chief of the municipal waterworks was supplied from springs on the right side of the Isar; a small spring on the same side of the river supplied the adjoining suburb of Au; the remaining four municipal waterworks derived their water from wells either in or immediately outside the old city. All these sources were more or less surrounded by houses and other buildings and subject to constant pollution from leaking cesspits, house-refuse, slaughter-houses, &c. The sources on the right bank of the Isar, which was comparatively thinly populated, were not liable to such extensive pollution as the wells of the old city. Yet the crude analyses made at this period showed that they were contaminated with a large amount of organic matter. The analyses of all these wells, springs, and other sources which have been made up to the present time—with few exceptions—show evident signs of organic pollution. In 1865 a considerable water-supply was added to the southern and western districts of the city by the Pettenkofer waterworks, the water being derived from subsoil springs in the southern area above the city, an uninhabited district. The analysis of this water (see Table VI. *b*), illustrates the purity of the subsoil water before it is contaminated by the city. It was not until 1883 that the present fine highland water-supply (the Hochquelle-leitung) was introduced, the water being derived from springs and streams impounded in the Mangfall valley of the Bavarian Alps (about twenty miles away). This water has been gradually distributed to the different parts of the city and has now supplanted nearly all the old water-supplies. Its analysis shows it to be of exceptional purity (see Table VI., *p*). From a study of the large number of chemical analyses of the water-supplies of Munich, recorded in the *Zeitschrift für Biologie* and elsewhere during the seventh and eighth decades, it may be seen that the pollution was very large and general, the evaporation residues varying from about 40 per 100,000 to nearly 200. In 1892 the analysis of the wells still existing in Munich (over 1300 in number) was undertaken by Dr. Sendtner and a staff of assistants. Some of these analyses made in 1892 have been selected and are recorded in Table VI.[3]

PETTENKOFER'S RESEARCHES.

Beginning in 1854 as a believer in the constant convection of typhoid fever and cholera by the drinking-water Pettenkofer first turned his attention to the distribution of cholera during the great epidemic of that year. He expected to find exceptional opportunities for proving the truth of the drinking-water theory owing to the number and peculiar distribution of the many different water-supplies in the city. He ascertained the water-supply of each single house by means of the Royal and Municipal Water Rates and by personal inspection; but in all cases his expectations were disappointed and he could find no connexion, local or temporal, between the water-distribution and the cholera outbreaks.[4] He made similar investigations with regard to the typhoid fever incidence in Munich and the distribution of the different water-supplies and always with similar results. He could never trace any of the local outbreaks which frequently occurred to any of the many separate water-supplies. Finally, he was convinced that in Munich there was not the slightest connexion between the drinking water and the typhoid fever. He next turned his attention to the conditions of the soil. In 1856 the observations of the height of the subsoil water in various parts of the city were begun; these have been continued up to the present time. In Fig. 4 the monthly returns are represented—(1) of the height of the subsoil water in Munich; and (2) of the number of deaths from typhoid fever.

From this chart it will be seen that there is a remarkable correspondence—*(a)* between the rise of the subsoil water and the fall of the typhoid fever prevalence; and *vice versâ* *(b)* between the fall of the subsoil water and the rise of the typhoid fever prevalence, until the time when the epidemic waves began to subside.

Thus a rapid fall in the subsoil water is followed by a great outbreak of typhoid fever, as shown especially in the winters of 1857-1858 and 1865-1866; a rapid rise of the water by sudden decrease of the epidemic, as shown especially in the early months of 1858 and 1866. Whilst the subsoil water is at a high level the typhoid fever prevalence is at its lowest—e.g., during the years 1860 and 1861, 1867 and 1868. During the winters of 1871, 1872, 1873, and 1874 the rapid fall of the subsoil water is followed in each instance by considerable epidemics. After 1874 the fall of the subsoil water appears to be followed by abortive and irregular attempts at epidemics until 1880; after which year they ceased altogether.

TABLE VI.—*Chemical Analysis of the Drinking Waters of Munich (parts per 100,000).*

Date.		Source.	Residue dried at 100° C.	Chlorine.	NH_3.	Nitrites.	N as nitrate.	Oxygen required.
1892.								
	(*a*)	Isar River.	20·9	0·15	—	—	0	0·21
	(*b*)	Pettenkofer Waterworks (Thalkirchner Wasser).	27·2	1·0	—	—	0·3	0·09
	(*c*)	"Normal" subsoil water.	32·5	1·4	0	0	0·25	0·2
	(*d*)	Royal Waterworks (from springs on right side of Isar). Mean of 23 samples.	47·3	1·93	0	0	1·15	0·082
Near the line ABC in the Map (Fig. 1)	(*e*)	No. 28, Lindwurmstrasse (near south end of city).	34·0	1·45	0	0	0·70	0·054
	(*f*)	No. 17, Erhardtstrasse (close to River Isar).	17·6	1·184	0	0	Traces	—
	(*g*)	Courts of Justice (Stadtgerichts-hof): in heart of old city.	62·0	5·04	0	0	3·02	0·042
	(*h*)	No. 10, Amalienstrasse (in south end of city).	82·4	7·27	0	0	3·7	0·102
Near the line DBE in the Map (Fig. 1).	(*k*)	Well at north-west end of city, 186, Nymphenburgstrasse.	33·2	0·81	0	0	0·48	0·05
	(*l*)	In city, near railway station, 4, Luitpoldstrasse.	86·6	5·82	0	0	6·40	—
	(*m*)	On Kalkofen Island (in the River Isar).	17·0	0·48	0	0	Traces	0·075
	(*n*)	In city, near the river, 54, Baaderstrasse.	28·8	0·58	0	0	0·37	0·183
	(*o*)	In suburb, Haidhausen, to east of River Isar, 125, Rosenheimerstrasse.	33·4	0·97	0	0	0·61	0·015
1886.								
	(*p*)	The Hochquelle-leitung. the new highland water-supply to Munich.	30·0	0·45	0	0	0·18	0·08

Methods of analysis used.—Residue, by drying at 100° C. in an air-bath; chlorine, by Mohr's method (with silver nitrate); ammonia, by direct addition of Nessler's reagent; nitrites, by zinc-iodide and starch solution; nitrogen as nitrate, with diphenylamine, or by the Marx-Trommsdorff method (with indigo), or by the Schulze-Tiemann method (with ferrous chloride); oxygen required, by Kubel's method (by boiling for five minutes exactly with potassium permanganate, and hydrogen sulphate, and subsequent titration with hydrogen oxalate).

This constant relation between the variations of the level of the subsoil water and the variations in the typhoid fever mortality is confirmed in a remarkable manner by Dr. Port's observations on the typhoid fever mortality in the Munich garrisons during the ten years 1872–1881 as recorded in Fig. 5.

Pettenkofer's theory with regard to the conditions necessary for the spread of typhoid fever epidemics. — *(a)* The presence of the specific typhoid poison in the soil; *(b)* pollution of the soil, together with certain conditions of porosity affected by temperature and moisture or oscillations of the subsoil water; and *(c)* the presence of inhabitants predisposed to the disease. He does not consider the subsoil water in itself as favourable in any way, but only as an index of the humidity and of certain unknown conditions and processes in the soil above it. In his opinion, if the conditions of moisture and of the soil are favourable, epidemics of typhoid fever may occur even when there is no subsoil water at all.

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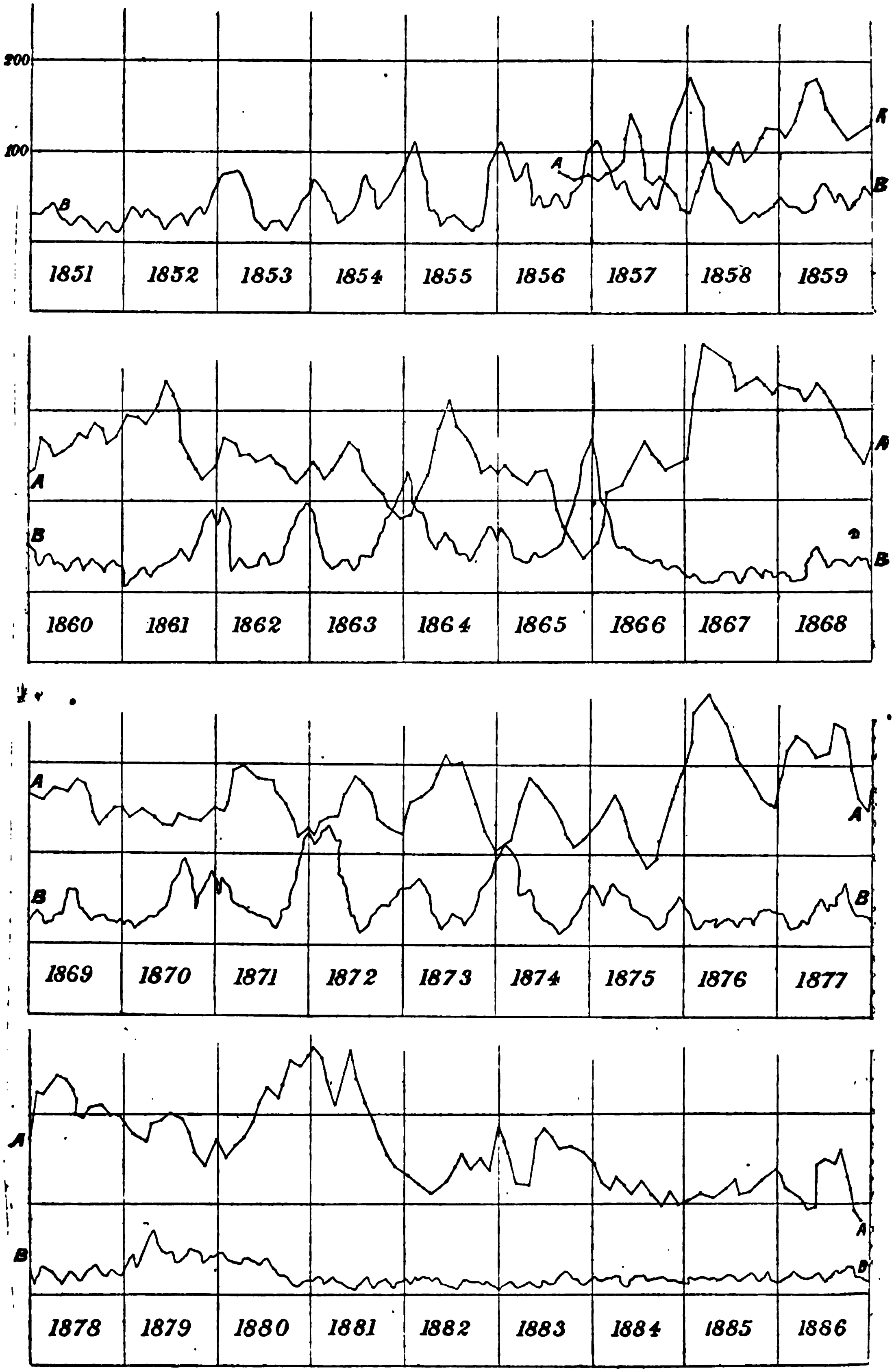
[3] Sendtner: Das Grundwasser in den einzelnen Stadttheilen München's. 1894.

[4] Pettenkofer: Verbreitungsart der Cholera.

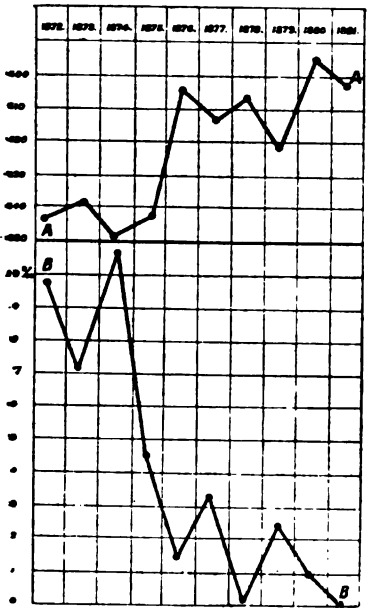
FIG. 4.



A A, Monthly variations in height of subsoil water in Munich. B B, Monthly variations in typhoid mortality per 100,000 in Munich.

The great decrease of typhoid fever in Munich since the sixth decade must be attributed chiefly to the removal of those causes which for so long had been producing extraordinary dampness and pollution of the soil immediately around and beneath the dwellings of the whole city. From the time when the cesspits were made water-tight (from 1858) the gradual reduction of active pollution must have been enormous, whilst the natural agencies of the soil, aided by the system of sewerage which has been extended throughout all parts of the city, must have gradually diminished the accumulated stock of dampness and organic saturation. Finally, the sudden abolition of the 800 slaughter-houses in the city in 1878 removed the chief remaining active agent of soil-pollution. It is obvious that the subsoil-water, which until 1883 supplied nearly the whole city with drinking-water, must have shared largely in this gradual and general purification; and, indeed, a study of the chemical analysis of the 1342 wells of the city made by Dr. Sendtner and his staff in 1892 will show that the pollution of the great majority of these wells is due more to the presence of effete and oxidised organic matter than to recently contributed organic pollution. This fact is well illustrated in the case of the well in the Courts of Justice (Stadtgerichtshof): *vide* Fig. 1 and also Table VI. *g.* The analysis of this well shows that the nitrates (calculated as potassium nitrate) formed more than one-third of the evaporation residue, and the chlorides (calculated as potassium chloride) rather more than one-sixth. The oxidisable matter, on the other hand, is very small in amount and no traces of ammonia or of nitrites were found.

FIG. 5.



A A, Mean annual level of the subsoil water at the Military Hospital, Munich, in centimetres below the surface. B B, Typhoid mortality per 1000 men in the Munich garrisons from 1872 to 1881 inclusive.

Unfortunately I have not been able to discover many records of the amounts of chlorine, ammonia, nitrites, nitrates, and oxidisable matter in the earlier analyses. But Dr. Sendtner in his book (pp. 62–68) gives the analyses which he made between 1880 and 1890 of seventy-five wells. In these analyses the presence of ammonia and of nitrites in large quantities (indicating recent organic contamination) is frequently recorded, in striking contrast to the 1342 analyses made in 1892—i.e., some ten to twenty years later—in which traces of ammonia and nitrites are rarely reported. In an analysis of the Stadtgerichtshof well recorded by Pettenkofer[5] and dated 1871 the oxidisable matter is far greater, the nitrate far less than it was in 1892, indicating that it was still subject to some active organic pollution in the earlier period, whilst only effete and oxidised organic matter is contributed to the water at the present time. This well is of very special interest. It may be taken as an average sample of the many wells which formerly existed within the city. It was in much request because of its coolness and fine flavour. Standing in the centre of a courtyard of what was formerly a convent—in the heart of the old city—it was surrounded by numerous cesspits and other sources of organic filth and excremental pollution. The analyses of the water, which have been made at very frequent intervals during the last fifty years, have always shown a large amount of contamination. The evaporation residue has generally varied from 60 to 65 parts per 100,000. (In 1892 it was 62.) The highest amounts recorded were between the summer of 1866 and the winter of 1868, a time when the typhoid incidence of the epidemic periods was extraordinarily low. It reached as much as 111 parts per 100,000 in the summer of 1867, when the typhoid incidence of those periods was at its very lowest. At this same time there were signs of greatly increased pollution in nearly all the analyses of wells which I have been able to find. Pettenkofer frequently calls attention to the fact that he could never find that the consumers of this well water at any time suffered more or less from typhoid fever than those deriving their water-supply from other sources.

A study of the 1342 chemical analyses of the wells in Munich in 1892[6] would be of great interest to water-analysts. In the majority of the highly polluted wells, whilst the amounts of evaporation residue of chlorine and of nitrogen as nitrates are very great (viz., from 100 to 150, from 5 to 18, and from 1 to 7 parts per 100,000 respectively), no trace of ammonia or of nitrites has been detected, and the amount of oxygen required (for oxidation of the organic matter) has frequently been less than 0·2 parts and seldom above 0·4 parts per 100,000. It will be well here to review the evidence which indicates that the prevalence and reduction of the typhoid fever in Munich have been independent of the drinking water. In the first place there are Pettenkofer's own observations, made in 1854 and afterwards, from which he concluded that, in spite of his searching investigations, no connexion could be traced out between the distribution of the drinking water and the incidence of typhoid fever. So also he observed that those who made use of the Pettenkofer waterworks water (which was introduced in 1865 and was immediately followed by a great epidemic) suffered just as much from the epidemic as those who continued to drink the old water-supplies. Of these personal observations I have not succeeded in finding recorded details; but they derive their weight from the high authority of Pettenkofer himself. For confirmatory evidence of these conclusions we have the chemical analyses made by Wagner and Aubrey of a large number of wells over a long series of years, from which they were led to announce the general rule that the subsoil water was more polluted when it was high than when it was low—i.e., that during the periods of typhoid fever epidemic the drinking-water was purer than when the typhoid fever incidence was small.[7] Further corroborative evidence is derived from the remarkable results obtained by Dr. Port with regard to the Munich garrisons, as shown in Table VII. From this table it will be seen that those garrisons which were supplied with

TABLE VII.—*Chemical Analysis of the Water-supplies the Munich Garrisons and Mortality from Typhoid Fever per 1000 Men, 1872–1881.*[8]

Garrisons.	Parts per 100,000. Residue at 100° C.	Organic matter.	N as nitrates.	N_2O_3	NH_3	Chlorine.	Typhoid mortality per 1000 men.
Max II. ...	60—77	2 5—6 0	1·25—1·7	Traces	Traces	2·8—3 6	1·2
Turken ...	47—72	1 8—2 8	1·7 —2·25	0	0	2 8—3·5	3·9
Salztadel ...	60—63	1·8—2 (	1·25	0	0	2 4 - 2 6	—
Hofgarten ...	27—45	2·5—5·(	0 8 —1 5	0	0	2·1—2·1	7·1
Lebel	50—58	5 0—5·6	0 8 —0.9	0	0	1·7—2 1	2.8
Neue Isar ...	28—35	1·1—4·1	0·15—0·9	0	0	1 0—1 8	10·6
Alte Isar ...	20—29	1·0—3·0	0 03—0 05	0	0	0 8	7·4

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[5] Zeitschrift für Biologie, vol. x., p. 451.

[6] Sendtner, loc. cit.

[7] Zeitschrift für Biologie, Band ii. &c.

[8] Archiv für Hygiene, Band i., 1893.

exceptionally pure water during the ten years 1872–1881 suffered far more severely than those whose water-supply was obviously highly polluted.

Finally there is the great fact that the people of Munich were drinking the subsoil water, and that only, until 1883—three years after the epidemic waves had ceased—when the highland water-supply was introduced. This supply has slowly and gradually been distributed to the whole city. In 1884 Pettenkofer investigated the typhoid fever mortality in 871 houses containing 23,302 people who were still supplied by the old Royal waterworks. These waterworks had not altered their supply in any respect. He found that "they did not suffer more from typhoid than their fellow citizens who drank of the pure highland water-supply."[9] Recently Pfeiffer and Eisenlohr investigated the incidence of typhoid fever in certain districts during the years 1888–1892 with the aid of the lists of notification of the disease. They examined 665 houses in which there were 831 cases and found that 69·9 per cent. of the houses with 70 5 of the typhoid fever patients had been served exclusively with the highland water-supply.[10]

CONCLUSIONS.

Taking all the above facts into consideration, it must be admitted that the evidence is very strongly in favour of the conclusion that whilst the great decrease of typhoid in Munich has been due in a general way to improved sanitary conditions, and possibly in some measure to decreased pollution of the water, (1) the drinking-water has not played an important part in producing and reducing the typhoid fever epidemics in Munich; (2) the great prevalence of typhoid fever in Munich was due to the great pollution of the soil (including specific pollution), modified by certain unknown conditions in the soil which are correlated with the movements of the subsoil water; and (3) the gradual reduction of the typhoid fever was due to the gradual purification of the soil;—and the abrupt termination of the epidemics to the sudden removal of all the slaughter-houses.

In our own country the number of epidemics of typhoid fever which have been shown to be connected with the water-supply is so large that we have difficulty in understanding how it is possible that there was not a similar connexion in Munich. It is difficult also to imagine the processes by which the typhoid virus is conveyed direct from the soil through the air into human beings, whereas the connexion through the drinking water seems to be extremely simple and probable. An explanation of these apparent discrepancies may possibly be found in the extraordinary conditions of the soil and subsoil water of Munich. Such conditions are not found on a large scale in this country. It is conceivable, for instance, that the typhoid virus may have been so far modified or destroyed by the time that it reached the great stream of subsoil water which flows underneath Munich that it seldom or never caused infection amongst those who were drinking that subsoil water. It is conceivable also that there are certain conditions of a soil owing to which typhoid infection may be conveyed through the air to those living on that soil and that such conditions were pre-eminently prevalent in Munich whilst they are limited and exceptional in this country. Our ignorance of the processes which the typhoid virus undergoes after leaving the patient forbids us to form absolute conclusions. It must be admitted that the custom has been too common in this country to look only for a polluted water-supply as the cause of outbreaks of typhoid fever, to make no further inquiry when such pollution has been proved, and to rest content with this evidence as a positive demonstration of cause and effect. Much still remains to be learnt from a study of comparative epidemiology and from a consideration of the conditions of water-supply, soil, drainage, &c., of those parts of the globe where typhoid fever is pre-eminently prevalent—especially, for instance, in India. From such a study we may reasonably hope to learn much that will explain the obscure cases of outbreak of typhoid fever, the sporadic and recurrent cases and, again, those in which the infection cannot be traced to the water-supply.

SUGGESTIONS.

(1) That the history of typhoid fever in Munich indicates that the conditions of soil near and underneath houses may be an important factor in the production of typhoid fever, and that in tracing out the causes of an epidemic the conditions of the soil should not be overlooked; (2) that the pollution of the soil with human and other organic refuse and, in addition, with typhoid virus may be the cause of some of the inexplicable cases of sporadic or of recurrent outbreaks and even of some outbreaks which have been too hastily attributed to polluted water or some other cause; (3) that it is very desirable to promote and extend experiments such as those of Professor Sidney Martin and others for the study of the life-history of the typhoid bacillus in the soil; and (4) that the establishment of an international epidemiological association and the study of comparative epidemiology would be of the greatest service and would probably help to throw much light on the still obscure and complicated problems involved in the study of the causes of typhoid fever and other similar diseases.

In conclusion, I am glad to have this opportunity of recording my sincere gratitude to the many kind friends in Munich who have spared no pains in helping me to investigate this very interesting history and of congratulating them upon the splendid results which they have achieved, through which their city—once terribly afflicted by typhoid fever—has become more free from that disease than almost any other city in the world.

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Manchester-square, W.

THE TREATMENT OF INOPERABLE SARCOMA BY MEANS OF COLEY'S FLUID.[1]

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THERE are, I imagine, few subjects in surgery more urgent at the present time than the treatment of malignant growths which have passed the stage in which they are capable of being removed by operation. For such cases there is nothing left. The patient may be young and in the full vigour of life with, in every other respect, a prospect of a long career before him, or he may be old and fast breaking up; it makes absolutely no difference. The limits of operation have been reached; there is nothing more to be done. And the number of these cases is not only a very large one, but according to the Registrar-General's statistics, shows very little sign of decreasing. It is possible that with improved methods of diagnosis and as the not altogether unreasonable dread of operation grows less it may fall to some extent. As matters stand it is unfortunately only too true that hopeless recurrence is the fate of the greater number of those who suffer from sarcoma or carcinoma, whether they are operated upon or not. Nor is this all. This subject does not concern those only who have passed beyond the limits in which removal is possible. It concerns no less all those who suffer from malignant disease of any kind, whether they are capable of being operated upon or not. Whatever may be said in favour of our present method of dealing with malignant disease it is impossible to argue that even when it is successful it is an ideal one or incapable of improvement. In the vast majority of instances operation for malignant disease means mutilation, though from long habit we may not recognise it as such. Amputation is no remedy, though at present it seems to be the only method of treatment that holds out a prospect of saving life.

It is manifestly impossible to deal with so vast a subject as the treatment of malignant growths within the limits of an ordinary paper. I intend, therefore, to confine myself to that branch of it which seems to hold out the greatest amount of hope—the treatment of sarcomata by what is known as Coley's fluid, a mixture of the products of the growth of the streptococcus of erysipelas and the bacillus prodigiosus sterilised by heat. I have tried this fluid in ten cases altogether with varying degrees of success, and I propose first to lay before you the method in which by systematic scientific observation and experiment this mode of treatment has gradually been evolved and then to deal as impartially as I can with the results that have been obtained by it.

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[9] "Munich a Healthy Town."
[10] Archiv für Hygiene, Band xvii., 1893.

[1] A paper read before the Harveian Society on Feb. 3rd, 1898.

It has been known for many years, according to Fehleisen since the seventeenth century, that not only malignant growths but chronic ulcers of the skin, lupus nodules, syphilitic sores, and other affections occasionally disappear with great rapidity after an attack of erysipelas. The number of cases that have been recorded with sufficient accuracy and detail is not a very large one it is true. They are undoubtedly of exceptional occurrence. Many of them are of somewhat ancient date, as might be expected from the fact that erysipelas is much less common now than it used to be and that the attacks are less severe than they were in pre-aseptic days. But after making full allowance for all these defects there still remains a sufficient number of well-authenticated instances to dispel at once the idea that the disappearance can be in any way due to mere coincidence. Placing on one side other affections and cases of carcinoma I have been able to find records of fifteen undoubted instances of sarcoma in which an accidental attack of erysipelas occurred. Of these fifteen no less than nine were cured, if by cure is understood complete disappearance of the growth with no recurrence for a period of sometimes so long as seven years. And in five of the remaining six the external aspect and the size of the tumour were profoundly altered for a time although no permanent cure resulted. I must remark by way of parenthesis that no deduction can be drawn from these figures as to the proportion of cases in which cure takes place after erysipelas. There is a very obvious fallacy. Only successful cases have been recorded. No special attention has been paid until the last few years to the effect of erysipelas upon malignant or any other growths and consequently no one in days gone by would have published or called attention to an attack of erysipelas occurring in a patient suffering from a malignant growth unless some definite or striking event followed from it. This fallacy, however, as Dr. Coley has pointed out, is confined to reports of cases in which erysipelas has been caused accidentally. It does not apply to cases in which erysipelas has been communicated purposely by inoculation or to those in which the toxins produced by the streptococcus of erysipelas have been injected. It is probable that all, or nearly all, of these have been recorded, whether successful or not, and the statistics that have been collected about them are only liable to the same fallacies as those that vitiate more or less the statistics of every other surgical operation. Some of these nine cases were of a very striking character. Bruns, for example, has recorded a case of melanotic sarcoma of the breast with enlarged glands in the axilla which was excised in 1880. Recurrence took place long before the wound was healed. Four weeks after the operation erysipelas broke out, the tumour vanished entirely, and eight years later the patient was perfectly well, without a recurrence of any kind. In a case published by Biedert, that of a girl eleven years of age, there was an enormous sarcoma of the tonsil protruding between the lips, projecting into the nose and orbits and blocking the pharynx, so that tracheotomy was necessary. Three days later an attack of erysipelas broke out and in six days the tumour had disappeared and the ulcerated surfaces were beginning to heal. Two years afterwards the girl was well except for the stenosis due to the cicatrices. A third, a sarcoma of the hip, which disappeared almost as rapidly, is recorded by Wyeth. The patient was a child seven years of age. The thigh was amputated through its lower third for sarcoma. Recurrence took place. Disarticulation at the hip-joint was performed. The tumour returned in the stump almost at once and formed a huge fungating mass. Erysipelas broke out. The growth sloughed away in a few days, the wound healed up and seven years later the child was well. A fourth case, recorded by Dr. Coley, was one of round-celled sarcoma of the neck operated upon five times by Dr. Bull of New York. The patient was given up as hopeless. Two attacks of erysipelas occurred, one shortly after the other, and seven years later the patient was alive and well. Such cases as these, isolated though they were, could not fail to attract attention, and even before the microbic origin of erysipelas was known several attempts were made at inducing an attack by means of inoculation. When Fehleisen discovered the streptococcus and it was shown that pure cultures could be obtained by growing it upon suitable nutrient media it was naturally not long before a systematic attempt was made. Fehleisen himself was the first. Seven patients, two affected with lupus, five suffering from hopeless malignant disease, were inoculated. One of these had recently had an attack of erysipelas and the inoculation failed. The six others reacted, although in the case of one of them, only the first inoculation was followed by any result. Coley and others quickly followed suit, but two things very soon became apparent. First, that it was exceedingly difficult in many instances to induce an attack. (In no less than five out of thirteen recorded by Coley, and in one of Fehleisen's seven, genuine erysipelas never occurred at all.) Secondly, that it was still more difficult to limit the effect of the attack when it did occur. There are twenty-five cases recorded in which an attempt was made to induce an attack of erysipelas by inoculation. In nearly all pure cultures were injected or rubbed in after the skin had been scarified. In one the patient was placed in a bed which had a notoriously bad history. Six of these, as already mentioned, never had a genuine attack, although in most of them many attempts were made. The patients were feverish, there was a certain amount of œdema and redness around the point of inoculation and they were ill for a few hours. But by the end of the first, or at the utmost, of the second day, the symptoms had disappeared. No less than four of the remaining nineteen patients died as a direct result of the attack. Fourteen of these cases were definitely sarcomata. One of them, under the care of Dr. Coley, a sarcoma of the neck that had already recurred twice, was cured—that is to say, four and a half years afterwards the patient was well in every respect. Another, a lympho-sarcoma of the neck which had resisted arsenic, under the care of Kleeblatt, disappeared entirely, but there is no record as to how long the patient remained well afterwards. In two others under the care of Dr. Coley, after repeated inoculation with living cultures each of which was followed by temporary improvement, a cure resulted from the use of the mixed toxins. (One of these Dr. Coley has since reported as having a recurrence in the abdomen more than three years after the last trace of the original growth had disappeared). Two others, an enormous sarcoma of the neck, under the care of Busch, and a lympho-sarcoma of the tonsil, under the care of Kleeblatt, almost disappeared, but as soon as the effect of the erysipelas had passed off began to grow again. Two of Fehleisen's diminished considerably for a time. Four were scarcely affected, and in the remaining two erysipelas never occurred at all. It is worth noting that in every single case in which erysipelas occurred the tumour showed some change, although in four of the twelve it was very slight. Only one was cured; in another the tumour disappeared and there is no further record. A third remained free from recurrence for upwards of three years.

The next step was to utilise Brieger and Frankel's discovery and employ the toxins produced by the streptococcus of erysipelas by themselves without the germ. Lassar was the first to do this. The case was one of epithelioma of the face supervening upon lupus. The toxins were separated by filtration, sterilised by steam, and injected into the nodules. Some local redness and œdema with general discomfort followed, but the tumour was not affected. In a little while, in spite of the dose being increased, tolerance was established and the treatment was abandoned as unsuccessful. Coley adopted the same plan in his earlier cases, the unmistakeable improvement that followed inoculations even when no erysipelas was produced leading him to believe that a portion, if not all, of the curative influence might be due to the toxins rather than to the action of the germ itself. He saw at once that this method possessed great advantages over inoculation with living organisms. It was much less dangerous. The dose could be regulated and the effect would be proportionate to the amount injected. Coley soon found that bouillon cultures sterilised by heating to 100° C. were too feeble. The effect was the same as in those cases in which living cultures were injected without causing erysipelas, but much less severe. Filtration through a Kitasato filter made them weaker still. Accordingly he made use of a fact discovered by Roger of Paris, that the bacillus prodigiosus, a non-pathogenic organism, has the power of intensifying the action of certain pathogenic germs and among others the streptococcus of erysipelas. Two solutions were prepared, one containing the toxic products of the streptococcus of erysipelas (from a fatal case); the other those of the bacillus prodigiosus. These were mixed, sterilised by filtration without the use of heat, and preserved by the addition of a few thymol crystals. The proportion in which they were used was about one part of the bacillus prodigiosus toxin to four or five of the other. Injections of these mixed toxins caused a much greater effect. The reaction was more marked, a rigor was not uncommon, sometimes there was an outbreak of herpes labialis, and the effect upon the tumour was unmistakeably greater. Later, at the suggestion of Mr. Buxton, a further improvement was made and the germs were grown together in the same fluid. Shortly afterwards, in order to preserve whatever value might exist in the bodies of the germs themselves, the mixed cultures were heated to a temperature of 58° or 60° C. for an hour (this, according to Coley, being sufficient to render them sterile) and then used without filtration.

The following is the detailed account of the method at present employed. "Ordinary peptonised bouillon is put into small flasks containing 50 c.c. to 100 c.c., which, after proper sterilisation, are inoculated with the streptococci of erysipelas and allowed to grow for three weeks at a temperature of from 30° to 35° C. The flasks are then inoculated with the bacillus prodigiosus and the cultures allowed to grow for another ten or twelve days at room temperature. At the end of that time (after being well shaken up) the cultures are poured into sterilised glass-stoppered one-half ounce bottles and heated to a temperature of 50° to 60° C. for an hour sufficiently to render them perfectly sterile. After cooling a little powdered thymol is added as a preservative and the toxins are ready for use. The toxins when prepared in this way are very much stronger than when filtered through a Pasteur-Chamberland or Kitasato filter, the active principles contained in the germs themselves being preserved. If, as is sometimes the case, the preparation is found to be too strong to be used with safety, it can be diluted with glycerine or sterilised water. The best method of making the bouillon is to soak a pound of chopped lean meat overnight in water. In the morning strain it through a cloth, make up to 1000 c.c., and boil for one hour. Then filter through a cloth, add peptone and salt, neutralise and boil again for an hour. The bouillon will then pass through filter paper perfectly clear and be ready to put into the flasks. It is not, however, necessary to neutralise the bouillon as the streptococci will grow even more readily in acid bouillon and the resulting preparation is if anything stronger than when neutralised bouillon is used. In order to keep up the virulence of the cultures they are put through rabbits in the following way. The hair of the ear is clipped close with a pair of scissors and the skin washed with weak carbolic acid and then sterilised water. A minute quantity of a bouillon culture forty-eight hours old is then injected subcutaneously in four or five different places in the ear. Forty-eight hours later, after again washing the ear with carbolic acid and sterilised water, a flat needle sterilised in the flame is inserted under the skin at or near the point of inoculation and the layer of skin cut off with a sharp sterilised scalpel. The piece of skin is then rubbed well over the surface of an agar tube with a thick platinum wire needle. After twenty-four hours in the incubator the colonies of streptococci will show as minute white specks and from them a pure culture can be obtained. If the agar is made with 75 per cent. of bouillon and 25 per cent of urine, the streptococci will grow more freely than if bouillon only is used. The dose of this preparation varies from one to eight minims; I have had a temperature of 105° F. follow the injection of two minims. I usually begin with the minimum dose and gradually increase until the desired reaction—e.g., temperature 103° to 104° F.—is reached."

Coley lays great stress upon the necessity for employing virulent cultures only. In the successful cases the toxins were all made from cultures obtained from fatal cases of erysipelas. He also points out that much larger quantities can be borne when injected subcutaneously than when injected directly into a vascular tumour, the difference being due in all probability to the more rapid absorption in the latter instance. Coley recommends that a very small dose should be used at the beginning—one minim of the filtrate, for example, or half a minim of the unfiltered toxins, and that the dose should be gradually increased until the reaction temperature reaches 103° or 104°. Very little benefit has been noticed in cases in which no reaction has been obtained. Usually injections are given daily, aiming to get two or three well-marked reactions during the week, but this must depend upon the general condition of the patient and the rapidity with which recovery sets in. If well borne the treatment has been continued two or three weeks and if at the end of that time no improvement has taken place it has been discontinued. In some of the successful cases it has been kept up for three or four months, occasional intervals of a few days' rest having been allowed. In several instances, in spite of the reaction and depressing effects, the patients have steadily improved in general condition and have gained markedly in weight.

In the summer of 1895 Dr. Coley, of whose kindness I cannot speak too highly, sent me over some fluid prepared by him and took the trouble to write to me on several occasions a long account of the results at which he had arrived. Since then I have received several more samples from him and I have used these and also the fluid prepared under similar conditions at the British Institute of Preventive Medicine. I have tried these fluids in ten cases in all, with two deaths. The first case in which I used them died, but undoubtedly at the time the injection was made the case was not a suitable one. The patient was a man over seventy years of age with an enormous and very vascular sarcoma of the femur whom I saw in consultation in the country. His condition was very feeble and during the month that elapsed before the fluid could be procured he became much worse. The first injection was not followed by any conspicuous result. The second, two days later, caused a rigor which was followed by such prostration that the patient never rallied. The tumour was a very vascular one, pulsating freely, and the injection on the second occasion in all probability entered directly into a vein. Under such conditions there is no doubt it would be better to inject the fluid into some other part of the body and not into the tumour unless the patient has already become habituated so that some degree of tolerance is established. In the second fatal case the patient died from acute pyæmia under conditions curiously like those of a case recorded by Mr. Marmaduke Sheild.[2] In both cases the fluid was carefully tested by a thoroughly competent observer (in mine by Dr. Bullock) and proved to be absolutely sterile. In both instances another patient who was being injected from the same bottle at the same time and even on the same day experienced nothing more than the ordinary reaction. In both full precautions were taken to sterilise the syringe. In Mr. Sheild's case there was some sloughing of the growth; in mine there was some necrosis of bone with suppuration. In Mr. Sheild's the secondary deposits were proved to be due to a staphylococcus and not to a streptococcus; in mine, unfortunately, no examination of the micro-organism in the secondary deposits was made, but it was proved that there were no organisms in the fluid injected, so that they must have come from somewhere else. The explanation is, I think, fairly clear. In both cases the wounds were full of pyogenic organisms, probably in both staphylococci. It is well known that micro-organisms that are comparatively harmless either from the conditions under which they have been living or from the smallness of their number may become intensely dangerous if they are associated with or aided by the presence of other organisms or the injection of other toxins. Animals, for example, that normally are unaffected by the tetanus bacillus lose their immunity if the bacillus prodigiosus or its toxins are injected at the same time; and I have no doubt that this was the case in my patient. The staphylococci were there, inert or almost inert. The injections of the toxins, either by increasing their virulence or by diminishing the resistance of the tissues or by both changed the condition of things and pyæmia followed. The natural deduction is that strict asepsis is absolutely essential, and that there is danger of pyæmia (which in both instances was of a very rapid type) if injections are made in cases in which a sloughing or a suppurating wound is already present. Of the eight remaining cases, one was a carcinoma of the breast and axilla which shewed no change. A second was a lympho-sarcoma of the groin in a young man who after one or two injections declined further treatment. A third was a similar growth in the neck in a man sixty-five years of age, which was not affected in the least, although the toxins were injected in considerable doses. Two improved slightly and in three the tumours disappeared. The following are very briefly the chief particulars of these five cases.

CASE 1.—A man, twenty-eight years of age, was admitted into the London Hospital in November, 1895, with a tumour in the groin which had been noticed for four weeks. The right iliac fossa was occupied by a firm swelling, fixed, not fluctuating, reaching to within an inch of the middle line, and extending deeply on the inner surface of the pubes. It lifted up the iliac vessels and was rather tender on pressure. There were four enlarged glands over it. The skin was not red or fixed and did not pit on pressure. Injections were begun in December, and the dose was steadily increased from half a minum up to eight minims. Rigors occurred on several occasions, but in the most capricious manner. Treatment was left off at the end of February, 1876. The patient's weight increased from 9 st. 12 lb. to 10 st. 5 lb. The tumour at first increased in size and the skin over it became red and tender. Its outline became vague and ill-defined. In the middle of January it was noticed that it was certainly smaller. Then it increased again simultaneously with the occurrence of several rigors. After this it diminished in size until in March there was very little of it to be felt.

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[2] Brit. Med. Jour., January, 1897.

CASE 2.—A man, fifty-eight years of age, admitted in November, 1896, had a tumour in the flank, which had been first noticed one month before. There was a large irregular swelling of firm consistence, not connected with the skin or the abdominal muscles, occupying the left flank. It appeared to be fixed and reached from under the false ribs down into the iliac fossa. In front it came nearly to the middle line, pushing the colon before it. The tumour increased rapidly in size while the patient was in the hospital. Injections were commenced in December, beginning with half a minim, and were continued until the end of January, 1897, with the effect of causing occasional rigors. The tumour continued to increase until at last it pressed upon the colon to such an extent that obstruction seemed imminent. At one time it appeared to become acutely inflamed. Then it slowly diminished in size and shrank until it could scarcely be felt. The patient was discharged in March in a much better condition than when he came in. These two patients (Cases 1 and 2) were shown at the Medical Society in November, 1897. In each there was still a certain amount of resistance over the seat of the swelling, but there was no tumour and they were both in perfect health.

CASE 3.—A man, aged thirty-eight years of age, was admitted in October, 1895, suffering from a tumour of the hip. Illness had commenced four months before with severe pain down the course of the sciatic nerve. This disappeared after a time, but returned worse than ever after injudicious manipulation. The upper end of the thigh was occupied by an irregular swelling that filled up the space between the iliac spine and the trochanter, and moved with the limb. The iliac glands were enlarged. The limb itself was inverted, adducted, and apparently shortened. There had been a recent attack of phlebitis making the swelling and œdema worse. Injections were commenced in October and increased rapidly up to nine minims. This was followed by a rigor. Another rigor occurred a few days later after the same dose; and then, after several injections of the same amount without effect a third, although on the last occasion the dose had been reduced to five minims. After this the treatment was suspended, as the patient complained of general weakness and prostration. The swelling of the hip diminished, slowly at first, more rapidly afterwards. The glands disappeared. The movements of the hip became more free and the inversion and adduction were scarcely perceptible. Two months after his discharge I heard accidentally that an abscess had formed and had burst; but the patient was able to get about well. A year later there was no recurrence.

CASE 4.—A married woman, twenty-nine years of age, was admitted into the London Hospital on Oct. 7th, 1896, suffering from a tumour of the right temple. Six years before a swelling had been noted over the root of the right upper canine tooth. This gradually increased in size until the cheek became much distended by the growth. The right superior maxilla had been removed at the London Homœopathic Hospital on Dec. 31st, 1894. The tumour on microscopic examination proved to be a mixed round and small spindle-celled sarcoma. Three months before admission the patient noticed a swelling in the right temporal region. This had gradually increased in size and become the seat of shooting pains. The right cheek had fallen in and the line of the scar left by the previous operation was plainly visible. The external angular process of the frontal bone on the right side was replaced by a rounded swelling about 1½ in. in diameter, rendering the upper and outer part of the bony margin of the orbit indefinite in outline. Behind the swelling shaded off gradually. Below it reached to, and was apparently connected with, the zygoma. The consistence was very firm and uniform. There was no fluctuation. Injections were commenced on Oct. 9th with fluid obtained from the British Institute of Preventive Medicine. They were made into the arm and were continued almost daily, the dose rising from half a minim to twelve minims. Sometimes there was slight reaction, the temperature rising to 101° F.; but there was no rigor or headache and the tumour continued steadily to increase in size. On Nov. 7th three minims of some fluid kindly sent over by Dr. Coley were injected into the tumour. The temperature rose to 101°; the feet felt cold and the patient vomited. The next day after an injection of five minims there was a distinct rigor in the course of an hour with headache, vomiting, and pain in the back. The injections were continued daily until the dose reached eight minims, each injection being followed by a rigor. On Nov. 15th it was noted that the tumour had definitely altered in shape. The margin of the orbit could be felt. The eyebrow was no longer raised up over the tumour; but, on the other hand, over the zygoma, where the injections were made, the swelling was greater than it was before but softer and semi-fluctuating. On the following day, as the patient strongly objected to the injections into the tumour, nine minims were injected into the arm without result. The next day as the lower eyelid was œdematous the patient declared her conviction that the swelling was increasing, refused further treatment, and left the hospital. The subsequent history as sent to me by Mr. Gordon Brown, of Finsbury-circus, is worth recording. Mr. Gordon Brown writes that after the patient left the hospital the tumour increased in size, affecting the malar bone, causing considerable swelling in the zygomatic fossa, and leading to exophthalmos. There was intense pain in the head. The eyeball protruded and sloughed away. In June she became pregnant and the head symptoms got better. In November the tumour had diminished in size very greatly, but there was a recurrence in the left tibia just below the head of the bone and the inguinal glands were enlarged. In December, 1897, when Mr. Gordon Brown very kindly sent the patient to see me, the sarcoma at the outer angle of the orbit had disappeared completely. There was a deep hollow in the temporal fossa. The eyeball was gone and the orbit empty and the margins of the bones were quite distinct. The left leg was very much swollen and there was evidently a large tumour in the upper part of the tibia. This case is too complicated and involved to be of much use as evidence one way or the other. That the original fluid tried did no good is certain. It is equally certain that very rapid change ensued in the tumour after the fluid sent over by Dr. Coley was injected. This, however, when it was injected, as the former was, into the arm, did not seem of any avail; but it was only tried twice under these conditions. Whether the subsequent disappearance of the tumour, after it had become so swollen (perhaps from the inflammatory changes induced in it by the injections) as to cause sloughing of the eyeball, is to be laid to the credit of the toxins or of the pregnancy or of both cannot be said. In either case whichever was the cause it was not sufficient to prevent a recurrence making its appearance in another locality.

CASE 5.—This was the case of a man, sixty-four years of age, suffering from a fibro-sarcoma of the back. It had begun to grow sixteen years before, and had been removed on three occasions. The latest period of immunity was, as usual, much the shortest. The tumour itself was very irregular in shape, adherent to the skin and the fascia beneath, firm in consistence and of about the size of the palm of the hand. Around were a number of smaller nodules. Injections were made into it three times a week for more than a month. Each injection was followed by a certain amount of reaction, but it was never very intense, although other cases in which the same fluid was used reacted on several occasions very severely. This may have been due to the density of the tumour, for it was almost as firm and as elastic as cartilage. There was a definite effect, but it was not sufficient. The tumour altered in size and shape. Portions of it became flatter, some disappeared entirely. But taking it as a whole it did not decrease in size. At one period it looked as if it were going to diminish rapidly, but the change was only of a temporary character. After five or six weeks the injections were abandoned.

Of these five cases, therefore, three were apparently cured; in one the original tumour disappeared, though the fact of pregnancy occurring at the same time must not be forgotten, and in another there was only a temporary diminution affecting one portion. It is true that in the three instances in which the tumours disappeared there was no microscopic examination. I am unable to prove that they were sarcomata. All I can say of them is that they were diagnosed as such by others independently of myself, and that if they were not sarcomata it is impossible to say what they could have been. They were certainly not gummata or tuberculous deposits, and equally certainly they were not the product of any infective or pyogenic organisms. Had such been present the result of injecting such powerful toxins would undoubtedly have been the intensification of their action, not its abolition.

The cases that have been reported by Dr. Coley, who has been working at this subject for many years, are very much more numerous and more important. In the *American Journal of the Medical Sciences* for September, 1896, Dr. Coley has published an account of ninety cases of sarcoma which have been treated by him. In thirteen of these the tumours entirely disappeared, and in nine of these thirteen there has been no recurrence, although in one case four years have elapsed, in two cases over three years, and in three cases more than two years. Thirty-three of the patients altogether improved; forty-five, exactly one-half, showed no change, and three died. All these cases, with one exception, were verified and the diagnosis confirmed by microscopic examination, carried out by thoroughly competent and independent observers. They were all inoperable and many of them had been given up as absolutely hopeless.

Dr. Coley has been very much more successful with spindle-celled sarcomata than with any others. Out of fourteen cases five disappeared entirely under his treatment; two disappeared completely for a while, and all the rest improved. Round-celled sarcomata are much less fortunate. Only two were cured out of fifty cases; and although sixteen improved the treatment failed completely in no less than thirty-one. The numbers of the other varieties of sarcomata were too small to justify any definite conclusions. The melanotic sarcomata, of which there were seven in all, were failures, only two showing any improvement. This is a little singular when it is remembered that out of the comparatively small number of cases in which sarcomata disappeared after an accidental attack of erysipelas, no less than two were melanotic.

There have not been many opportunities for ascertaining the character of the changes that are produced in sarcomata by attacks of erysipelas or the injection of toxins. When there is an ulcer or a fungating sore inflammation and sloughing appear to be the rule. In one or two instances the whole tumour has been thrown off in this way. On the other hand, with an unbroken surface sloughing is the exception. The skin becomes red and tense; at first the swelling increases in size, then it becomes softer, so that it may even fluctuate; the colour fades away; the skin becomes loose and falls into folds and wrinkles, and in a little while the whole mass flattens down and disappears. If the normal tissues have been destroyed a hollow may be left in place of a prominence. In one or two instances an incision has been made and several ounces of a yellowish white puriform fluid have been evacuated. The difference seems to depend upon whether pyogenic organisms are present or can gain access through some accidental abrasion. If they are present the tumour sloughs; if they are not, it undergoes a process which for rapidity and thoroughness can only be compared with acute yellow atrophy of the liver.

So far as I am aware there is no record of any case of sarcoma treated by the mixed toxins in which a thorough microscopic examination of the tumour was made during the process of absorption. In Mr. Sheild's case it is merely stated that the change produced in the tumour seemed to be due to inflammatory action in a soft neoplasm and that the growth in one part was necrotic with some purulent infiltration of the muscles underneath. The only definite description that I can find is in the accounts of three cases, one of sarcoma and two of carcinoma, in which the tumours were in process of disappearing during an attack of erysipelas when it proved fatal. The streptococcus of erysipelas of course was present, whereas it would not be if the toxins only were used; but making allowance for this it seems probable that the essential tissue changes would be the same whether the toxins were injected or produced on the spot. One of these was a round-celled sarcoma of the neck recorded by Busch. At the post-mortem examination it was found that the structure of the tumour had been reduced to a framework of connective tissue containing a large amount of yellowish fluid in its meshes. The sarcoma cells had undergone fatty degeneration and formed a yellowish-white emulsion containing numberless fat granules. By injecting water into it the growth could be filled out again to its former size. Here and there around the outskirts portions of the growth that were still unaffected allowed its character and the nature of the changes it was undergoing at the time of death to be ascertained with certainty. Very much the same appearance making allowance for the difference in structure was presented in the two cases of carcinoma. In Neelsen's case it is recorded that the contents of the alveoli had undergone complete fatty degeneration. The alveoli themselves were in many places dilated into cysts or were filled merely with débris. In places the old empty alveoli were crushed together by the pressure of newer growth. In Janicke's case more attention was paid to the invasion of the streptococci which had penetrated in columns between the cell nests and had surrounded them. Whether they had actually penetrated into the cells could not be ascertained. The carcinomatous cells did not show any definite change. In places they were paler and less distinct as if undergoing coagulation necrosis. Nowhere was there any sign of inflammation. Neisser, who made the examination, came to the conclusion that the carcinoma nests corresponding to the invading micrococci were destroyed by the direct action of the organisms without any inflammatory process, but that the destruction was only partial. Fatty degeneration was also found by Spronck in the case of tumours removed from dogs while under treatment with erysipelas toxin and on several occasions on which tumours have been incised under similar conditions large quantities of a yellowish-white fluid with numberless fatty granules suspended in it have been evacuated.

It must be acknowledged that the results obtained by other observers vary a good deal. Some have failed altogether. Many have not succeeded in obtaining any positive result, good or bad. Friedrich, for example, after trying the toxins on nineteen cases, came to the conclusion that they had no specific effect of any kind and that the changes the tumours sometimes undergo are merely the expression of the cumulative action of a number of injurious influences working together. Of the nineteen cases, however, that he records four only were sarcomata and two lympho-sarcomata. The rest were carcinomata and are therefore outside the present inquiry. Moreover, though the streptococci were taken from many different cases, it is by no means certain that the growths were sufficiently virulent. None of the cases from which the cultures were taken had proved fatal. In most instances no attempt was made at intensifying the action of the toxins. And as a natural consequence when the unmixed toxins of the streptococcus were injected very little reaction followed. Spronck, again, using erysipelas toxins alone, experimented on twenty-five cases without success. But it cannot be said that the injection had no effect upon the tumours. Eight only of the twenty-five were sarcomata. In one of these a large growth disappeared and in some of the others there was a distinct improvement, though it was only of a temporary character. In some experiments performed on dogs who were suffering from tumours very definite changes followed. Répin also, although he used an intensely virulent preparation of the erysipelas toxins and made injections twice a day so as to get the maximum effect in the shortest time, met with very qualified success. Only one case out of four showed any result. In that one, a recurring sarcoma of the shoulder, a large portion of the tumour sloughed away, but the patient became so ill and lost so much weight that the treatment was abandoned. It is noteworthy that in many of the cases recorded by Coley and in two at least of my own the patients improved in weight and strength during the treatment in spite of the frequent attacks of fever. Three cases published by Butlin were also failures. In one, part of the tumour sloughed, but the rest continued to grow; in another the fluid (which in this instance had not been prepared by Dr. Coley) may have hastened death; and in the third, a case of lympho-sarcoma or of lympho-adenoma that had already disappeared once under the administration of arsenic, it had no effect at all.

In America the evidence is very conflicting. Many successful cases have been published by other surgeons. Dr. Johnson, of New York, for instance, has recorded a case of spindle-celled sarcoma of the pharynx of enormous size which disappeared completely and although upwards of three years have passed shows no sign of recurrence. Dr. Mynter has published another in which there was a huge sarcoma of the abdomen. But naturally in most of these sufficient time has not elapsed to show whether there will or will not be recurrence of the disease. On the other hand Senn failed. In not one of the nine cases in which he tried the toxins was there any improvement. But, as Coley remarks, the cases were unhappily selected. Three were carcinomata; one was a melanotic sarcoma, a tumour of notoriously malignant type; and two others were periosteal sarcomata, a class which Coley admits are unusually refractory.

The most sweeping condemnation—a condemnation that impelled the editor of the journal of the American Medical Association to reverse his opinion absolutely within the space of a few months—came from a committee of three surgeons appointed by the New York Surgical Society. Dr. Stimson, Dr. Gerster, and Dr. Curtis found: (1) that the danger to the patient from this treatment is great; (2) moreover, that the alleged successes are so few and so doubtful in character that the most that can be fairly alleged for the treatment by toxins is that it may offer a very slight chance of amelioration; (3) that valuable time has often been lost in operable cases by postponing operation for the sake of giving the method of treatment a trial; and finally and most important, (4) that if the method is to be resorted to at all it should be confined to the absolutely inoperable cases. The point, of course, is in the second finding. No one, so far as I am aware, has ever advocated or practised this method of treatment for cases which were suitable for operation. And with regard to this finding I would only remark that Dr. Coley's cases (to take his alone) have been thoroughly verified and authenticated and that they are neither few nor doubtful. It is no small achievement to have saved the lives of nine patients who had been given up as hopeless and dying by every other surgeon who had seen them; and one single positive result is worth any amount of negations. With such conflicting evidence it is not an easy matter to form a definite opinion. There are, however, certain conclusions which, though some of them may have to be modified later, appear to me to be justified at present.

1. It cannot be denied that there is a considerable number of cases in which sarcomata that had been given up as hopeless often after repeated operations have absolutely and entirely disappeared under this method of treatment. There is no other method of treatment (except infection with the streptococci of erysipelas itself) of which this can be said.

2. Some of these cases have remained free from recurrence for upwards of three years, the period which, in the case of excision of the breast for scirrhus, is regarded by many operators as justifying the use of the term cured.

3. Several of the cases in which sarcomata have disappeared after an attack of erysipelas have remained free from recurrence for seven years and upwards.

4. The fact that there may be a few, a very few, cases recorded in which sarcomata have disappeared, either spontaneously or after such diseases as acute specific fevers, has nothing to do with these conclusions. (The statement that sarcomata do occasionally disappear is repeated with great regularity, but well-authenticated cases in which this has taken place verified in the way in which Dr. Coley's have been verified are very difficult to find).

5. Nor are these conclusions in any way invalidated by the fact that injections of the mixed toxins are sometimes followed by the disappearance of other growths such as lupus, keloid, syphilitic deposits, carcinomata, &c. It may make the disappearance of sarcomata more difficult to understand but it in no way disproves it.

6. The proportion of cases of sarcomata that are cured by the injection of the mixed toxins depends among other things upon the histological character of the growths. Spindle-celled sarcomata are by far the most successful. This suggests the conclusion that the mixed toxins have a selective action even if it is not specific.

7. The disappearance of sarcomata is not due to inflammation but to an intensely rapid form of fatty degeneration comparable only to that which affects the hepatic cells in acute yellow atrophy of the liver. Inflammation and sloughing, when they do occur, are septic complications.

8. Degeneration and absorption may occur whether the toxins are injected directly into the tumour or into some distant part of the body. In the former case, however, the effect is more rapid and the constitutional symptoms more severe.

9. The method is attended by a considerable degree of danger. It should therefore only be adopted in those cases for which there is no other remedy. The chief risk appears to be from collapse and pyæmia. There must always be danger of the latter if there is a suppurating or a sloughing sore. It may be argued that patients whose lives are immediately threatened by a malignant growth will never be cured by any remedy that does not involve some degree of risk.

10. The toxins are of no use unless the cultures are taken from a virulent case of erysipelas or are made virulent by passing the streptococcus through rabbits.

11. The bacillus prodigiosus in spite of theoretical objections has the effect of immensely increasing the reaction.

12. The effect is most striking in the case of rapidly growing sarcomata. Slowly growing ones appear to have much more resistance. Probably this merely means that masses of embryonic cells with little organisation give way to injurious influences more readily than those that are more closely knit together.

13. Patients often gain in weight and strength while under treatment.

14. Treatment should be continued until the whole growth has vanished or has become so small that it can be removed.

15. If there is a recrudescence of the disease it does not follow that the toxins will be as efficacious the second time as they were the first. Whether this is the result of tolerance having been established cannot be said.

16. Recurrence in other parts of the body may take place after many years.

17. The severity of the reaction is very variable. Probably this depends upon the rapidity with which the injection is absorbed rather than upon any cumulative action it may possess.

Coley suggests that injections of the mixed toxins may be useful in preventing recurrence after sarcomata have been removed by operation. Incidentally it may be mentioned that injections of the streptococcus of erysipelas apparently never cause suppuration. If, therefore, the streptococcus of erysipelas is identical with the streptococcus pyogenes the name of the latter had better be changed.

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ON THE USE OF MASSAGE IN THE TREATMENT OF RECENT FRACTURES.

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THE use of massage in the treatment of recent fractures, although it may have been adopted by a small number of individual surgeons, does not appear to have received the general attention in this country which in my opinion it deserves. No apology is therefore offered for the following communication as, so far as my experience goes, the results in suitable cases seem likely to be better than those obtainable by any other method with which I am acquainted. In my trial of the treatment I have had the advantage of the help of Dr. Hamel, who has had much experience in the matter. He was good enough to come to St. George's Hospital to personally manage some of the earlier cases and instructed my dressers as to the details of the method.

The reason that this treatment has not been generally received with more favour here seems to be mainly the traditional belief in the necessity for complete rest and immobility in the affected limb which does not at first sight appear consistent with the employment of massage. The fact that massage does not necessarily entail material movement between the fractured bone ends although the muscles about them may be freely moved appears to have been overlooked by those who either disapprove of, or are sceptical about, the method. Massage in any ordinary case of recent fracture, if properly applied, can be used without producing any movement between the bone ends worth mentioning, and in the most difficult cases the amount of movement in the fracture itself is not sufficient to delay union, for union I believe occurs, *cæteris paribus*, more rapidly in cases treated by massage than in those treated by conventional plans. Indeed, it is permissible to raise the question whether under any circumstances slight movement between the fragments in cases of fracture, provided that the position of the parts is good, is not rather conducive to union than the reverse when it is remembered that in many cases of fracture in which the union is slow, consolidation rapidly takes place when some mobility between the bone ends is brought about either by encouraging the use of the limb by the patient or by passive movements.

I presume the experience of the majority of surgeons coincides with mine in showing that the most troublesome part of the management of very many cases of fracture, especially those of the lower part of the leg, is connected with the stiffness, pain, and difficulty of movement which follow upon the discontinuance of the splints when the fracture is treated in the usual way, rather than with any initial trouble in "setting" the fracture or in its early progress. Although it is true that in the majority of cases the pain, stiffness, &c., can be overcome by perseverance on the part of the patient, by prolonged massage, or by forcible breaking down under an anæsthetic, it is an undeniable fact that in not a few instances the tendons and soft parts become so firmly matted together that the stiffness and pain are practically unmanageable and lead to permanent crippling, which will vary in degree according to the circumstances of the case. The usual method of treating fracture by prolonged retention of the affected limb in splints which allow of practically no movement of the soft parts about the fracture directly tends to this matting process and leads to a large percentage of the unsatisfactory results which follow upon fractures, especially in the vicinity of joints. The stiffness and pain which follow in many of these cases is often erroneously attributed to adhesions in or about the joint only or to some slight faulty position of the fractured bone. In reality the defective movement is, I believe, practically always due to matting of the soft parts immediately about the line of fracture. How firm this matting of the parts may be and the degree of stiffness which may thus be caused is fairly shown by the state of affairs found in the dissection of a fracture of both bones in the leg three inches above the ankle, the injury, judging from the condition of the union, having been received about two months previously. The fractured parts were firmly united and the position of the fragments, although not perfect, was fairly good. No movement beyond a little "springing" in the ankle joint could be produced by violence such as is ordinarily used in the "breaking down" of joints. The ankle-joint was healthy and the stiffness was entirely due to the state of the soft parts about the fracture. The anterior tibial muscle at the point of junction with its tendon was firmly adherent to the bone; the muscular structures at the posterior aspect of the fracture had apparently been slightly torn and were with their tendons intimately adherent to the bone by cicatricial tissue, in which the posterior tibial nerve was involved and could only be liberated by careful dissection; the nerve showed no sign of having been damaged at the time of the accident. All movement in the ankle-joint beyond that allowed by the mere elasticity of the parts appeared to be checked by the adhesion of the tissues mentioned. When the adherent structures had been loosened by dissection the ankle-joint could be freely bent with comparative ease. The implication of the posterior tibial nerve is interesting, for it affords a ready explanation of the acute nerve pain caused by attempts at movement of the ankle-joint in walking after some cases of fracture about the lower part of the leg.

In the treatment of cases of recent fracture by massage this matting of the soft parts is impossible; the tendons are prevented from becoming adherent, the muscles do not waste, the joints are kept supple, and nerves cannot become implicated in adhesions. It therefore follows that upon the patient resuming the use of the damaged limb the joints are as freely moveable as if no fracture had occurred, the muscles are well developed and comparatively strong, and the neuralgic pain so often met with under ordinary circumstances is wanting. Indeed, with the exception of any shortening or deformity which may be the immediate outcome of the facture the limb is, in ordinary uncomplicated cases, practically as sound and healthy as that on the opposite side. This condition of things, when compared with the state of the limb upon the removal of the splints in a case treated by the usual method of immobility, is in itself, I venture to submit, sufficient to entitle the massage method to a fair claim as a routine treatment in a large number of recent fractures. There are, however, other reasons in favour of its adoption. Nothing tries the endurance of the patient and the resources of the surgeon more than the distressing muscular spasm which so often occurs in the early stage of cases of fracture and which, in spite of anæsthetics and minor operations (tenotomy, &c.), is in some instances practically uncontrollable until it "wears itself out" in the course of some days. In massage there is it seems at hand a means by which this spasm may be frequently, if not always, controlled in a way which to those who have not seen the effect is remarkable. A good example of this is the following. A very feeble old woman was sent to St. George's Hospital with a comminuted fracture about the middle of the right femur. The injury had been received two days previously, the fracture was greatly displaced, and the limb was tense, swollen, and discoloured. It was quite clear from the condition of the limb that any immediate attempt at extension or the application of splints was out of the question; she was therefore placed in bed with the limb arranged as comfortably as was practicable between pillows. The muscular spasm both before and after her admission into the hospital was extreme and in spite of narcotics prevented any appreciable amount of sleep. I saw the patient the day following her admission; she was suffering greatly and every few minutes shrieked as the muscular spasm occurred. In spite of the threatening appearance of the limb generally and in spite of the slightest attempt at extension setting up intense pain from spasm, massage over the fracture was commenced at once. At the end of ten minutes the spasms were much less and in a quarter of an hour had subsided altogether, so much so that the old woman fell into a sound sleep whilst the rubbing was being done—the first sleep she had had for three days. After this she constantly begged for the rubbing as it stopped her spasms, which rapidly disappeared altogether and allowed the limb to be manipulated freely. All swelling excepting immediately about the fracture soon subsided, rapid union followed, and in three weeks, the massage having been regularly applied, she was strong enough to allow of her "lying outside her bed," no splint of any kind having been used.

In another case in the same ward in which there was a fracture of both bones of the leg acute muscular spasm, in spite of anæsthetics and every possible care, entirely prevented my keeping the fragments in anything like reasonable position. Any cutting operation for the purpose of wiring the fracture was for sufficient reason negatived, so I tried the effect of massage with the result of entirely allaying the spasms, thus making it possible without any difficulty to retain the fracture in the best position allowed by the circumstances of the case, which was quite impossible before the massage was used.

This soothing effect, although remarkable, seems to be the rule and patients otherwise restless constantly fall asleep whilst the treatment is in actual progress. The effect upon the bony union appears to be to hasten the process of consolidation, probably I suppose in consequence of the better circulation which is produced in the part with the resulting improvement in nutrition. This is especially the case in subjects getting on in years.

The technique of the treatment is very simple and is easily acquired by any person of ordinary intelligence possessing a light hand and fair sense of touch, gentleness being the keynote to successful manipulations. The method comprises three stages. 1. Gentle rubbing in an upward direction over the fracture with a view to soothing the patient, the relief of muscular spasm, and the rapid absorption of extravasated blood, &c. 2. Passive movements of the joints above and below the fracture (thus effecting "internal massage"), by which all matting of the soft parts at the seat of fracture and about the joints is prevented. 3. The development of wasted muscles by the ordinary massage processes. The details of the method used in my cases will be best understood by describing an ordinary straightforward case of fracture of both bones of the leg three or four inches above the ankle in which there is little or no difficulty in keeping the bones in fair position. Reduction of any displacement of the fragments having been accomplished the limb is placed upon a back-splint reaching above the knee with a foot-piece to which the foot is fixed by bandage in the usual way, care being taken to include no more of the leg above the ankle than is absolutely necessary; a second bandage or piece of webbing fixes the limb to the splint just below or at the knee. As much as possible of the area of the fracture should be left exposed. Rubbing by a gentle, smoothing movement upwards from the ankle is now made by the flat of the hand grasping as much of the circumference of the limb as is possible. However tender the parts may at first seem no pain will be caused, but, on the contrary, a soothing effect is rapidly produced. Ten minutes of this rubbing is sufficient at the first application. If at the end of this time the patient is fairly comfortable the toes are taken altogether between the operator's thumb and fingers and very gently extended upon the metatarsal bones two or three times. At the end of the "sitting" side splints or sandbags are used in addition to the back splint for the better steadying of the fracture. This proceeding is repeated daily, or oftener if practicable, for from four to seven days, the time occupied by each massage being gradually increased to twenty minutes or more (the side splints being removed before the commencement of each rubbing and afterwards replaced). At the end of this time if the fracture is in good condition and the fragments show no sign of altering their position the bandages are removed from the foot and ankle leaving the limb exposed and lying on the splint. The smooth rubbing already described is now applied over the foot, ankle, and leg for about ten minutes and then, without removing the limb from the splint, the operator gently flexes the ankle two or three times or more on the leg with one hand whilst he steadies the fracture with the other, the bandages being afterwards replaced as before. This is repeated daily for three or four days, after which the limb at each sitting is gently lifted off the splint on to a flat pillow; the rubbing is now more thoroughly done and the passive movements of the ankle more freely carried out, the fracture being of course still supported with one hand of the operator; at the end of each sitting passive movement of the knee is now added. The passive movement of the ankle must, of course, be commenced very gently as some slight pain may be caused by "the internal massage" resulting from the working of the tendons and muscles in immediate relation with the fracture itself. At the end of another week the union is usually firm enough to allow of all the manipulations of ordinary massage and the patient may be encouraged to move the ankle spontaneously as freely as possible, the fracture being fixed with some form of short splint. The complete massage should be continued until the union has fairly consolidated; the period necessarily varies in different cases, but in a simple uncomplicated case of fracture of both bones of the leg a month is the approximate time. For the first fortnight the patient is better confined to bed; after that he may lie on the sofa and generally be allowed to get about with crutches, in which case a moulded poroplastic or leather splint, made so that it can be easily removed for the massage sittings, may be desirable. The above description must be taken to apply merely to a straightforward case without complications; it is sufficient to indicate the main points connected with the technique of the treatment.

In some cases in which the lesion is very near to or actually involves the joint the treatment is obviously more difficult and requires great care. In Pott's fracture, for example, it is necessary to uncover the ankle from the commencement for the application of the primary rubbing and the passive movement—a most important point. The management of this particular fracture has to be conducted with much discretion. A minor but much appreciated benefit afforded by the method of treatment is the comfort which the patient derives merely from frequent temporary release from the restraint imposed by the continued use of splints. The degree of this comfort can only be fully realised by those who have to submit to the cramping and immobility of the limb necessarily entailed by the treatment by splints commonly adopted. The objections to the method which may be raised are, so far as I know, of no moment surgically, but it is idle to deny that certain difficulties connected with its employment exist which must, I fear, prevent its becoming general in the ordinary sense of the word. This, however, does not of course minimise the value of the treatment when the means for its application are available. At first sight the use of passive motion by which the soft parts above the fracture are prevented from becoming adherent may appear objectionable since in a large number of cases these parts must necessarily be more or less torn. The early movement of the torn structures may seem likely to produce weakness. In practice no defect of this nature appears to be brought about if ordinary care be taken in the application of the treatment; and if it be granted for a moment that some weakness in the more severe cases may possibly arise it would certainly be far less detrimental to the patient than the crippling which ensues upon any extensive matting of the torn structures.

An objection which may arise in connexion with hospital cases is the necessity, when fractures are treated by the massage plan, for a longer residence in hospital than would be necessary in many cases which might be put up immediately in some kind of splint (silicate, poroplastic, leather, &c.) which would enable the patient to be discharged at once or very soon after the accident. This objection would carry more weight with some surgeons than others. Personally it does not much concern me as I have never looked with very great favour upon the immediate use of cases of plaster-of-Paris, silicate of potash, and the like, in any but cases of the simplest kind, as I have seen enough of the disadvantages of the plan to lead me to reject it, as a rule, in the severer cases. Apart, however, from the difference in the custom of individual surgeons in this connexion there must under any circumstances be a considerable number of fractures, at all events of the lower limbs, which require detention in hospital for some time. It is safe to say that almost all of these cases can be treated by the massage method either in its entirety or with some modification. In private practice the objection now under discussion may or may not be considered of importance. In my opinion the advantage derived from the method when properly applied outweighs the disadvantage of the necessity for retaining a patient in hospital, &c., for ten days or a fortnight longer than would be necessary if the fracture were treated immediately by some form of immoveable splint, the results of which are by no means always satisfactory and are sometimes disastrous. The difficulties connected with the application of the treatment which must necessarily more or less interfere with its general adoption are principally two. (1) The large amount of time required of the practitioner in the earlier stages of the cases during which the treatment must be carried out under his immediate supervision unless a particularly skilled person is available (in some of the severer cases the treatment at first, at all events, could hardly be managed by any one but the practitioner himself); and (2) the difficulty of finding in all places a person capable of safely undertaking the manipulations in the later stages, which would generally absorb more time than any busy practitioner could afford as a rule to give. Other minor difficulties, such as expense, might arise, but are not of sufficient interest to require comment here.

In conclusion I hope I need hardly say that I have no desire to overstate what I regard as the advantages obtainable by massage in recent fractures. My main object is to induce those surgeons who have as yet no experience of the method and who have the means at hand for its employment to give it a trial. It is, as I have said, a method from which I have obtained what I believe to be sufficiently good results to make it worthy of adoption in the generality of cases in which the surroundings of the patient and the circumstances of the practitioner render it feasible, and I shall be surprised if those who have already had experience of it or are now induced to try it do not agree with me in this opinion.

Chesterfield-street, Mayfair, W.

THE Newport Workmen's Infirmary Fund in 1897 amounted to £922, being an increase of £106 on the amount received in 1896.

EXMOUTH DISPENSARY.—The annual meeting of the Exmouth Dispensary was held on Jan. 26th. The balance-sheet showed the income to be £239 and the expenditure £140. There were 944 cases treated during 1897.

A NOTE ON THE ELIMINATION OF BACTERIAL TOXINS BY THE SKIN.

By DAVID WALSH, M.D. Edin.,
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In The Lancet of Jan. 15th a paper by Dr. Salter on the Elimination of Bacterial Toxins by Means of the Skin has a special bearing on work first published by me at the meeting of the Birmingham Association in 1890.[1] It was then suggested that excretory dermatitis might result from various blood-borne irritants such as drugs, specific chemical poisons (e.g., of gout and uræmia), and poisons due to micro-organisms or to their products such as ptomaines. It is presumably something akin to this theory of "excretory irritation" that Dr. Salter has in mind when he writes: "Amongst the functions performed by the skin that of elimination of poisons has long been surmised." With regard to that remark I venture to say that the stage of "surmise" has been passed for some considerable time. In 1893[2] I pointed out that iodine had often been found in the skin lesions of iodism. Urea and bile can sometimes be seen on the skin surface in uræmia and jaundice respectively. Hence in 1897[3] I stated the conclusion, "That proof is afforded by means of chemical and biological tests of the frequent passage of some of the internal irritants from the blood into the excretions and into serous and synovial effusions." The general law which I have laid down in my own mind is that any blood-borne irritant capable of inflaming the skin may inflame any other organ of excretion and *vice versâ*. Admittedly my chain of absolute evidence was and still is incomplete: the remarkable researches of Arloing[4] as to the septic properties of healthy sweat has partly supplied the missing proofs. It seems more than likely that Dr. Salter has filled still another gap by showing that tuberculin is present in the sweat of phthisical patients. In the book already mentioned[5] the passage occurs: "The night-sweats of phthisis are probably due to some toxic bacillary product which acts either on the sweat centres directly or on the glands of the skin." The fact that a scarlatiniform rash often follows the injection of tuberculin I have dwelt upon again and again since 1890 and compared it with the analogous antitoxin rash.[6] I have never heard, however, that a profuse sweat follows the hypodermic injection of tuberculin in the human subject—a fact which Dr. Salter may find worthy of investigation in his further researches. Anyway, the present conclusions of that gentleman appear to have a direct bearing upon the theory of excretory irritation.

As to the rheumatic sweats and rashes briefly alluded to by Dr. Salter he can hardly maintain that there the elimination of poisonous substances by the skin has been simply "surmised." On the contrary, the chemical composition of the rheumatic sweat is one of the few scientific facts we really possess with regard to that most interesting and etiologically obscure disease. The poison of rheumatism does not appear to do any great amount of damage to the excretory epithelium. As I pointed out in 1890 it seemingly expends most of its violence upon mesoblastic tissues. At the same time I wrote: "The action of all excretory organs is largely interchangeable, a fact taken advantage of every day in practical therapeutics, when one organ is relieved by increasing the action of another, as in the familiar examples of purging, sweating, and diuresis."[7] Also as a conclusion, "That while excretion affords the key to a certain number of skin inflammations it also accounts for the success of many well-established methods of treatment which aim at shifting the channels of elimination. At the same time it affords a rational basis for further therapeutic measures." It is not a little gratifying to find Dr. Salter writing seven years later as to the elimination of tuberculin: "The above experimental evidence seems to me to have a practical bearing upon therapeutics inasmuch as it furnishes a rational basis for the old empirical method of treatment—viz., that of 'sweating a fever.' The artificial encouragement of the sweating no doubt assists in the elimination of the toxin by way of the skin, leaving less behind to poison the tissues."

In conclusion it may be as well to add that I do not for a single moment suggest any doubt as to the absolute originality of Dr. Salter's valuable research. So far from that I welcome his contribution as most telling confirmatory evidence in favour of my own views. At the same time I have ventured to make the above comments, as it is desirable for all who undertake a work of this importance to have at least a general acquaintance with the drift of previous writings upon the subject.

Pump-court, Temple, E.C.

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[1] Medical Press and Circular, Oct. 22nd, 1890.
[2] British Medical Association, Newcastle.
[3] Excretory Irritation, p. 48, Baillière, Tindall, and Cox.
[4] The Lancet, Sept. 4th, 1897, p. 613.
[5] Excretory Irritation, p. 39.
[6] Note on Antitoxin Rash, British Journal of Dermatology, February, 1895, p. 59.
[7] Loc. cit.

ALKALISED SERUM AS A CULTURE MEDIUM FOR THE BACTERIAL DIAGNOSIS OF DIPHTHERIA.

By L. COBBETT, M.A., M.B. Cantab., F.R.C.S. Eng.

Alkalised serum has this obvious advantage over ordinary serum as a solid culture medium that it remains transparent when sterilised at a high temperature. The medium was first described by Professor Lorrain Smith in 1894 and since that time I have used it almost constantly in the Pathological Laboratory at Cambridge and have found it very useful for the diagnosis of diphtheria and for the cultivation of the Klebs-Löffler bacillus.

Preparation of Alkalised Ox Serum.

The following method of making the medium differs in a few minor details from that originally described by Professor Lorrain Smith. Ox blood is obtained at the slaughter-house without antiseptic or other special precautions. It is not necessary even that it should be clear or free from hæmoglobin. A small quantity of the latter or even of corpuscles in the serum causes the medium made from it to be of a darker colour, but it does not interfere with its transparency and seems even to improve it slightly as a soil for the cultivation of the bacillus diphtheriæ. To every 100 c.c. of the serum 2 grammes of glucose and 1·75 c.c. of a 10 per cent. solution of $NaOH$ are added. The mixture is then put into tubes and solidified and sterilised in the autoclave. It is necessary to pay careful attention to the sterilisation in order to prevent the formation of bubbles in the medium and the consequent destruction of its surface. For this purpose a relatively higher pressure than that exerted by saturated steam alone must be used. In order to effect this end the exit tap of the autoclave must be closed before the air which it contains has been expelled and thus the pressure of the heated air is added to that of the steam. The medium is of a rich brown colour and should be perfectly transparent by transmitted light. It varies in appearance according to the quantity of $NaOH$ used. Some samples of serum seem to require more alkali than others; this is notably the case when the serum has been allowed to remain some hours in a warm room after the addition of glucose. The manner in which the bacillus diphtheriæ grows upon it has been already described.[1] The colonies are somewhat characteristic, they are discrete, flat, grey, or almost colourless, and after several days' growth their margins usually become indented and radially fissured, so that the whole colony comes to have somewhat the shape of a daisy, an appearance which is also seen in old colonies on dry agar and on gelatin. It must be mentioned that in some cases the colonies do not assume this shape, but remain round and have a raised centre and border separated by a circular depression. It is always possible, however, to detect radial striation with the aid of a lens. They stick very tightly to the surface of the medium and cause it to become opalescent, a change which is to be attributed to the formation of acid. These characteristics serve after a few days' growth to distinguish the bacillus diphtheriæ from the so-called diphtheria bacillus of Hoffmann, the colonies of which organism on this medium are brilliantly white or yellowish-white, round, and dome shaped; they do not adhere to the surface and they cause when in pure culture no opalescence in the medium. Thus it is often easy to separate the true diphtheria bacillus and the bacillus of Hoffman from the same culture tube. The bacillus which resembles the true diphtheria bacillus in form and in its power of forming acid out of sugar, and indeed in every other point except that it is devoid of virulence, is not to be distinguished from it in its growth on this medium. The medium is relatively favourable to the bacillus diphtheriæ and with its aid it is exceedingly easy to obtain pure cultures. On the other hand it has sometimes been found to be unfavourable even for this organism. Under these circumstances it improves when kept for a few weeks. By other means also it has been found that this difficulty can be to some extent overcome — viz., by raising the temperature of sterilisation.[2] The addition of peptone to the medium has been tried and found to offer no advantage. The beneficial action of the high temperature, therefore, cannot be attributed to partial peptonisation of the medium. It seems more reasonable to attribute it to the dissociation of ammonium sulphide which is undoubtedly formed. Sterilisation in the steam steriliser has been tried, but has been found to yield an unsatisfactory medium. When sterilised at a temperature of 120° C. the medium is undoubtedly a valuable one, but the bacillus diphtheriæ even then grows upon it with provoking slowness. Old laboratory cultures accustomed to other soils grow more slowly than do bacilli fresh from the human throat, but even these in most cases do not grow sufficiently rapidly to allow of a probable diagnosis being made within twenty-four hours. On this account I have sought to obtain a similar but more favourable medium from horse serum and have been so far successful that with it I have been sometimes able to sow the medium in the morning and return a diagnosis of diphtheria on the same day.

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[1] Cobbett and Phillips: Journal of Pathology and Bacteriology.

PREPARATION OF ALKALISED HORSE SERUM.

Horse serum is treated in the following way. To every 100 c.c. 2 grammes of glucose and from 1·25 to 1·2 c.c. of a 20 per cent. solution of NaOH are added; the medium is then poured into tubes and Petri's dishes and sterilised at a temperature of 90° C. on two successive days in a chamber surrounded with a jacket containing boiling water. Exposure to steam at atmospheric pressure results in the formation of bubbles and the destruction of the medium. Sterilisation in the autoclave has not been successful. The medium prepared from horse serum is as bright and transparent and almost as light in colour as gelatin. It offers a very favourable soil to the diphtheria bacillus. Staphylococci and streptococci grow upon it, but the common saprophytes seem to grow with difficulty and no difficulty has hitherto occurred from the presence of liquefying organisms. The diphtheria bacillus grows so rapidly that colonies may often be seen after from six to eight hours' incubation. And it is exceedingly easy to obtain pure cultures with its aid. In some respects it is inferior to the alkalised ox serum, for the colonies of the diphtheria bacillus are not so characteristic as on that medium. They show no tendency to become daisy-shaped and they are neither so grey nor so flat. The formation of acid, however, causes the medium to become opalescent and in pure cultures this distinguishes the bacillus of Hoffmann, while for the purpose of distinguishing between these two organisms the ox serum is to be preferred. Yet for the ordinary purposes of diagnosis the alkalised horse serum is far better because the growth of the bacillus diphtheria is so much more rapid upon it.

METHOD OF EMPLOYING THE MEDIUM FOR DIPHTHERIA DIAGNOSIS.

A swab rubbed over the suspected throat is rubbed over the surface of the serum contained in a Petri's dish. If it has been sent from a distance and has become dry it is previously moistened with broth. The dish is then incubated at 37° C. and examined on the following day. If the bacillus diphtheria is present colonies of the size of a small pin's head (or smaller if numerous) will be apparent. A coverslip impression specimen is made from these, stained and mounted in Löffler's methylene blue. The advantage of the impression method is obvious, for it allows a large number of colonies to be successively examined in little more than the time usually spent over one, thus increasing the certainty of a negative diagnosis. The impression method was, I believe, first applied to this purpose by Dr. Klein, of St. Bartholomew's Hospital. The alkalised horse serum has worked so well in the Wellcome Physiological Laboratory, London, where it was first made and is now in daily use for the bacterial diagnosis of diphtheria, that I venture to hope that other workers in the same field will make trial of it.

Cambridge.

INFLUENZA AND IMMUNITY.

BY H. G. TURNEY, M.A., M.D. OXON., M.R.C.P. LOND.,
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INFLUENZA is now so hackneyed a topic for medical writers that mere mention of it has become almost a punishable offence. The only excuses for the present paper are that the point with which it proposes to deal though it possesses both importance and interest has received comparatively little notice and still awaits a final answer, while a considerable recrudescence of the disease has made all things connected with it of importance to the medical practitioner. The question of one attack of the disease protecting from or predisposing to other attacks is one which has been settled in the bodies of many of us, but such an experience remains to a great extent individual and at all events has not been generally expressed in numerical terms. The observations which are here recorded, based principally upon facts obtained in the epidemic of 1891, have hitherto been kept back in the hope that the question of immunity would have been conclusively decided by the statistical method applied on a large scale. The clinical material at the disposal of so many country practitioners, with constituencies remaining from one epidemic to another practically the same, undoubtedly forms a far firmer basis for such a research than the shifting population of a hospital out-patient room, and if such material were made the subject of collective investigation the result would be finally decisive. The public health authorities, too, possess extensive facilities for prosecuting such an inquiry, though on somewhat different lines and as regards local rather than personal immunity. Of these facilities Dr. Parsons has availed himself to the fullest extent in his classical monographs on influenza. Still these opportunities have their limits, for no public records can follow out the life history of each individual with regard to disease. This can be done only by the medical practitioner and upon him lies the burden of proof.

So far as can be ascertained by limited personal inquiries, the views of medical men on this topic of influenzal immunity are widely divergent; while some maintain that one attack is a fairly efficient protection, others as strongly assert that so far from protecting it renders the subject still more susceptible. It seems incredible that after a series of five wide-spread epidemics occurring within the space of four years a problem of such personal interest to many should still remain unsolved.

The question of immunity may conveniently be considered (1) as regards time and place and (2) as it affects individuals. Space will not permit discussion of the first of these questions and, moreover, little need be said except by way of reference to Dr. Parsons'[1] work on the subject. His conclusions, with a summary of the evidence on which they are based, may, however, be mentioned here in his own words:— "In many counties an inverse proportion is perceptible between the death-rates from influenza in 1891–1892, those counties which suffered severely in the former year having escaped lightly in the latter year and *vice versâ*." "But," he continues, "certain counties, however, seem prone to a higher death-rate than their neighbours in each year. A severe epidemic of influenza appears to confer upon a locality a certain degree of protection against another."[2] Before entering into the question of immunity as it affects individuals it may be well to define the conditions under which that term will be used. Probably in many microbic diseases immunity is a necessary condition of the recovery of the patient, but the completeness and duration of that immunity may vary within the widest limits in different affections. At one end of the scale stand such maladies as scarlet fever and small-pox where the protection conferred lasts in the enormous majority of cases for a lifetime. Of the other extreme diphtheria is perhaps the best example. That diphtheria does confer immunity may, in the light of recent reseach, be taken as proved. But most clinical observers will agree that this protection lasts a comparatively short time—a month or six weeks at the most. This view is confirmed by Behring[3] as regards his antitoxin. He estimates the duration of this artificial immunity at from six to ten weeks according to the dose injected, after which time it gradually disappears. It is interesting to note that during this period of resistance the antitoxin is being excreted by the urine. Abel,[4] again, in experimenting with the blood serum of convalescent diphtheria patients finds that guinea-pigs are protected for about a month. It is quite possible, therefore, that a patient may be protected for a period only long enough to allow his recovery from the disease, and in such a case immunity will be clinically non-existent. It is to the presence or absence of clinical immunity that attention will be directed in the following remarks. The degree of immunity may be estimated (1) by experiment, (2) by the tendency to relapse, and (3) by the liability to subsequent attacks.

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[2] When the autoclave is heated and the air which it contains is not allowed to escape the internal pressure is due to that exerted by the air together with that exerted by the saturated steam. Under these circumstances the temperature scale usually engraved on the pressure guage of this instrument is misleading, the temperature being in fact many degrees lower than that indicated. It is necessary, therefore, to use a thermometer. Before this was done the serum was often insufficiently heated. The best results have been obtained by exposing the medium to a temperature of 120° C. for twenty minutes.

[1] Dr. H. Franklin Parsons: On the Distribution of the Mortality from Influenza in England and Wales during Recent Years; THE LANCET, May 26th, 1894. Also Local Government Board Additional Report on Influenza, p. 53 et seq.

[2] Loc. cit.

1. *By experiment.*—Pfeiffer[5] appears to be the only observer who has published any definite results which may throw light on this point. He expresses his conclusions as follows: "When I repeated the same injection (pure cultures of influenza bacilli) fourteen days later the three monkeys showed much slighter reaction. There appeared to be indications of a form of immunity such as must be supposed to exist in men who have had influenza once." Klein,[6] however, in repeating Pfeiffer's inoculations was unable to satisfactorily confirm his results, the large majority of the experiments proving negative. The question from this point of view must still therefore be regarded as unsettled.

2 *and* 3. *By relapses and subsequent attacks.*—Strictly speaking both relapses and subsequent attacks are alike evidence of the liability of the organism to fresh invasion by the disease, the relapse being so far the more convincing of the two on account of the shorter interval between the first and second injections. On other grounds, however, of these two forms of evidence that based on the tendency to relapse is by far the less satisfactory. Influenza owes much of its importance to its peculiar richness in complications and between a complication and a relapse the line is often indeed difficult to draw. This source of error can hardly be eliminated even by the best observers and must go far to vitiate any statistics bearing on that particular question. And even if this possible fallacy be ignored the common occurrence of relapses in typhoid fever—surely one of the most self-protective of diseases—will raise fresh doubts as to the validity of the argument.

Considering the difficulty of defining a relapse in influenza it is hardly surprising that estimates of its frequency should vary within the widest limits. Symes Thompson[7] believes that "relapses have occurred in many of the cases, especially when due care has not been taken to provide against exposure during convalescence." Professor Drasche[8] calls attention to the strikingly frequent occurrence of relapses in the epidemic at Vienna. In the epidemic at Philadelphia "relapses were not infrequent.[9] In 6680 cases there were 762 relapses or 11 per cent." In Germany, according to the official records,[10] "relapses varied from 10 to 40 per cent. in certain places, but as a rule were infrequent." Leyden and Guttmann[11] give the results of inquiries addressed to 2849 medical men as to the frequency of relapses: 410 had seen none, 1785 had seen them rarely, and 654 had seen them often. Parsons[12] states that "relapses are of frequent occurrence; they occurred in 9·2 of the cases at the Morningside Asylum, Edinburgh." From personal experience I would be inclined to agree with the lower rather than with the higher of these various estimates—that is, provided the term relapse be used in its strictest sense. A repetition of the original symptoms before convalescence was established and in the absence of complications certainly did not occur in more than ten per cent. of the cases under observation. In these cases, too, treated almost without exception with salicylate of soda, the recrudescence appeared to be sometimes due to a premature abandonment of the drug. On the whole, the conclusion may fairly be drawn from the above records that the relapse rate in influenza is not less than ten per cent.

The occurrence of multiple attacks.—Here again there is some discrepancy of opinion. Parkes,[13] speaking of course of an earlier outbreak, says that "while persons seldom have an attack in the same epidemic (though even this may occur) an attack in one epidemic does not protect against a subsequent epidemic, indeed, it has been supposed rather to render the body more liable." Parsons,[14] adduces a certain amount of evidence, principally in the form of opinions of medical officers of health, tending to show that one attack of influenza confers a certain though slight degree of protection. Althaus,[15] a sturdy believer in the protecting powers of the disease, writing in 1891, describes the infection of two different classes of people in the first and second epidemics respectively (1889–90, and 1891), and expresses a belief that further outbreaks are unlikely to occur on a similar scale from lack of material. The German Public Health Department[16] also comes to the conclusion that influenza confers a certain power of resistance on the individual.

In the epidemic of May–June, 1891—that is, the second of the series—I treated in the casualty department at St. Thomas's Hospital 1324 patients suffering from influenza. In every case a somewhat careful investigation was made into the history of any previous attacks. Only those histories were accepted which appeared above reasonable doubt and in which the previous attack had occurred during the first epidemic. Out of these 1324 patients 89 had suffered in the first epidemic, a percentage of 6·7. Among patients who attended during the first week the percentage of multiple attacks was 13·4; among those of the last week no previous attacks had occurred. And this predominance of recurrent attacks during the early part of the period as compared with the later was apparent throughout. A percentage of 10·8 during the first fortnight fell during the last to 4·9; and one of 9·0 during the first month dropped in the last to 3·7. The record was made without any previous idea as to the effect of the figures, and indeed it was not till long after the list was completed that a more careful consideration showed their significance.

The inference that individuals who have once suffered from influenza so far from enjoying any protection are more prone than others to further attacks seems irresistible; at all events they apparently are the first to succumb when exposed to fresh infection. It should be remembered that the interval between these two epidemics was at the most but four months. What is the meaning of this apparently increased susceptibility to attack? Several interpretations of it are possible. The first and most probable is that post-influenzal debility, local or general, lasts longer than post-influenzal immunity, and so the patient is left more exposed to further attacks. Another explanation is found in the possibility that a certain proportion of the population is specially susceptible to influenza and that this excessive susceptibility is more than sufficient to counter-balance any increased power of resistance that may have been conferred by a previous infection. Some support is given to this latter suggestion by the extraordinary proclivity to the disease that certain otherwise robust individuals appear to possess; of this special proclivity many examples could be given.

Professor Baümler,[17] in his description of the influenza epidemic in Freiburg in 1893–1894, discussing the question of acquired immunity, remarks that "most of my colleagues will answer the question—Does influenza protect?—in the negative, on the ground of their personal experience; many were attacked this time just as they were four years ago." Having at the time of the first epidemic held a resident appointment in a large hospital I acted on this suggestion and made inquiries into the subsequent history of those who had been my colleagues on that occasion. Nine out of twelve were available. Of these nine, two had escaped infection in the first epidemic; of these two, one has never since contracted the disease, though repeatedly exposed to danger; the other within the last year has had two attacks within the space of a few months. Three of the nine have had only one attack, two have had two, two have suffered thrice, and one has fallen victim no less than nine times. It is interesting to note the complete immunity of one, and compare it with that of his colleague who passed untouched through three epidemics and then was attacked by both the fourth and fifth. The numbers are of course too small to form a basis for serious argument, but so far as they go they certainly point to an absence of any prolonged protective influence and appear to confirm the experiences of medical victims at Freiburg.

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[3] Deutsche Medicinsche Wochenschrift, No. 46. pp. 865, 866.

[4] Ibid., No. 48, pp. 899 et seq.

[5] Zeitschrift für Hygiene, Band xii., 1893, p. 381.

[6] Local Government Board Additional Report, pp. 126 et seq.

[7] Influenza, p. 405; also pp. 358, 371.

[8] Influenza, Wien, 1890.

[9] Pepper's System of Medicine, vol. i., p. 192.

[10] Arbeit aus dem Kaiserlichen Gesundheitsamte, Band ix., 1894, pp. 342–344.

[11] Die Influenza-Epidemie, 1889–1890, p. 45.

[12] Local Government Board Report, p. 68.

[13] Reynolds's System of Medicine, vol. i., p. 35.

[14] Op. cit.

[15] On Influenza, p. 312.

[16] Op. cit.

[17] Die Influenza Epidemie, 1893–4, in Freiburg, pp. 9, 10.

My conclusions are (1) that the period of protection afforded by an attack of influenza is so short as to be clinically negligeable, and (2) that there is some evidence to show that there exists either a special susceptibility to the disease or an acquired predisposition to it derived from previous injections with the same virus.

Portland-place, W.

SUCCESSFUL CASE OF PORRO'S OPERATION IN A DWARF.

BY SMALLWOOD SAVAGE, M.A., M.B. OXON., F.R.C.S. ENG.

A WOMAN, aged twenty-three and a half years, was sent by Dr. Baddeley, who in view of an approaching full-term pregnancy had considered there would be a good deal of difficulty in delivery. The patient's father and mother were healthy and well formed. She was the second of a family of five children all of whom, with this one exception, were of average height and merit no further mention. The patient when born was considered unusually small and "when one year old was no bigger than her newly-born sister." As an infant she was very weakly and had not sufficient strength to suck properly. She was brought up by the bottle with sago and rusks but never had any of the patent foods. She cut her teeth naturally; as to walking she did not begin until she was three years old and while at school she was much behind other girls of her own age. There was no history of fits.

On examination the patient's height was found to be only 4 ft. 3 in. and her weight 7 st. 2 lb. Her face was small but it presented an old appearance. There was no alteration in the shape of the bones of her skull or limbs, nor were there any enlarged ends of long bones. The patient had not a prominent forehead. Her teeth, however, were carious, especially in the upper jaw, for there she wore a plate. The pelvis was small; of the external measurements the intercristal was only 9 in., the interspinous only 8 in., and the external conjugate 7½ in. There were no signs of congenital syphilis. Mentally the patient seemed below the average. The usual signs of pregnancy were present, the uterus extending up to 1½ in. of the sternum. The fœtal head, which was of average size, was felt entirely above the pelvic brim and it was impossible to make it engage it. On auscultation both souffle and fœtal heart were heard. By the vagina the pubic arch was found to be very considerably contracted. The diagonal conjugate diameter was not made out. The pelvis generally was a good type of the "small round pelvis." In view of the size of the child's head compared with that of the pelvis it was considered that the chances of a living child being born naturally were very remote. After due consideration of all the facts it was decided to advise delivery by Porro's operation or Cæsarean section, the former being chosen.

On Nov. 27th, 1897, the patient was operated on in my father's private hospital, Mr. J. Sandison Crabbe administering the anæsthetic and my father assisting me at the operation. The incision was made five inches long in the middle line, one third of it being above and two thirds below the umbilicus. On the uterus being exposed an attempt was made to encircle it with an elastic tourniquet; this was impracticable, so the abdominal incision was slightly enlarged above and the uterus brought out above the surface of the abdomen. The elastic tourniquet was now applied below the head and both appendages and there temporarily fixed by forceps. Three large flat sponges were placed in the abdomen covering the remaining viscera. The placental site was felt for but could not be made out. The uterus was incised for about five inches along the anterior surface, but as this was found to be over the placenta another incision was made to the left. The membranes were ruptured and the child was quickly extracted by its neck. Before rupturing the membranes the uterus was strongly anteverted so as to allow of the uterine contents being delivered well away from the peritoneal cavity and between the mother's thighs. The clamp was next applied with a protected transfixing pin and the uterus was amputated. The abdomen was stitched up in the ordinary way, care being taken that the stump was firmly fixed in the lower angle of the wound. It might be noted that not a drop of blood or amniotic fluid entered the abdominal cavity. The child breathed well and seemed to be well formed and of average size. The patient made an uninterrupted recovery without any untoward symptom. The clamp came away on the fifteenth day and she was discharged on Jan. 5th, 1898.

Birmingham.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

CHARING-CROSS HOSPITAL.

A CASE OF REMOVAL OF A PIECE OF STEEL STAYBUSK FROM THE ABDOMINAL CAVITY; RECOVERY.

(Under the care of Mr. JOHN H. MORGAN.)

ABDOMINAL operations for the removal of foreign bodies which have been swallowed are decidedly rare. Gastrotomy is the operation which is usually performed and if carried out with antiseptic precautions it is accompanied by a comparatively low mortality, for Mr. Durham[1] collected a series of ten cases and of them only one died. A case recorded by Mr. Mayo Robson[2] was remarkable for the very large number of foreign bodies successfully removed from the stomach of a child. In Mr. Morgan's operation, however, the foreign body had left the stomach and was found lying in the peritoneal cavity, though fortunately adhesions must have shut it off completely. A point of some interest is that the Roentgen rays gave no indication of the presence of any metallic body in the region where the piece of steel was found; a possible explanation is that the staybusk was so placed that its long axis was almost perpendicular to the sensitive plate; the result would be that a large piece of steel would give only a small image which might easily pass unnoticed.

A healthy, well-grown man, twenty-four years of age, was admitted into Charing-cross Hospital under the care of Dr. Bruce with the following story. In June, 1897, after an attack of rheumatism and owing to stress of business and home worries he had an attack of acute mania lasting three weeks, during which with an idea of suicide he swallowed the following articles: thirteen pennies, thirteen halfpennies, and ten other coins including a two-shilling-piece, a gold watch chain, a key chain, and a brass watch chain, a set of studs and a pair of sleeve-links, and half an ounce of dressmaker's pins. From the gold watch chain he removed the bar lest it should stick in his gullet. After this he suffered some pain and felt a weight in his stomach which altered in position with his movements. On June 25th he found a staybusk (a piece of steel used to strengthen stays) and having picked off with his teeth the cotton which covered it he swallowed this also. He remembers hearing various articles pass into the pan of the closet, but he was unable to see what they were. In the following August he complained of some pain in his epigastric region and vomited a small quantity of dark-green fluid. He was treated by a medical man for indigestion and there had been no vomiting since.

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[1] Erichsen's Science and Art of Surgery, tenth edition, vol. i., p. 847.

[2] Boston Medical and Surgical Journal, Feb. 7th, 1895.

He came under Dr. Bruce's care on Oct. 12th, 1897, and there was found a swelling about two and a half inches in diameter situate above and to the left of the umbilicus. The skin over it was slightly reddened and it derived a pulsation from the aorta. This pulsation disappeared when the patient was placed on his hands and knees. The heart and urine were normal. On the 20th he was examined by means of the Roentgen rays, but nothing could be made out. On the 22nd the swelling was very tender, the skin over it was slightly œdematous, and fluctuation was detected. The following day after consultation the patient was anæsthetised and Mr. Morgan made an incision in a vertical line directly over the swelling. On cutting through the skin some few ounces of fœtid pus escaped. The abscess cavity was scraped and scrubbed with antiseptic swabs. A finger was then introduced and passed through a circular aperture with thickened edges into the cavity of the peritoneum. The small intestines were felt below, the stomach and edge of the liver above, and the pulsating aorta. At the bottom of this cavity was felt the tip of a sharp, hard foreign body, lying loose and freely moveable; the axis of the body appeared to pass upwards and to the right. It was carefully seized with a long pair of œsophageal forceps and extracted. It proved to be a piece of steel stay-busk rather over four inches long, perfectly clean and untarnished. When found it lay at some depth from the surface, but its end must have pressed against the abdominal wall and thus have caused the irritation which resulted in a superficial abscess. As to the nature of the cavity in which it lay it is difficult to speculate. It contained no fluid, but was probably shut off by adhesions from the general peritoneal cavity. The area was washed out with warm boracic lotion and the wound was sewn up, a drainage tube being inserted and the usual antiseptic dressings applied. The temperature rose to 101° F. the same evening, but fell to normal next day. The patient was fed by nutrient enemata for five days, but on the sixth day he was given milk and eggs. Nothing interfered with his subsequent progress and in less than a month he left the hospital in perfect health.

Remarks by Mr. MORGAN.—This adds another to the long list of articles swallowed by would-be suicides and its subsequent history is as fortunate as it is remarkable. That so large a substance should penetrate the stomach and remain in the abdomen without causing disturbance and then set up a superficial abscess in the abdominal wall is a sequel that could hardly be anticipated by the most hopeful surgeon. That such an abscess could be opened and the foreign body extracted without the slightest sign of inflammation or of disturbance of the peritoneum is a tribute to modern antiseptic surgery.

MANCHESTER ROYAL INFIRMARY.

A CASE OF SEVER COMPOUND FRACTURE OF THE RADIUS AND ULNA WITH AVULSION OF THE FLEXOR MUSCLES IN THE FOREARM; REPLACEMENT OF THE MUSCLES; RECOVERY.

(Under the care of Mr. J. H. RAY, late resident surgical officer to the infirmary.)

THE following case is well worth recording as an excellent example of what can be done by conservative surgery at the present time. Both bones were broken and many muscles and an important nerve were torn, yet by energetic treatment an almost perfect functional result was obtained. It is not long ago that a limb injured to this extent would have been amputated without any serious idea presenting itself that it might be possible to retain it. It is probable that one of the most important points which contributed to the recovery was the fact that the ulnar and radial arteries were uninjured.

A man, twenty-one and a half years old, was admitted into the Manchester Royal Infirmary on Sept. 13th, 1897, with a compound fracture of both bones of the right forearm, and a mass of muscles and tendons hanging out of a transverse wound of the flexor surface of the limb, due to the pulley and strap of a driving shaft, round which his forearm was carried. The bones were broken rather below the middle of the forearm and the proximal part of the radius projected about half an inch from a lacerated transverse wound of the limb. The wound was four and a half inches long and hanging from it were the flexor carpi radialis, palmaris longus, and part of the flexor sublimis digitorum, all torn away about two inches from their origin at the internal condyle of the humerus, but preserving their distal attachments. The median nerve was torn across above and was coiled up near the wound of the skin. Both the radial and ulnar arteries were intact. Mr. Ray decided to attempt to save the limb and made an incision on the front of the forearm from a point about two inches below the elbow to the lacerated wound mentioned above, and also for a short distance towards the wrist. He found that the pronator radii teres was partially divided, as well as the deep flexor muscles of the forearm, whilst the median nerve was divided about an inch after passing between the heads of the pronator radii teres. About three-quarters of an inch of the radius having been removed on the proximal side, Mr. Ray sutured the median nerve, pronator radii teres, and the deep flexors, and he replaced the muscles that had been torn from the region of the elbow—viz., part of the flexor sublimis digitorum, the palmaris longus, and the flexor carpi radialis. The nerve was sutured with fine silk and the muscles with medium-sized catgut. The aponeurotic investment of the front of the forearm was next brought together with a continuous catgut suture and silkworm-gut was used for the skin. Dry dressings were applied and the limb (the elbow flexed and the forearm semi-pronated) was placed on an internal angular splint, and was not looked at for ten days, when everything had healed with the exception of the meeting of the skin incisions with the lacerated wound. The patient remained in hospital for nearly four weeks and was an out-patient for some time longer. Firm union has taken place in both the radius and ulna and he can flex and extend the limb through fully 90° at the elbow, and has some power of pronation and supination. The replaced muscles are again active and flexion of the digits is easily performed, whilst sensation over the median nerve area is normal.

Remarks by MR. RAY.—The above case is a good example of the application of conservative surgery in the treatment of a severely injured limb. I am indebted to Mr. Hardie for kind permission to publish the case.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Umbilical Hernia.—Immunisation against Streptococci.—Aortic Incompetence.—Exhibition of Specimens.

A MEETING of this society was held on Feb. 1st, the President, Dr. J. F. PAYNE, being in the chair.

Mr. W. G. SPENCER showed a specimen of Strangulated Umbilical Hernia from an infant. The infant passed meconium in the usual way after birth, but afterwards there was no action of the bowels and symptoms of obstruction developed and on the fourth day a swelling was noticed at the umbilicus. The child was admitted to the hospital when five days old. There was general distension of the abdomen and a tumour the size of a hen's egg presented at the umbilicus. At the apex of the tumour was the dried stump of the umbilical cord and the skin in the neighbourhood was inflamed and sloughing. An incision was made at the site of the cord and a large amount of fæcal material and flatus escaped, relieving the child for the time. Fæces continued to escape from the artificial anus thus formed, but the child died from exhaustion ten days later. Post mortem the hernia was found to contain a loop of ileum with the cæcum and it was the wall of the ileum which had sloughed. The "spur" on the opposite side formed a considerable projection.—Mr. TARGETT thought that the hernia could not have been due to developmental malformation, but must be looked on as acquired through some cause during intra-uterine life. — Mr. D'ARCY POWER thought that a distinction should be drawn between umbilical hernia proper, or exomphalos, and ventral hernia occurring at the umbilicus. Mr. Spencer's specimen belonged to the latter class. He referred to specimens of each class which he had brought before the society on a previous occasion. He thought that in this case the gangrene had begun from within as the skin below the stump was comparatively healthy.—Dr. CHARLEWOOD TURNER thought that the specimen was one of prolapse of the cæcum everted through a Meckel's diverticulum. He did not see how a true hernia should show everted mucous membrane. There was a specimen of the condition he suggested in the Museum of the London Hospital.—Mr. Spencer, in reply, said that he thought from the appearance of the skin during life that the sloughing was due to an extension of septic processes from the stump of the cord.

Mr. Bokenham read a paper, illustrated with charts and lantern slides, on the Immunisation of Animals against Streptococcal Infection. In his investigation he employed streptococci derived from various sources. The culture medium was one he had devised of a mixture of fresh veal broth with peptone and salt solution and boiled under pressure for several hours. He also sometimes used an alkali albumin made by acting on blood serum with an alkali. The age of the culture at the time he made the inoculations was never less than three weeks as the results were more constant when the streptococci had ceased to grow. The virulence of the organisms was often increased by passing them through several rabbits. The filtrate from the cultures was highly toxic to rabbits, producing glomerulo-nephritis and hæmorrhages into the mucous membrane of the alimentary canal. Injection of the filtrate into horses or asses caused reaction and rise of temperature with tolerance to subsequent doses of the same. Repeated inoculations were necessary before the serum was found to have much immunising effect. If the serum were taken from an animal too soon after inoculation before the inflammatory reaction had completely subsided there was often local reaction when it was injected into another animal, the inflammation occurring some time after the injection. If, however, it were taken from the animal later it could be injected without any local disturbance. It was doubtful whether there was a true antitoxic action, but a marked increase in phagocytosis could be demonstrated in the peritoneal fluid after its use. He had had many opportunities of observing its use in cases of streptococcus infection in man. There was almost always speedy loss of headache and restlessness, the patient becoming drowsy; the skin became moist instead of harsh and dry. The temperature sometimes rose at first, but then came down and might be kept down by repeated injections. In erysipelas the erythema might actually disappear in twenty-four hours. He began with a dose of 10 c.c. and this often required to be repeated several times.—The President said that the specimens of nephritis shown were remarkably like those seen in scarlatinal cases. He asked whether the serum had been tried in cases of ulcerative endocarditis. He had recently had three cases of this condition under his care in which Dr. Louis Jenner found organisms in the blood, staphylococcus aureus in one, a diplococcus in another, and streptococcus only in a third.—Dr. Lazarus-Barlow said that Mr. Bokenham's observation that the blood must not be taken too soon after inoculation agreed with the observations of Charrin and Gley, who found in their researches on the bacillus pyocyaneus that it was necessary to wait seventeen days after inoculation before the toxin had left the animal. There was a delay before these local signs showed themselves and the observations had an important bearing on the question of the incubative period after the inoculation of chemical products, a field almost unexplored. Such an incubation period had been noticed after the ingestion of poisonous articles of food.—Mr. Bokenham, in reply, said that the striking resemblance to scarlatinal nephritis had struck him also. He had seen an exactly similar condition in rabbits after the injection of a substance obtained from the spleen of scarlatinal patients. He had tried the serum in two cases of ulcerative endocarditis, in one with only temporary relief, while in the other recovery took place after 150 c.c. had been injected altogether. In animals immunity appeared to be conferred for six weeks or longer.

Dr. Newton Pitt showed four specimens of Aortic Incompetence without Disease of the Aortic Cusps. All the specimens showed atheroma and dilatation of the aorta, chiefly of the first part, and dilatation and hypertrophy of the left ventricle. This had led to a stretching of the ring supporting the valve and incompetence although the cusps of the valve were perfectly healthy. Dr. Pitt mentioned that the condition had been recognised by the late Dr. Moxon and four other cases were found in the records of Guy's Hospital occurring in four years.

The following card specimens were exhibited:—

Dr. Newton Pitt: Sarcoma of the Suprarenal Body.

Dr. W. Hunter: (1) Typhoid Lesion of the Vermiform Appendix; (2) Suprarenal Body from a case of Addison's Disease; (3) Acute Tuberculosis of the Spleen; (4) Diphtheria of the Larynx, &c.; and (5) Gouty Deposit in a Joint.

Dr. Hebb: (1) Adipose Infiltration of the Heart from a case of Ether Poisoning; and (2) Sections of the Spinal Cord from a case of Tumour compressing the Cervical Cord.

Dr. Eden's demonstration of the Age Changes in the Placenta and Fœtal Membranes was postponed till Feb. 15th.

CLINICAL SOCIETY OF LONDON.

Sudden Death in Acute Rheumatism.—Internal Hernia.—Obliterative Arteritis.

A meeting of this society was held on Jan. 28th, the President, Mr. Langton, being in the chair.

Dr. W. P. Herringham read a paper on a case of Sudden Death in Acute Rheumatism. A girl, aged sixteen years, was admitted to St. Bartholomew's Hospital on Feb. 27th, 1897, on the second day of a first attack of rheumatic fever, with a temperature of 103° F., a pulse of 128, and a respiration-rate of 32. Many joints were inflamed. The heart was not enlarged at the time of admission, the apex beat being within the nipple line, but there was a double apical murmur. She complained much of pain in the umbilical region, for which no cause could there be found. The joint pains quickly ceased under salicylate of soda, but she continued to feel much pain in the epigastric and præcordial regions and became pale and cyanotic. The heart enlarged, the apex beat passing beyond the left nipple, and small râles became audible over the lungs and the fever persisted. Impairment of resonance was found over the left lung and the respiration rose to 64. This state continued until March 11th. During the previous night she had slight hæmoptysis and at 10.30 A.M. a sudden change for the worse occurred and she died in a few minutes. A post-mortem examination showed œdema of both lungs and fatty degeneration of the walls of the left ventricle with much increase of cells in the interstitial connective tissue—acute myocarditis. This acute change in the heart was probably the usual cause of the few cases of sudden death in rheumatic fever. A certain diagnosis appeared impossible; but suspicion should be aroused if along with cyanosis for which there appears no sufficient cause in the lungs there exists considerable pain in the epigastric or præcordial regions.—Dr. Maclagan remarked that the best account which they had of the subject dated from as far back as the time of Corvisart, who scheduled these cases as "distinct" and as "latent." The "distinct" cases were those in which there was evidence of direct changes in the heart and the "latent" those in which no such evidence was obtainable. In the latter class of cases almost invariably the symptoms were referable to the nervous system. He referred to a case recorded in one of the earlier volumes of the Transactions of the Royal Medical and Chirurgical Society (1816) by Mr. Stanley of a boy who died with symptoms thought to be due to inflammation within the head. Post mortem nothing was found there, but there was inflammation of the muscular substance of the heart. It was important to recognise the fact that it did occur as a serious complication in rheumatism. The subject had been brought before the society some years ago by Dr. Ord in connexion with pericarditis with and without head symptoms. He believed that the cases in which head symptoms occurred were those in which the pericarditis was complicated by myocarditis. He believed that the inflammation spread from the pericardium to the myocardium but never from the endocardium to the myocardium and he pointed out that endocarditis never spread all over the heart but was limited to certain spots. The changes in the myocardium might, however, occur independently of either one or the other. The treatment followed in this case was ten grains of salicylate every four hours, but he was of opinion that there was no possibility of doing any good with such a dose. He himself never gave salicylate of soda in cases where he suspected the heart, preferring salicine. He recalled the fact that Charteris had stated that the deleterious effects sometimes observed after salicylate of soda were due to its containing an impurity in the shape of creosotic acid. Alluding to Dr. Herringham's remark that death was due to hyperpyrexia, probably the result of the action of the rheumatic poison on the nervous system, he said he failed to see what authority there was for such a view, this complication not being limited to acute rheumatism.—Dr. Lees said the society was much indebted to Dr. Herringham for the details of the post-mortem examination in his case. He thought that in every case of acute rheumatism a microscopical examination should be made of the cardiac muscle. Unless definite post-mortem evidence were obtained the clinical symptoms afforded them very little ground on which to arrive at a diagnosis of the exact nature of the cardiac lesion. There was a condition of acute dilatation of the heart in rheumatic fever to which his attention had been drawn in the course of researches on pericardial disease in children. Careful observation and measurements by himself and Dr. F. J. Poynton had led him to remark acute dilatation of the heart which he attributed at first to the weakening effect of the pericarditis on the cardiac wall, regarding it, in fact, as a myocarditis which had spread inwards. In another case where there was no evidence of peri- or endo-carditis, no rub or murmur, the cardiac dulness had gradually increased and subsequently diminished under treatment. This made him believe that there was, apart from pericarditis, a definite enlargement of the heart. The progress of recovery was watched by the aid of tracings made without reference to those taken on the preceding day and a series of such tracings showed that at first there was great dilatation which rapidly diminished to normal under treatment. In one case, that of a young man in whom there was neither rub nor murmur, the cardiac dulness returned to normal and he left the hospital. A short time after he returned with a fresh attack and again the cardiac enlargement was noticed. The symptoms—delirium, pain, dyspnœa, and a tendency to cyanosis—were not in themselves proofs of genuine inflammatory condition of the cardiac substance, but were more probably due to some toxic action of rheumatism. He was disposed to think that the supposed injurious action of the salicylates, though perhaps partly a question of idiosyncrasy, was really an error of appreciation, the depression being really due to the pericarditis.—Dr. **Glover** said the rarity of the lesion in question had led him to look out the notes of a case under his care fifteen years ago. A man, aged fifty years, with chronic bronchitis and emphysema, had been ill ten days with pains in the arms and faintness. On the occasion of Dr. Glover's first seeing him the patient fell back in his chair and died. Post mortem a patch the size of a five-shilling piece was found on the front aspect of the heart of a red or greyish-red colour as if it might have sloughed out. There was a corresponding patch on the opposing surface of the pericardium which at another spot was ecchymosed. There were decolourised clots in the aorta and pulmonary vessels. The lungs were congested and emphysematous.—Dr. **Alexander Morison** observed that the initial evidence of cardiac failure in a large number of these cases first manifested itself in the left lung. It was a common experience to find that in fatal cases condensation of tissue was found occasionally at the base of the right lung, but in by far the larger number the œdema was found on the left side. Wilkinson had related several cases of the kind in which he attributed this lesion of the left lung to the pressure of the left auricle.—Sir **Dyce Duckworth** observed that anyone who had seen much of rheumatic fever must have witnessed cases similar to these. He had learned to recognise such cases and clinically to recognise the approach of such events and to sometimes avert them by treatment. He suggested that enough stress was not laid on the existence of myocarditis and on its being the result of the influence of the rheumatic poison. He had seen pericarditis spread into the myocardium, but he had also certainly seen endocarditis pass bodily into the substance of the heart structure. One of the symptoms that ushered it in was progressive failure of the circulation. He referred to a very similar case brought before the Royal Medical and Chirurgical Society some years ago which had led to much discussion. That patient had been treated in accordance with the then prevailing practice by large doses of alkalies. He thought that salicylate was an agent that required to be carefully watched and in the event of myocarditis supervening it should be discarded or combined with brandy. He himself would prefer under these circumstances to leave it alone altogether, substituting iodide of potassium and quinine. He thought this complication might often be averted by a suitable tonic treatment, though some cases would prove fatal in spite of it.—Dr. **Herringham**, in reply, explained that salicylate of soda was only supposed to relieve the pain of rheumatism and he did not use it for any other purpose. Stimulants were also given.

Mr. J. **Hutchinson**, jun., read a paper on a case of Internal Strangulation of the Small Intestine by a Fibrous Ring. He also showed a specimen from the London Hospital College Museum. It displayed the sac of a right inguinal hernia together with a small fibrous ring which had become detached from the neck of the sac and had caused fatal strangulation of a loop of small intestine. The specimen had been taken by Mr. Jeremiah MacCarthy from a man, aged sixty-one years, who had had for a long time a right inguinal hernia. This became strangulated and was reduced by taxis. Symptoms of peritonitis followed and the patient died. Post mortem they found in the left hypochondriac region a loop of intestine about a foot in length, gangrenous and very tightly constricted by a fibrous ring. This was evidently the detached margin of the upper part of the sac. The patient who was the subject of his own paper was a man, aged fifty years, who had had a large inguinal hernia for four years. On Aug. 28th, 1897, he was unable to reduce it and on that day he was seized with abdominal pain, vomiting, &c. He was admitted on Sept. 1st and the hernia, which was not strangulated, was easily reduced. Nothing passed per rectum and enemata only brought away small hard scybala. As on the third day the symptoms were practically unaltered Mr. Hutchinson, jun., opened the abdomen below the umbilicus. There was no sign of peritonitis and the cause of obstruction was quickly found, viz., a loop of small intestine passed through a complete fibrous ring exactly like stout catgut. This ring was quite free from any attachment. It was cut through and there seemed no reason to fear gangrene. The ring measured about an inch in diameter. The bowels were spontaneously open the day after the operation and the patient left the hospital three weeks later wearing a truss on the right side. Mr. Hutchinson, jun., suggested that this rare and interesting form of obstruction only occurred in cases of hernia in which taxis was frequently performed by the patient, which rendered easy the formation and detachment of the ring. It would have been quite impossible to have reached or detected the seat of obstruction through the inguinal canal in either case. These cases, therefore, argued in favour of opening the abdomen in the middle line when the symptoms of obstruction persisted after reduction of a hernia.—The **President** said these cases were doubtless somewhat rare, though possibly more frequent than was supposed. A similar specimen was to be seen in the Musée Dupuytren (No. 215), which showed a circular band constricting a piece of small intestine, which was found post mortem and was believed to have been originally a fibrous band at the neck of the sac which had become detached by the repeated passage of the intestine. As to treatment, he raised the question whether the surgeon should operate through the inguinal canal, slitting it up, or through the median line. When the site was not quite certain he held that it would be well to make the incision in the middle line in order to make out exactly where the obstruction was situated. He could not agree with Tait's suggestion that strangulated hernia should be relieved by median laparotomy, which was dangerous, especially in obturator herniæ, for if the neck were split from the inner side and the intestine withdrawn should this ever become gangrenous extravasation of the contents into the peritoneal cavity, which would involve great risk to the patient, was sure to occur.

Mr. W. G. **Spencer** read a paper on a case of Arteritis Obliterans affecting Three Limbs and exhibited Photographs of the Microscopical Appearance of the Arteries in the Amputated Leg. The case was shown at the clinical meeting on Jan. 14th. He also demonstrated the fibrous thickening of the intima in microscopical sections of the arteries of the leg which had been amputated. Mr. Pearce Gould had described a similar case in 1884 and since then the patient had been under observation so that there was a continuous record for more than ten years. The characteristic feature of Mr. Gould's case was the occurrence of obliterative arteritis in the arm of a young man, which progressed for two years, then became spontaneously arrested, none of the recognised causes of arterial disease being present. Following this there was a return to good health, which has been maintained for a long period. Mr. Spencer's case was a man aged twenty-seven years. Nothing in his previous history, neither syphilis nor any of the other causes of arterial changes, accounted for the disease. The man first suffered from coldness of the left leg and foot during August, September, and October of 1897; this was followed by pain and commencing dry gangrene. The pain increased and the gangrene spread so that amputation through the left thigh became necessary and this was followed by a quick return to good general health. Before this the right leg had been cold and the femoral artery formed a pulseless cord, whilst a threatening dark spot appeared on the great toe. After the amputation the right leg became warmer and the skin of the right foot desquamated, but no pulsation returned. The vessels of the right arm, from the right subclavian to the radial and ulnar, showed a greatly diminished pulsation. The vessels of the left arm, the temporal arteries, and all the other organs of the patient were normal. In amputating through the left thigh the femoral artery was found to be quite blocked, the femoral vein was patent, only one other bleeding point required a ligature, and there was very little oozing. The change shown in the microscopical sections of the smaller arteries was a fibrous thickening of the intima commencing between the endothelium and the elastic lamina, causing a projection into the lumen and then spreading to involve the elastic lamina and to a less extent the middle coat. The larger arteries showed no alteration in the wall but a firmly laminated adherent clot, the outer laminæ blending with endothelium and the intima within the elastic lamina.—Dr. **Parkes Weber** asked whether Mr. Spencer had found in the amputated limb any exudation of round cells. A certain amount of atrophy of the muscle fibres with an increase of the connective tissue would be expected, the blood-supply being to a great extent cut off. This was what Sir Benjamin Brodie had pointed out as having taken place in the heart muscle in cases of coronary obstruction—i e., that the cramp which preceded gangrene in the muscles of a limb was strictly analogous to the cramp which took place in the heart when there was any cardiac obstruction, although it was not yet settled that angina of any kind was due to cramp of the muscular structure of the heart. In respect of the question of this patient having had syphilis he did not think that what Mr. Spencer had said at all proved his point. — Mr. **Spencer**, in reply, said there was a certain amount of small-celled infiltration but no increase of connective tissue, the process not having gone far enough. He admitted that it was open to anyone to form the opinion that the man had had syphilis though he had taken every possible care to exclude it, but he pointed out that Gould's case was in a teetotaler who had never had any venereal disease and Hadden's case was in a nursemaid presumably exempt from syphilis.

SOCIETY OF ANÆSTHETISTS.

Methods of Treatment in Emergencies under Anæsthetics.

A **meeting** of this society was held on Jan. 20th, Dr. **Dudley Buxton**, President, being in the chair.

Mr. **Alexander Wilson** (Manchester) opened a discussion on the Methods of Treatment in Emergencies under Anæsthetics. After reviewing the mechanism of the usual accidents which occur under anæsthesia, and especially under chloroform, he pointed out that the various measures usually employed fell under one of six classes: (1) external application—e g., cold, Corrigan's cautery to the epigastrium and ammonia vapour to the nostrils—which excited respiration reflexly; (2) reflex excitation of respiration by mechanical means—e.g., rhythmic traction on tongue (Laborde), dilatation of sphincter ani; (3) stimulation of heart by mechanical and electrical means, including acupuncture; (4) artificial respiration; (5) measures counteracting circulatory failure—e.g., posture, transfusion, &c.; and (6) various drugs—e.g., amyl nitrite, strychnine, atropine, &c. In the first and second of these classes it was necessary that the nervous tissues should be sufficiently alive to convey stimuli. In dealing with measures the aim of which is to stimulate the circulation faradaism to the cardiac region, hot and cold applications to the skin, and præcordial percussion were adversely criticised. While artificial respiration was held to be an effectual measure in failure of the circulation the influence of posture on the circulation was said to be not clear at present, probably a good deal depending on the degree of arterial tone and the influence exerted by gravity. Artificial respiration probably acted in a threefold manner—by removing the anæsthetic vapour, by supplying fresh air, and by promoting blood circulation. Inflation and the Silvester method of artificial respiration were considered the most efficient, but faradaisation of the phrenic nerve, especially in old subjects with rigid chests, had in Mr. Wilson's cases succeeded, other methods failing. All these methods might fail when persistent spasm of the larynx existed. Cases verifying this point were cited. In circulatory failure inversion and pressure on the abdomen were recommended. The danger of emptying the heart by the vertical position, since the cranial circulation was simultaneously depleted, was pointed out. Transfusion was not considered by Mr. Wilson to be devoid of drawbacks. Subcutaneous injection of drugs was open to the objection that for their absorption some degree of circulatory activity was necessary, while it was difficult to estimate whether a given dose administered to a person apparently moribund might not upon his resuscitation set up toxic symptoms of its own.

Dr. **Bowles** had always thought that too much might be done in attempts to restore patients. Referring to the methods of artificial respiration he favoured that of Marshall Hall, as by it there was less danger of fluids—e.g., beef-tea, grumous matters, vomit, &c.—being pumped into, rather than expelled from, the air passages. In cases of pus or blood in the pleura—e.g., empyema—patients should be placed with the affected side down and the Silvester method employed with one arm only, the supine posture being carefully avoided. When there was fluid in the lungs somewhat the same procedure was recommended as in dealing with those apparently drowned.

Professor **Schäfer** contended that the respiratory, vasomotor, and other centres in the medulla were probably affected by anæsthetics almost simultaneously, although possibly some were more susceptible than others. At a certain stage of the action of chloroform the blood pressure rapidly fell and this went on *pari passu* with paralysis of the respiratory centre, while the heart's action grew weak itself probably in consequence of paralysis of the vaso-motor centre, the effect on the vaso-motor centre being the most fatal in cases of chloroform poisoning on account of the absence of efficient and ready means of counteracting it. Mere failure of respiration could easily be counteracted, as comparatively slight interchange of air was necessary provided the circulation was unaffected. Chloroform-laden blood probably injured the muscular tissue of the heart rather than interfered with its nervous mechanism. In performing artificial respiration he regarded the performance of expiration as most important. It had been shown that the diminution of the size of the pulmonary alveoli led to inspiration. He advocated the employment of atropine before the giving of chloroform as a means of preventing arterial dilatation, thus tending to counteract the dangerous fall of blood pressure. Two drugs which promoted the greatest contraction of arterioles and so would counteract the greatest danger of chloroform, the fall of blood pressure, were, according to his experience, nicotine and extract of suprarenal capsule. His experience of atropine was by intravascular injection; he had no doubt that hypodermic or introserous injection would prove equally effectual. Extract of suprarenal capsule possessed an extraordinary effect on the heart, increasing its rate and the force of its beat. He thought these two substances would go a long way towards enabling patients to recover from vaso-motor and partial cardiac paralysis.

The discussion was continued by Dr. **Silk**, who referred to Professor Wood's admirable work on the subject. Strychnine he regarded as a valuable prophylactic agent. Referring to over-stimulation of the patient by ether he thought too energetic measures did harm; in the main he agreed with Mr. Wilson's contentions. Oxygen in forced artificial respiration was, he thought, often advantageous, and the actual kneading of the heart to empty it had in some cases proved beneficial.

Mr. **Barnard** gave a *résumé* of Professor Hill's views and inquired whether morphia would not be a useful adjuvant to chloroform, as he had seen it employed abroad with satisfactory results. He had found the injection of ammonia into the circulation efficacious in chloroform poisoning. Hydrocyanic acid he considered a dangerous drug.

The **President** pointed out that morphia in conjunction with chloroform had been employed for many years, although not with uniform success. The late Sir Benjamin Ward Richardson had advocated intravenous injection of ammonia as a means of counteracting chloroform poisoning nearly thirty years ago.

Mr. **Wilson** having replied the meeting was adjourned.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

Local Effects of Iodoform.—Exhibition of Cases.

AN ordinary meeting of this society was held on Jan. 26th, Dr. ROBERT L. BOWLES (in the unavoidable absence of Dr. J. F. Payne) being in the chair.

Mr. J. HANCOCKE WATHEN (Clifton) read a paper on a Personal Reminiscence of the Local Effects of Iodoform, in which he described the attacks of bullous dermatitis of the hands which had followed the handling of dry iodoform gauze. The cause of the condition of the skin was at first thought to be gout. Mr. Wathen referred to the similar personal experience of Mr. Jessop, of Leeds, and stated with regard to treatment that great relief had been obtained by the firm application of bandages to the fingers, with boracic ointment, and occasionally thick gruel, followed by a visit to Harrogate and Ilkley with the use of Aix douche baths. There had been no fresh attack since avoidance of iodoform.—Dr. BOWLES insisted on the great importance of recording such cases of morbid conditions arising from the use of drugs either locally or internally.—Mr. PERNET said he had seen a few cases of iodoform dermatitis. In one an acute localised vesicular eruption followed the application of iodoform powder to a varicose ulcer.—Dr. ABRAHAM stated that he had had a similar experience.

Dr. P. S. ABRAHAM showed: (1) a man presenting peculiar Unilateral Keloidal Scarring about the Upper Part of the Right Side of the Chest; (2) (?) Syphilitic Lesions about the Vulva of a Child aged two years; (3) a male patient with Xanthoma Diabeticorum previously brought before the society; (4) a case for Diagnosis (Rupioid Eruption in a young woman); (5) a lad with Ulcers, probably Syphilitic, which had been regarded as Tuberculous; and (6) a case of Acute Dermatitis in a man, the question being whether the condition had been produced by chrysarobin or whether it was ordinary eczema.

Dr. T. SAVILL showed: (1) a case of Leucoderma in a girl aged sixteen years, who was very emotional, had an enlarged thyroid, and a very rapid pulse at times, the skin condition having been treated by the limited local application of phenol; and (2) Symmetrical Atrophy about the Fingers in a young woman.

Dr. DAVID WALSH exhibited a case of (?) Myxœdema with Acne and Loss of Hair in a young woman.

Dr. ALFRED EDDOWES showed: (1) a case of Lichen Planus Verrucosus, previously shown; (2) Xeroderma in a man who had presented symptoms of myxœdema; and (3) a case for diagnosis.—Dr. EDDOWES also showed the photograph of a case of Folliculitis Necrotica.

Mr. PERNET showed photographs of the two cases of Leprosy observed in the Island of Lissa (Dalmatia) by Dr. Dojmi von Delupis.

The cases were discussed by Dr. BOWLES, Dr. PHILLIPS-CONN, Dr. HARE, Mr. PERNET, Dr. ABRAHAM, Dr. EDDOWES, Dr. SAVILL, and Dr. TRAVERS-SMITH.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

The Nauheim Treatment of Cardiac and Circulatory Affections.

A MEETING of this society was held at 20, Hanover-square, W., on Jan. 28th, the President, Dr. WILLIAM V. SNOW (Bournemouth), being in the chair.

Dr. S. HYDE (Buxton), in introducing a discussion on the External Treatment of Cardiac and Circulatory Affections by Baths, Exercises, and Climate, pointed out that these methods, although not new in principle, are comparatively new to practice and that they have not yet emerged from the necessary stages of trial and verification. Whilst recognising the potency and usefulness of the effervescent saline baths he was inclined to believe that well-regulated exercises combined with suitable change of air were sufficient to obtain equally good results without the baths. He also pointed out the usefulness of forced respiratory exercises in cardiac treatment. As to the alleged shrinkage in the size of the heart he admitted the probability of a gradual but limited diminution as part of the improved nutritive changes in the general organism, but doubted whether the evidence at present available justified more than this. The effects of various mineral baths upon the heart and circulation had been much neglected by bath-physicians and many cardiac cases were benefited during the routine practice of baths, exercise, and climate for other maladies. Much of the success of the treatment at Nauheim was doubtless due to the accessory conditions of change of air, change of diet, separation from drawbacks to treatment, inspiration of hope, and so forth. Dr. Hyde spoke in strong terms upon the use of unqualified attendants, describing it as "fast growing into a gigantic evil fraught with grave danger to the public and serious damage to the profession." In concluding, whilst desiring to accord to the methods of Dr. Schott a true and just estimate of their value, he expressed a belief that it is possible to obtain equally striking results without strict resort to the special Nauheim methods.

Dr. GEORGE OLIVER (Harrogate) described experiments undertaken with the view of ascertaining the effect of baths and resistive exercises on the peripheral circulation of the blood, on the blood itself, on the arterial pressure, and on the pulse-rate. Both baths and exercises, he found, produced a transfer of a considerable volume of blood to the systemic periphery. Every form of exercise was followed by a rise in the percentage of corpuscles, due, he thought, to a rapid fluid transfer through the capillary walls into the tissue of the muscles and the lymphatic spaces. Most physiologists agreed that all forms of active exercise were followed by a rise in the blood pressure, but it had been doubted whether resistive exercises which did not accelerate the breathing produced a rise or a fall. Lauder Brunton and Tunnicliffe concluded from experiments that during the exercise itself the pressure first rose above the normal, but during its continuance began to fall, till at the end it had reached the normal and continued to fall after the cessation of the exercise, remaining so for half an hour or longer and then gradually rising to normal. He had himself found that any form of exercise, so long as it was slow and did not disturb the respiration, was followed by a fall of blood-pressure. The exercise also produced a slowing of the pulse. Lauder Brunton and Tunnicliffe had suggested that in contraction of muscle some material was generated, possessing a vaso-dilator property, of the nature of nitro-glycerine. He had himself found the effects of exercise and of nitro-glycerine to be identical. The reduction of the volume of blood as the result of exercise might be another factor in disposing to lowering of arterial pressure and easing of cardiac work. Resistive exercises might favour compensation by relieving the stress of blood in the weak areas. He had investigated the influence of the respiration upon the circulation, especially where there was impairment or complete paralysis of the splanchnic control, so that the blood in the erect position of the body drained down into the splanchnic area and away from the radial vessels, while in the recumbent position the radial measurement was normal. By a series of respiratory exercises, which he described, the radial calibration was restored to normal, and frequent repetition of these re-established the vaso-motor tone and the general health was greatly improved.

Dr. DOUGLAS KERR (Bath) had found the new treatment useful in certain chronic forms of heart disease characterised by dilatation, with a feeble or soft pulse, which might be intermittent or irregular.

Dr. WILLIAM EWART thought much difficulty had arisen from attempting demonstrations on hearts which could not contract and from missing the time for observing contraction which did occur. Of the reality of such contraction there could be no doubt.

Dr. BEZLY THORNE believed that the heart did undergo shrinkage and submitted radiograms from Dr. Schott in support of this view. Of the baths and the exercises he considered the baths the more effectual, their effects being apparently more permanent. The employment of unqualified assistants in the application of the treatment could not be too strongly condemned.

Dr. LEONARD WILLIAMS considered cases of recent chronic heart disease (cases in which compensation had not been established or had only just been established) were unsuited to the treatment.

Dr. ALEXANDER MORISON thought that Dr. Bezly Thorne had over-emphasised the condition of shrinkage. As for peripheral pressure, he thought a distinction was not always drawn between pulse-pressure and pulse-tension. The tension might yield very materially while the pressure might be raised.

Dr. HERRINGHAM said that he had never been able to satisfy himself that there was any immediate alteration in the size of the heart at all. Radiograms must be accepted with a certain reservation as it was almost impossible to get a patient into exactly the same position twice consecutively.

Dr. WETHERED urged the necessity of comparing the number of pulse beats at the wrist with those of the heart when ascertaining the effects of exercises and baths as some of the smaller beats seemed not to reach the wrist.

Mr. HAVELL (Felixstowe) believed that cases of cardiac failure following on atheroma benefited almost beyond controversy by the treatment.

The discussion was adjourned till March 2nd.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Cases and Specimens.—The Occurrence of a Vitelline Placenta in the Human Subject.

A MEETING of this society was held on Jan. 12th, Dr. MILNE MURRAY, Vice-President, being in the chair.

Professor SIMPSON showed an Anencephalic Fœtus which had been associated with marked hydramnios; two specimens from cases of Extra-uterine Gestation; and four Uteri removed by vaginal hysterectomy. Of these last two were cases of carcinoma, one of fibroids with probable sarcoma, and the fourth was removed for chronic inflammatory trouble.

Dr. HAULTAIN showed an Extra-uterine Mole which was strictly tubal, but not intra-tubal, as it was attached only to a fimbria. It was removed for severe intra-peritoneal hæmorrhage.

Dr. J. W. BALLANTYNE showed photographs and drawings of frozen sections of a Fœtus with Retroflexion and Torsion of the Spine; what seemed to be a meningocele proved only to be a sac with blood clot, no brain substance being present, hence it was exencephalic. Photographs of other cases of retroflexion of the spine were shown as was also a photograph of a chick with four legs.

Dr. J. W. BALLANTYNE read a paper on the Occurrence of a Vitelline Placenta in the Human Subject. Teratological phenomena have often found a ready explanation in the facts of embryology and conversely instances are not wanting in which knowledge of embryological processes has received enlightenment by the study of conditions which are manifestly abnormal. From the examination of a sireniform fœtus a teratological sidelight is thrown upon the development of the human placenta. The fœtus was born at full time of the third pregnancy of the mother. The child presented by the lower extremity. The placenta and membranes were adherent but were unfortunately not kept for examination, but did not, according to the medical attendant, appear to be abnormal. The fœtus, whose sex was not evident externally, weighed 2902 grammes and had a total length of 50 cm. The head was disproportionately larger than the other parts and the girth of the body in the abdominal and pelvic regions was much less than the normal. The fœtus had from the umbilicus downwards a steadily diminishing circumference. The lower limbs were united into one appendage resembling somewhat the tail of the mythical mermaid. The fused foot was divided on the sole by a deep groove into two parts, one carrying two large toes while the other had four smaller ones attached to it. There were one bone in the thigh and two in the leg. The hip-joint seemed mesial in position. The umbilical cord had only two vessels—an artery and a vein. The vein passed upwards and entered a tunnel in the liver between the right and left lobes and therein seemed to break up in the hepatic substance. The artery originated from the abdominal aorta about the level of the second or third lumbar vertebra and carrying with it a fold of peritoneum passed directly forwards in the middle line of the body to the anterior abdominal wall, which it reached a little above the symphysis pubis. It then turned upwards for about 2 cm. to reach the umbilicus. It thus slung a diaphragm of peritoneum right across the abdomen a little above the plane of the pelvic brim and so shut off the abdominal from the pelvic cavity. Abdominal testicles were found but no trace of urinary bladder, ureters, urachus, or hypogastric arteries. The kidneys were small, flattened, and rudimentary. The aorta after giving off the umbilical artery passed as a much smaller vessel into the pelvis, where it gave off lateral branches. Dr. Ballantyne gave the results of an exhaustive research into all the reported cases of sympodia. In all about 120 cases of this monstrosity have been recorded. In only 11 was there any allusion made to the placenta. He discussed in detail the results of this research as well as the comparative embryology of the placenta and arrived at the following general conclusions. 1. In the sympodial fœtus it is common to find in association with a functionally adequate placenta the absence of allantoic derivatives and vessels and of the structure from which the allantois itself is derived, and the presence of vessels (usually an artery and a vein) in the umbilical cord which appear to be the persistent omphalo-mesenteric cord or vitelline vessels. 2. It may therefore be regarded as probable that the fœtal part of the placenta has in these cases been vascularised by the vitelline instead of the allantoic circulation. 3. This conclusion is supported by the following additional evidence. *a.* The commonly accepted theory of origin of sympodia is pressure (probably amniotic in nature) acting upon the tail end of the embryo and causing defective development of the parts situated there, including, of course, the allantois and its vessels; in this fact may lie the explanation of the absence of the allantoic derivatives. *b.* The omphalo-mesenteric vessels may persist (alongside of the allantoic) till the full term of pregnancy, keeping pace with the normal growth of the umbilical cord, and may then be found to contain blood, showing that they are still functionally active. *c.* In other forms of monstrosity (e.g., exomphalos, placental parasitism, &c.) there is evidence of the development of the placenta by means of the vitelline vessels. *d.* In three of the orders of placental mammalia which resemble the human subject in the possession of a discoid placenta—viz., rodentia, cheiroptera, and insectivora—there is absolute proof of the normal occurrence of a temporary and provisional vitelline or yelk-sac placenta replaced later by an allantoic one; in animals below the placental mammals there is some evidence of the absorption of nourishment from the mother by means of a rudimentary vitelline pseudo-placenta. *e.* Recent researches in human embryology have tended to show that the fœtal placenta is not so exclusively "the organ of the allantois" as was at one time supposed; it may also be that the allantoic vessels are not absolutely necessary for its vascularisation. 4. The vitelline placenta in sympodial fœtuses (and in some other forms of terata) may represent a reversion to the type of placenta formation in the hedgehog or even to that of pseudo-placenta in the marsupials and others still lower in the scale. In this case an arrangement temporary in character in the animal has become permanent in the malformed human fœtus. On the other hand it may yet be shown that early human embryos possess normally a preliminary union between vitelline vessels and omphaloidean trophoblast, in which case the vitelline placenta of sympodia is an arrest of development—a condition normally temporary in the human subject has become permanent in the same.

Dr. BERRY HART could not agree with the conclusions of the paper. Of course the normal placenta is not vitelline and Dr. Ballantyne assumed that it was allantoic. Dr. Hart believed the normal placenta to be an organ of the chorion. The placenta could be vascularised by the vessels of the vitellus. The placenta must have an epiblastic covering to form the epithelium to cover the villi, but the vitellus has no epiblast, only being composed of meso- and hypo-blast.—Professor SIMPSON and Dr. BARBOUR took part in the discussion and Dr. BALLANTYNE replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

The Vaginal Tampon in Accidental Hæmorrhage.—Exhibition of Specimens.

A MEETING of this Section was held on Jan. 7th, Dr. F. W. KIDD, President, being in the chair.

Mr. HASTINGS TWEEDY read a paper on the Action of the Vaginal Tampon in Accidental Hæmorrhage. He contended that when this was properly applied it directly compressed the uterine arteries, acting on them as does a tourniquet. A well-fitting plug should, in the first instance, fix the cervix by completely surrounding it with pledgets of moist cotton-wool packed as tightly as possible and should then fill the vagina to its utmost capacity, direct compression thereby being exercised on the uterine arteries. The obstruction to the circulation thus brought about causes, moreover, an accumulation of carbonic acid gas in the uterine muscles, which is a well-known and powerful stimulant to uterine contractions.—Dr. WINIFRED DICKSON said that accidental hæmorrhage had always seemed to her to be the very worst complication in midwifery. She thought that the plug ought to be sterilised.—Dr. MACAN wanted proof of the statement that the uterine arteries are stopped by the process of plugging. He preferred to use a Barnes's bag in preference to plugging the vagina.—Dr. ALFRED J. SMITH said that he did not understand how a vaginal plug would so act as to compress the uterine arteries. He thought that the best treatment in grave cases would be to ligature the uterine arteries direct and the uterus could then be removed. Death from accidental hæmorrhage generally occurred after delivery up to two hours after parturition.—Mr. TWEEDY, replying, said that in one of the cases which he had been able to study, he was easily able to bend the whole broad ligament by pressing in the lateral fornices and pulling down the cervix, and was able to tighten the lower portion of the broad ligament against the upper portion. A branch of the uterine artery ran to the cervix before the uterine artery entered the uterus, and if the cervix were pulled upon and a plug placed outside the branch the uterine artery must receive a sharp bend at the plug.

Dr. ALFRED J. SMITH showed a large Fibro-myoma with uterus and appendages removed by cœliotomy. The patient's recovery was uneventful.

Dr. R. D. PUREFOY showed a Myomatous Uterus removed by cœliotomy.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A meeting of this Section was held on Jan. 14th, Dr. J. M. PURSER. President, being in the chair.

Mr. NORMAN and Dr. RAMBAUT demonstrated a specimen of Aneurysm of the Heart, which was discussed by Dr. MCWEENEY and Mr. CROLY, and Mr. NORMAN replied.

Dr. H. T. BEWLEY showed a specimen of Cirrhotic Liver with Adenomatous Tumour, which was discussed by Mr. NORMAN, the PRESIDENT, Dr. MCWEENEY, and Mr. CROLY, and Dr. BEWLEY replied.

A specimen of Dissecting Aneurysm of the Aorta was shown by Mr. NORMAN and Mr. REDINGTON and discussed by Professor BENNETT (President of the Academy), Mr. CROLY, Dr. KNOTT, and the PRESIDENT of the Section.

Mr. A. H. BENSON described two cases of Intra-ocular Sarcoma treated by Enucleation. In the first case the growth was a spindle-celled melano-sarcoma and there was no recurrence after thirteen months. In the second case there was no recurrence after a year and ten months. The tumour was a leuco-sarcoma entirely devoid of pigmentation.

Reviews and Notices of Books.

Soils and Subsoils, from a Sanitary Point of View: with Especial Reference to London and its Neighbourhood. Memoirs of a Geological Survey, England and Wales. By HORACE B. WOODWARD, F.R.S. Published by Order of the Lords Commissioners of Her Majesty's Treasury. Printed for Her Majesty's Stationery Office by Wyman and Sons, Limited. London: Eyre and Spottiswoode, East Harding-street, Fleet-street, E.C. 1897. Price 2*s*. 6*d*.

WE welcome the appearance of the excellent monograph on Soils and Subsoils which is issued from the office of the Geological Survey. The object of the pamphlet is briefly and clearly set forth by Sir Archibald Geikie, Director-General of the Department, in a short prefatory note. Inquiries, it seems, are frequently made at the office of the Geological Survey for information regarding sites for houses and on other questions which involve the practical application of geology to questions of everyday life. It has therefore been thought well to put in an accessible form a summary of what is known of the way in which soils and subsoils affect the health of the community. The London district is taken to illustrate the subject and the pamphlet gives a description of the geology of the district in the immediate neighbourhood of London. The district embraces Windsor on the west, Tilbury on the east, extends northwards as far as Broxbourne and southwards as far as Dorking, Reigate, and Sevenoaks. The book is illustrated by an excellent, clearly printed, coloured geological map showing the subsoils of the whole of this district. Mr. Horace B. Woodward has treated the subject clearly and concisely and the book contains an enormous amount of useful information in a condensed form.

The first chapter contains a general description of the geological formation of the London basin. The second deals with the soils and subsoils of London and the neighbourhood and contains some information which will certainly be of great use to those people who are free to choose the site of their houses with reference to their sanitary aspects. Some details given on the subject of "made ground" will probably come as a surprise to many readers. An illustration showing a section of the soil at Cannon-street graphically shows how very much higher the street now is than it was in the Roman times. The rate at which soil accumulates in London is said to vary from 6 in. to 1 ft. in a century, and a great deal of the "made ground" of London is thus of ancient date and many places which have been undisturbed still show interesting relics of the Roman occupation. It is, however, the "made ground" of modern times which is of most importance from a sanitary point of view. When good material is brought for the foundation of the house the results are satisfactory, but it unfortunately happens that in many places pits filled with all sorts of rubbish, including decayed vegetable matter, form the "made ground" on which modern houses are built. We have ourselves lately seen a pond described as an excellent building site, and no one can walk far in the outlying suburbs of London without coming across a notice that "Rubbish may be shot here," which is a not unusual preliminary to the advertisement of the place as an excellent building site. Mr. Woodward rightly protests against "made ground" of this description and goes on to give an account of the gravel, sandstone, clay, and limestone subsoils which are to be found in and around London.

The third chapter deals with clay and gravel subsoils, with the contamination of subsoils, the foundations of buildings, and with the sanitary signification of geological faults. The fourth chapter deals with the question of water-supply and of drainage, and the fifth with fog and sunshine. The final chapter contains some excellent remarks about cemeteries. There is a very full index giving the heights of the places mentioned in the maps. The amount of information contained in this little book is very great and we cordially recommend it to all those who desire to obtain clear and accurate information on the important subjects with which it deals. All medical officers of health in the district described should possess the book, which contains in readily accessible form practically all the general information which they are likely to want. The book is clearly written and contains a number of excellent illustrations: it deserves to be very widely read. We fear, however, that there are two reasons which will prevent the book from having the circulation which it undoubtedly deserves. One is that the outside cover, which is of thin yellow paper, shows clearly that it is a Government publication, and that fact suggests to the person whose experience has not taught him to know better that the book is necessarily dull. The other reason is that the book is published at half a crown, which appears at first sight rather a large sum to pay for a pamphlet of fifty-eight pages.

Mediterranean, Malta, or Undulant Fever. By M. Louis Hughes, Surgeon-Captain, Army Medical Staff. London: Macmillan and Co., Limited. 1897. Pp. 219. Price 7*s.* 6*d.*

This is a valuable contribution to the literature of an important subject. The fever, hitherto known generally as Malta fever but for which Surgeon-Captain Hughes has suggested the new name of undulant fever, is endemic and at times epidemic not only in Malta but also elsewhere in the Mediterranean. "Its lengthened duration causes an enormous yearly financial loss from non-effective pay and invaliding, while it may be said to be the most important and, next to venereal diseases, the most prevalent form of sickness affecting our Mediterranean forces." These words, which occur in the preface, afford ample justification for the author's careful and detailed study of this disease of which the present volume is the outcome. The proposed name of undulant fever, which was first suggested by the author in 1896, has no little to be said in its favour and its advantages are clearly and temperately set forth in the introductory chapter. On the other hand, the nomenclature of the disease is already very long and complicated and it may be questioned whether it is desirable or necessary to add to it and also whether the new name, based on the character of the temperature curve, is destined to supplant the older name based on the geographical distribution of the fever. Under the older heading of Malta or Mediterranean fever the disease has for many years held a definite place in all the standard text-books and dictionaries of medicine.

Historically the occurrence of Malta or undulant fever may be traced back with some certainty to the beginning of last century and with some degree of probability to a very much earlier date. It was not, however, until Dr. Marston's careful description of it in 1859 that any accurate knowledge was gained, or that it was clearly separated from other fevers, such as remittent, intermittent, and typhoid. The next great step in advance was the discovery by Dr. Bruce in 1886 of what appears to be the specific organism of the disease. Since that time Dr. Bruce, Surgeon-Captain Hughes, and others have from time to time published in our columns and elsewhere further observations on this micro-organism and on the fever of which there seems little doubt it is the cause or at least the invariable concomitant. But the present volume is the first and at present the only handbook devoted exclusively to a study of this fever in all its aspects and it is therefore deserving of considerable attention. It is impossible to summarise in the limits of a review the great amount of information which Surgeon-Captain Hughes has brought together and we can only select here a few of the more salient points, all of which are very ably and lucidly discussed and on many of which new light is thrown. In regard to the causation of the disease some interesting evidence is brought forward and the conclusion arrived at that the prevalence of the fever is closely connected with fæcal pollution of the surrounding soil seems to be fully justified. The sanitary condition of Malta appears to be, indeed, far from ideal and there is everywhere ample opportunity for sewage matter to escape into and contaminate the soil. "It also seems probable that the living virus is excreted with the fæces and urine, and so returning to the soil is able to infect the air of a definite and circumscribed area and so re-enter the human subject." The living virus is in all probability the organism to which the author in 1892 gave the name of "Micrococcus Melitensis"—a name to which he would now add "*vel* Brucii" in honour of its discoverer. A careful description is given of the bacteriology of the disease and of a series of experiments which seem to confirm the specific nature of the micrococcus. The chapter on the Causation of the Disease is a very well-written one, prominence being given to its bacteriological aspect, but due weight being also attached to the many other problems connected with its prevalence and propagation. The chapters on Symptomatology and Differential Diagnosis are equally valuable. Malta fever has probably the longest duration of any of the infectious fevers, the average stay in hospital of patients invalided by it being ninety days. The diseases with which it it most likely to be confounded are enteric fever and paludism and in the early days after onset it may not be easy to differentiate between them. By the aid, however, of the very clear information on this head given in these pages the difficulty should be materially lessened. One or two painful instances are recorded in which patients have been certified as suffering from Malta fever and requiring removal to a healthier climate, but who have—during or shortly after their removal—died from perforation of a typhoid ulcer. Such cases show the great importance, not only of a correct diagnosis, but also of attending to the first of the four aphorisms on "invaliding" patients with which this volume closes—namely: "Do not invalid patients until a sure diagnosis has been made nor until the acute stages are over." The chapter on Prophylaxis, Treatment, and Invaliding is full of useful and practical information, though it must be confessed it holds out little promise of being able to cut short the long and tedious course of the disease by any specific method of treatment or drug.

This book should certainly be in the hands of all medical men who are likely to spend any lengthened period of time in Malta or in the other parts of the Mediterranean where the fever is known to occur. To medical officers of the army or navy stationed in the Mediterranean it should prove indispensable. We may add that the book is well printed on good paper, that it contains a number of valuable charts and tables, and that it seems to be well indexed. Its practical value as a work of reference would, however, have been considerably increased had the plan been adopted of printing marginal summaries against each paragraph and were the contents of the chapters printed unabridged at the beginning of the book as well as at the head of each chapter. These small blemishes might easily be remedied in future editions.

Archives de Physiologie. Publiées par MM. Bouchard, Chauveaux, et Marey. Cinquième Série. Tome x., No. 1. Janvier, 1898. Paris: Masson et Cie. Prix de l'abonnement, 28 fr. par an.

The following are the original articles in this part:—1. Influence of Exposure to Cold on the Topography and Variation of Temperature-Thermogenetic Resistance of the Human Organism, by M. J. Lefèvre. In this paper the author has endeavoured to determine by means of Fourier's contact pile thermometer and by the application and insertion of a thermo-electric needle the temperature not only of different parts of the body but of the skin at different depths and of the subjacent tissues. He shows that the influence of exposure to external cold penetrates only to a small distance below the skin and that the different parts and organs of the body if one be cooled or heated rise and fall together. 2. The Comparative Conductibility for Heat of the Tissues of the Body, by Dr. H. Bordier. Taking air as unity bone is represented by the number 4·45, muscle 2 83, blood-clot 2·71, tendon 1·92, cartilage 1·85, and fat 1·38. 3. Researches on the Changes undergone by Gases injected into the Tissues, by MM. Rodet and J. Nicholas. Air, oxygen, and carbon dioxide were injected into the subcutaneous connective tissue and into the larger serous cavities. 4. On the Influence of Sections of the Mesentery on the Vitality of the Small Intestine, by Dr. Begouin. Many drawings accompany this article showing the effects of sections; transverse sections of blood-vessels and nerves extending over 30 cm., or about a foot, were followed by gangrene. 5. On the Amount of Subcutaneous Absorption of Antitoxic Substances of Serum in the Rabbit, by Dr. Honoré van de Velde. 6. The Action of the Digestive Fluids on Microbic Poisons, by M. A. Charrin. 7. Thoughts on the Mechanism of Immunity, by Dr. F. J. Bosc. 8. MM. J. C. Roux and V. Balthazard: A Study of the Movements of the Stomach with the Roentgen Rays. The opacity of the walls of the stomach caused by the injection of bismuth nitrate is ingeniously employed to obtain photographs and the movements are shown to be rapid. 9. Central Thermic Polypnœa and the Mechanism of its Production, by MM. J. Athanasiu and J. Carvallo. The authors show that heat acts on the respiratory nerve centre directly. 10. On the Physiological Identity of the Suprarenals of Batrachians and of Mammals, by M. P. Langlois. 11. On the Physiological Effects of Subcutaneous Injection of Renal Extract, by MM. J. Teissier and H. Frenkel. 12. The Mechanism of the Destruction of the Active Principle of the Adrenals in the Organism, by M. P. Langlois. 13. Histo-pathological Researches on the Conditions of the Nerve Centres in Thoracic and Abdominal Shock produced by Experiment, by Dr. C. Parascandolò, with two plates. 14. On Tetanus, and that it is not due to an appreciable Lesion of the Medullary Nerve Cells, by MM. J. Courmont, Doyon, and Paviot. 15. On the Fixation of Enzymes by Fibrin, by M. Stanislas de Szumowski. 16. On the Martial Function of the Liver in all Animals, by MM. A. Dastre and N. Floresco.

Some Points in the Anatomy, Pathology, and Surgery of Intussusception. By D'ARCY POWER, M.A., M.B. Oxon., F.R.C.S. Eng., Surgeon to the Victoria Hospital for Children, &c. London: The Rebman Publishing Co. 1898. Pp. 88. Price 4*s.*

INTUSSUSCEPTION is a condition the importance of which for a long time was underrated; not, indeed, that the affection was not recognised, for Hippocrates has described it and advised the administration of enemata, and numberless writers since have devoted much time to the study of it, but many problems connected with intussusception still remain unsolved, and in this little volume Mr. D'Arcy Power has set forth his own researches into the pathology and treatment of this serious disease. The substance of the book formed the material for a series of lectures delivered at the Royal College of Surgeons of England in February, 1897, but the book contains much more than the lectures as the author found it impossible to utilise all the material he had collected. The most original feature of Mr. Power's monograph is the account he gives of the microscopic examination of a number of cases of intussusception. Of the histological changes in hernia very little is known and still less are we acquainted with the minute anatomy of the far rarer condition, intussusception. It is not at all easy to obtain the material for an investigation of these microscopic alterations of structure, but the author has succeeded in examining thirty-one cases; one of the specimens is of great interest—it was obtained by John Hunter from the body of a boy nine months old who died in 1789 and it inspired Hunter's celebrated paper "On Introsusception." The conclusions at which Mr. Power arrives are that in an intussusception the layers of the bowel wall which are most likely to be injured are the submucous tissue and the circular layer of muscle. There is always an effusion of blood, usually into the submucous coat, but in the most acute cases into the mucous membrane. Following the effusion come inflammatory changes, which may terminate in overgrowth of the connective tissue and sclerosis or lead to tryptic digestion of the affected bowel or to sloughing. With regard to the pathology of intussusception the author adduces elaborate statistical evidence to show that the spontaneous ileo-cæcal forms of the condition occur when the colon is markedly larger than the ileum and is unduly moveable. The exciting cause is obscure, but certain mechanical disturbances, such as sudden violent movements or irregular intestinal contractions, may be credited with starting an intussusception.

As to the treatment which should be adopted the author advises that except in enteric cases (that is, cases limited to the small intestine) or those with very severe symptoms the routine treatment should be to distend the large bowel with hot salt solution under a pressure of not more than three feet of water, the liquid being allowed to remain in the intestine at least ten minutes, the patient being under the influence of chloroform. In cases where this treatment has not succeeded in reducing the intussusception, or if the condition has thrice recurred, and in the acute and severe cases already mentioned, the abdomen must be opened. The book is exceedingly well written and for a long time to come must be looked upon as a record of the most complete investigation and study which we possess of this very important affection. The work is well printed and is well illustrated by twenty-seven figures, the most interesting of which are those which demonstrate the minute pathological anatomy of intussusception.

LIBRARY TABLE.

The First Principles of Electricity and Magnetism. By C. H. W. BIGGS, Editor of the *Electrical Engineer.* Illustrated with about 350 Diagrams. London: Biggs and Co., 139–140, Salisbury-court, Fleet-street, E.C. Price 3*s.* 6*d.*—This book is intended for beginners in practical work and had its origin in a series of articles based upon the Syllabus of the City and Guilds Institute which the author commenced in the pages of the *Electrical Engineer* some time ago. Mr. Biggs is right in saying that the book contains a good deal of useful information not usually to be found in similar books. He has succeeded in covering a very wide field within comparatively small compass. He writes largely from the practical point of view. He is clear in his descriptions and theoretical explanations. He recapitulates the ground by a series of questions placed at the conclusion of each chapter, the answers to which occur in the foregoing text. This is an excellent plan from the point of view of instruction and the author means his work to be educational. There are some interesting chapters on the development of electric lighting and arc lamps and incandescent lamps and the essentials of their construction are clearly described. The illustrations serve well to make intelligible the difficult subjects of resistance, of batteries connected in parallel and in series, the measurement of current, the questions of pressure, intensity, and so on. The book will obviously be useful to those intending to take up a practical and technical course.

Outlines of Rural Hygiene: for Physicians, Students, and Sanitarians. By HARVEY B. BASHORE, M.D., Inspector for the State Board of Health of Pennsylvania. With an appendix on the Normal Distribution of Chlorine by Professor HERBERT E. SMITH, of Yale University. 75 cents net. Philadelphia: The F. A. Davis Co.—This is a useful little manual dealing with the rudiments of modern hygiene. In an admirable digest on methods of waste disposal we are pleased to recognise that the author inclines to natural methods of purification rather than to chemical treatment which destroys both pathogenic as well as the nitrifying organisms. Further, pathogenic organisms cease to exist when nitrifying organisms are at work. The author thinks the determination of chlorine is sufficient for most purposes to establish the quality of drinking water. Of course in America, where elaborate tables have been drawn up giving the exact normal chlorine of localities, this may be so.

Dod's Parliamentary Companion. London: Whittaker and Co. 1898. Price 4*s.* 6*d.*—The volume for 1898 of this useful and reliable little book has, of course, no such item of purely medical interest as had the 1897 edition with its announcement of the first medical peer, but as a work of reference it is as indispensable as ever. That the information is brought well up to date is shewn by the fact that the death of Sir Henry Havelock-Allan late Member of Parliament for South-East Durham is duly noted.

Stewart Clark. By S. E. S. C. London: Baillière, Tindall, and Cox. Price 7*s.* 6*d.*—Stewart Clark was a medical officer in the Honourable East India Company's service. He worked through the Mutiny and, in company with many others both of British and Asiatic blood, did his duty nobly during a very trying and terrible time. Not only was he a medical man but he filled many important posts in other departments such as those of Postmaster-General, Inspector of Prisons, and the like. The record of his life written by his widow is worth reading, but it contains many details of family rather than public interest.

Scenes of English Life. No. 1 of the English Series of the Psychological Methods of Teaching Languages. By HOWARD SWAN and VICTOR BÉTIS. With a Preface on the Method for Teachers of the Deaf. By SUSANNA E. HULL. London: George Philip and Son. Price 2*s.* 6*d.*—This book is founded on the admirable method of M. Gouin. Instead of the pupil ploughing wearily through grammar and syntax he is led to take an intelligent interest in his work by being made to picture a scene and then repeating the incidents of the scene after the teacher. In this way a foreign tongue can very soon be learned. Grammar is, of course, not neglected but relegated to its proper place.

Premature Burial: Fact or Fiction? By DAVID WALSH, M.D. London: Baillière, Tindall, and Cox. 1897. Price 1*s.* 6*d.*—This is a counterblast to a book called "Premature Burial" by W. Tebb and E. P. Vollum, M.D. Only ignorant people could or would be willing to believe or be moved by the arguments which Messrs. Tebb and Vollum adduce as to the alarming frequency with which people are buried alive; but ignorant people need teaching, and Dr. Walsh's plain statements are well calculated to afford such instruction. We would also recommend the perusal of one of Poe's tales which deals with the same subject.

JOURNALS AND REVIEWS.

The *Journal of State Medicine* (the official organ of the Royal Institute of Public Health). No. 1, Vol. VI.—The opening paper deals with the Inspection of Water Supplies, by Dr. Thresh. The keynote of the article is indicated by the opening sentence which says: "Notwithstanding the labours of various Royal Commissions and the unwearying efforts of the Local Government Board the outbreaks of preventable disease due to the pollution of public water-supplies furnish abundant proof of the fact that the care taken to ensure the hygienic purity of water used for domestic purposes is in very many cases utterly inadequate." As Dr. Thresh points out, a full inspection of any source of public supply requires not only a certain knowledge of geology, physiography, chemistry and of engineering but a large amount of ingenuity and power of attention to details if no point is to be overlooked. The subject, indeed, bristles with difficulties, but that should only cause the greater determination to conquer them. The Hygienic Institute of the State University of Utrecht is described by Professor Dr. G. van Overbeck de Meyër, and there is a note on the Imperial Institute of Experimental Medicine at St. Petersburg.

St. Thomas's Hospital Gazette. No. 1, Vol. VIII.—The Old Physicians of St. Thomas's Hospital, a lecture delivered before the Medical and Physical Society by Dr. J. F. Payne, is prefaced by a portrait of Richard Meade, "the most eminent physician in the age of Queen Anne and the first two Georges." The Parsee Method of Disposing of the Dead gives a good account of the structures which have been appropriately named "Towers of Silence." As the question of premature burial is so much in the air just now it is interesting to note that the fear of being buried alive is shared by the Parsees in common with many other peoples. Among their funeral ceremonies is a rite called "sag deed" which consists in leading a dog held in check by a white cord fastened to its collar up to the body. "The meaning of this mystery is that if the body be that of a person not really dead the dog will show it by his behaviour and thus a premature confinement to the tower will be avoided."

The *Medical Temperance Review*, the official organ of the British Medical Temperance Association, has clothed itself in a new dress, but its inward spirit, as the editor informs us, remains the same. Dr. G. Sims Woodhead, the President of the Association, writes on Recent Researches on the Action of Alcohol, which tend to show that the resisting power of the tissues is reduced by alcohol. This number also contains the abstract of a lecture on the Effect of Alcohol on the Process of Repair, by Mr. E. Claude Taylor, F.R.C.S. Eng., and a short paper on Progress in German Legislation for Inebriates, by Dr. William Bode.

Journal of the Sanitary Institute. Vol. XVIII., Part 4, January, 1898.—The present quarterly issue of this journal is rather more bulky than usual as it contains abstracts of many of the papers that were read at the recent Congress at Leeds. It would be invidious to select any one paper for special mention as they are nearly all of the first importance to everyone interested in sanitation and hygiene. The 1898 Congress, it is announced, will be held during the month of September at Birmingham.

The Dentist: an Independent Journal devoted to the Interests of the Dental Profession.—This is an entirely new dental publication and is to be published monthly by Messrs. Hampton and Co., Cursitor-street, E.C. The first number contains some fairly interesting articles, one or two of which are rather foreign to the subject of dentistry. It is, however, difficult to judge of the value of this new periodical until further numbers have appeared. One little point we notice is that the account of a case of coryza of dental origin (page 17) is evidently taken from the columns of THE LANCET, but there is no acknowledgment of the fact.

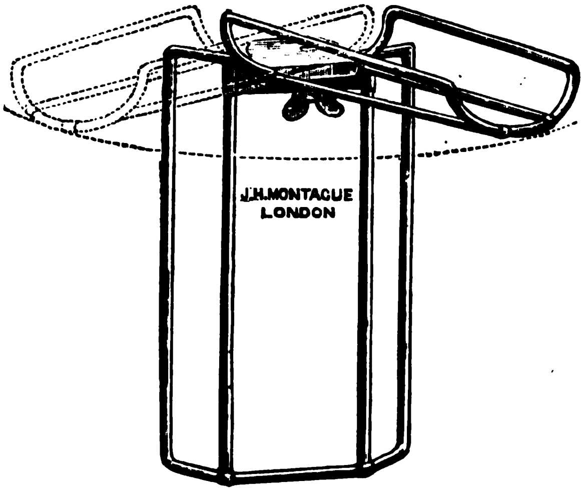
The Humanitarian.—There are several articles of interest in the February issue of the *Humanitarian* which has for a frontispiece a good reproduction of a photograph of Émile Zola. The first article is an account of an interview with M. Zola on the subject of Anti-Semitism in France and naturally bears on the Dreyfus case—that sad commentary on the legend, of which Frenchmen should be so proud "Liberté, Égalité, Fraternité." It will be interesting to Englishmen to learn that it has been left to England to find the one solution of the anti-Semitic question by refusing to divide herself up into Jews and Englishmen and by giving to that much persecuted race the equality which is accorded by English laws. Nafeesh Hanoum contributes an article upon the Women of the Harem and gives a more optimistic view of that institution than that generally entertained by the advocates of women's rights. "The reputed indolence of the women of the harem," he says, "is quite as mythical as are many of the other legends with which we are familiar." H. W. C. B. deplores the severity of corporal punishment in military prisons in India and the colonies. On the authority of a warder he tells his readers that "in the prisons at Lucknow, Poonah, and Rawal Pindi—to mention no others—a man gets five and twenty lashes when he would have two or three days' bread and water or a reduction to a lower stage at home."

New Inventions.

A NEW RECTANGULAR SPLINT FOR USING AFTER REMOVAL OF THE BREAST.

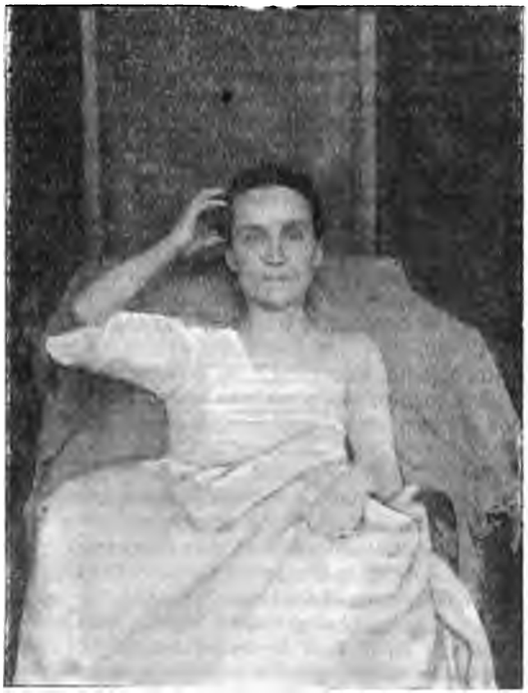
I PRESUME it is the practice of most modern surgeons when removing a breast for scirrhus at the same time to clear away the underlying pectoralis major and thoroughly clean out the axilla. When such cases are dressed in the ordinary way with the arm tightly bandaged across the chest it very frequently happens that a great deal of discomfort and pain are experienced by the patient, and after the wound has healed the movements of the shoulder are generally very limited and painful. On Nov. 8th, 1897, I showed a patient at the Medical Society of London, sixteen days after removal of the breast, sterno-costal part of pectoralis major and axillary glands, to demonstrate the very great advantages to be derived from keeping the arm at a right angle to the body instead of tightly bandaging the limb across the chest as is the usual practice. At my suggestion Mr. J. H. Montague, of 101, New Bond-street, London, has made a rectangular splint, as illustrated, fitted with a moveable joint, for treating this class of cases.

FIG. 1.



The upright piece is applied against the chest wall, the horizontal part supporting the arm as far as the elbow.

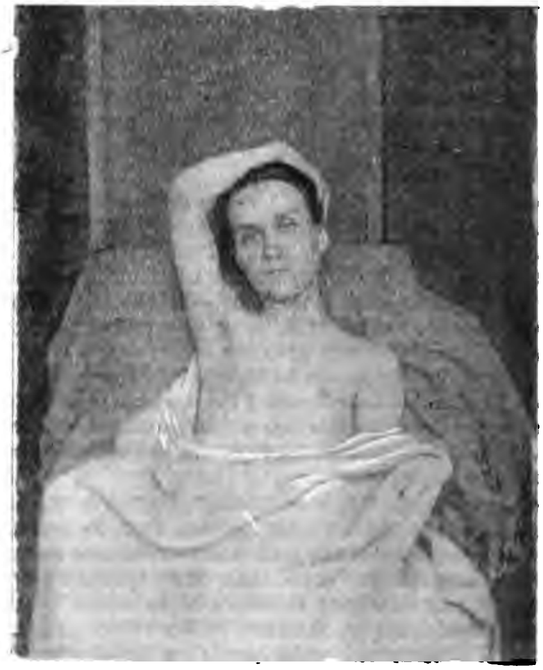
FIG. 2.



Shows method of applying splint.

The advantages I claim to be derived from using this splint are: 1. The position is a most comfortable one for the patient. The forearm and hand being free there is no cramp or stiffness of elbow, wrist, or fingers. 2. When the splint is removed there is no stiffness of the shoulder, the patient being able within a fortnight of the operation to dress her back hair and hook her dress. 3. Requisite pressure can easily be maintained to keep the surfaces of the wound in contact. 4. Where much skin has been removed, should the position of abduction cause too much tension upon the stitches the arm can be brought forwards and so relax the parts by altering the joint of the splint to the required angle. The illustrations (Figs. 2 and 3) illustrate the splint applied and after removal.

FIG. 3.

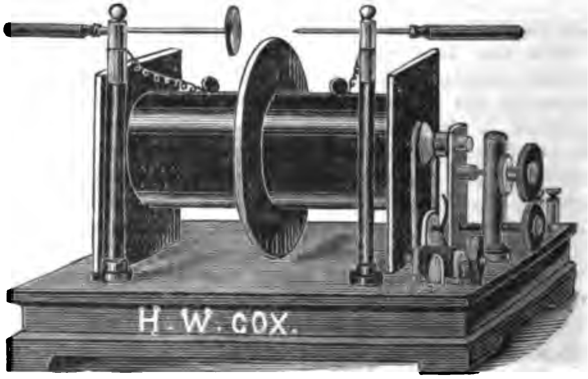


Photograph of same patient sixteen days after operation, to demonstrate range of shoulder and arm movement.

EDWARD COTTERELL, F.R.C.S. Eng., &c.,
Surgeon to the Cancer Hospital and the London Lock Hospital, &c.
West Halkin-street, Belgrave-square, S.W.

INDUCTION COILS.

MR. H. COX, of 11, Cursitor-street, Chancery-lane, has submitted one of his induction coils to our notice. These coils are specially adapted for x ray work for they give a very steady current, while by an ingenious arrangement of the interrupter sparking and sputtering are reduced to a minimum and noise is almost absent. The winding is all done under Mr. Cox's personal supervision and the coils are made in all sizes up to one giving an eighteen-inch spark. The prices are very reasonable.



THE LANCET.

LONDON: SATURDAY, FEBRUARY 5, 1898.

CONSIDERING the importance of the subject it is remarkable that since 1870 no detailed account of PETTENKOFER and BUHL'S theory as to the relationship between ground-water and the prevalence of enteric fever has, so far as we know, appeared in this country. In that year PETTENKOFER contributed to the columns of the *Medical Times and Gazette* an article in answer to a paper by the late Sir GEORGE BUCHANAN in which he stated in considerable detail the evidence in favour of his views and against the theory of water-convection of enteric fever. Every text-book now contains a reference to PETTENKOFER'S theory; but the hiatus in our detailed knowledge of the subject remained until Dr. CHRISTOPHER CHILDS'S very valuable paper[1] was read on Jan. 21st of this year at a meeting of the Epidemiological Society. In preparing this paper Dr. CHILDS has made several protracted visits to Munich, has had the advantage of the assistance of PETTENKOFER himself as well as of his coadjutors and successors, and it may be inferred therefore that Dr. CHILDS'S contribution contains all the available evidence bearing on this important subject.

The first noteworthy point is the remarkable decline in enteric fever which has occurred at Munich. Taking the year 1869 as the starting point, because in our English statistics it was in this year that enteric was first distinguished from other forms of continued fever—we find in London a death-rate of 34, while in Munich it was 149 per 100,000 inhabitants. In 1895 the death-rate from enteric fever in London was 14, in Munich it was only 3 per 100,000 inhabitants. It is evident that Munich, in which there was much more scope for improvement, has not only made up its leeway but has outstripped London in a manner and to an extent which is not creditable to the local and central sanitary administration of the latter city. What circumstances have brought about this remarkable improvement? In looking for the cause or causes we naturally inquire as to the drainage of the city, as to its water-supply, and as to the improvement in other sanitary conditions. Munich is built on the old gravel bed of the River Isar, which averages about 30 ft. in depth and is underlaid by impermeable marl. Until 1858 all the excreta of Munich were deposited in soaking privies and cesspits in this gravel, in which the range of the vertical movement of the ground-water is usually from 1 ft. to 2 ft. per annum; and until much later the water-supply of the city was derived from wells in the same gravel bed. In 1858 the cesspits were ordered to be made watertight and were henceforth periodically emptied by the municipal authorities. Between that time and 1878 certain parts of the city were sewered and in 1881 the sewerage and house drainage, on a system devised by an English engineer, Mr. GORDON, was begun, though it is not even now complete, a large number of water-tight cesspits still remaining. The water-supply of the city before 1865 was derived from wells within the city, all more or less surrounded by houses and subject to organic pollution. In 1865 the Pettenkofer waterworks began to supply the southern and western districts of the city, the water being derived from subsoil springs in an uninhabited district above the city. In 1883 a fine water-supply from a highland district twenty miles distant from Munich was introduced. This has *gradually* supplanted nearly all the old water-supplies. The chemical analyses appended to Dr. CHILDS'S paper, although illustrating the imperfections of German methods of water analysis, show very clearly the gradually decreasing purity of the ground-water used for drinking as it travels from the Pettenkofer waterworks district one to two miles above Munich to the opposite extremity of the city, collecting impurities in transit. It is a curious fact that analyses of the ground-water derived from the city wells show that it is as a rule purer when the level of the ground-water is falling and more polluted when it rises—a point which obviously does not favour BUCHANAN'S view that the lower ground-water was a cause of enteric fever, because under this circumstance the cone of impure subsoil from which the well gathered water became much wider.

PETTENKOFER appears to have begun his investigations into the origin of enteric fever and cholera as a believer in the constant convection of these diseases by drinking water. This was disturbed by his inability, first in the case of cholera and subsequently in that of enteric fever, "to trace any of the local outbreaks which frequently occurred to any of the many separate water-supplies," which appeared to furnish exceptional opportunities for proving the truth of the drinking-water theory. PETTENKOFER subsequently found that in the great epidemic immediately following the introduction of the Pettenkofer waterworks water those who made use of this presumably pure water suffered just as much as those who continued to drink the old water-supplies. There is the further important fact that the people of Munich were drinking subsoil water and no other until 1883 and yet the death-rate from enteric fever in that and the two preceding years was only 19, 18, and 18 per 100,000 inhabitants respectively, whereas the lowest death-rate in any preceding year was never below 52 per 100,000. An improvement that occurred before the introduction of the highland supply of water could scarcely be ascribed to the latter! In 1884 PETTENKOFER investigated the enteric mortality in 871 houses containing 23,302 people who were still supplied with water from sources within the city. He found that "they did not suffer more from typhoid than their fellow citizens who drank of the pure highland water-supply." More recently PFEIFFER and EISENLOHR investigated the incidence of enteric fever in certain districts in 1888–92. They found that 69·9 per cent. of the houses (out of 665 examined) served exclusively with the highland water-supply had 70·5 per cent. of the cases of enteric fever.

If these facts have been collected in a trustworthy manner they evidently tell very strongly against the view that enteric fever is chiefly water-borne in Munich. It is unfortunate that further details are not forthcoming and that Dr. CHILDS, notwithstanding the time and trouble bestowed on his investigation, is still obliged to leave the accuracy of the main induction to stand or fall, owing to hiatus in the evidence, upon the deservedly high personal authority of PETTENKOFER.

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[1] Published in our present issue, vide p. 348.

The alternative theory to that of water-convection of the infection is that pollution of the subsoil occurred in Munich on a wide scale (this pollution was produced not only by privies and cesspits, but also by 800 slaughter-houses which were abolished in 1878); that this pollution favoured the multiplication in the subsoil, under certain favouring conditions of temperature and oscillation of the ground-water, of the specific virus of enteric fever, and that the failure in recent years of the epidemic waves to appear is due to the gradual purification of the subsoil by natural processes, the non-addition of nutrient sewage material preventing the continued vitality of the virus in the subsoil. The charts of incidence of enteric fever in Munich showed a striking association between fall of ground-water and increase of enteric fever. In this country it appears that the same relationship holds good, for 1868, 1874–75, and 1893 were exceptionally dry years and were also years of epidemic enteric fever. The exact relationship between the two remains doubtful. Many of the great epidemics in this country are undoubtedly water-borne, directly through drinking-water, or indirectly by means of watered milk. But does this cover the whole ground? How are we to explain the numerous sporadic cases which although they do not so powerfully affect the popular imagination still form the vast majority of the cases in the whole community? A certain proportion of these may be ascribed to sewage-contaminated shell-fish or other infected articles of food. There remain a large number of cases which neither polluted water nor polluted food will explain and we are obliged to invoke the factor of insanitary local conditions, to which Dr. SEATON has drawn attention, as a continuing and too much neglected cause of sporadic enteric fever. It would appear that bacteriological evidence is about to support that which is already established on wider grounds. The recent experiments made by Dr. ROBERTSON and Dr. SIDNEY MARTIN point in this direction. It may be that after neglecting the considerations urged many years ago by PETTENKOFER we shall by this indirect and somewhat circuitous path arrive at a partial agreement with his theory, premising that the great epidemics of enteric fever in a community are nearly always water-borne, while the sporadic cases are due to soil-pollution, and this soil-pollution is most active and operative when the ground-water is exceptionally low and the soil-temperature and humidity are most favourable to the multiplication of the Eberth bacillus.

If we accept this view, which best reconciles discrepant considerations, there will be no difficulty in recognising the fact that in order to annihilate enteric fever the soil conditions of each community must be so improved as to starve the Eberth bacillus out of existence. Water is after all but a vehicle of the disease which is generated in the soil. By preventing pollution of drinking-water we prevent the living contact between the bacillus and the patient *viâ* water; by purifying the subsoil we prevent the possibility of the multiplication of infective material. Hence measures directed to the purification of the subsoil, whether they be the construction of water-tight sewers and drains, the provision of open spaces with abundance of vegetation, or any other, are among the most important problems of public health.

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WE have placed before our readers a *résumé* of the circumstances which have now become widely notorious in the lay press under the heading, "The Darenth Asylum Scandal," and we may say at once that the word "scandal" is excellently applied to the situation. It will be remembered that a special committee which had been appointed to investigate the unsavoury tragedy framed a report of which the one important recommendation was that Mr. A. T. O. WHITE, the acting medical superintendent of the Darenth Imbecile Asylum, should be called upon to give in his resignation. This report was adopted at a meeting of the Managers of the Metropolitan Asylums Board, held on Saturday last, Jan. 29th, not without some debate (as will be seen from the report which is printed on page 387), but the matter is not terminated because Mr. WHITE has been compelled to resign his post. There are several considerations that will be forced upon the attention of all thoughtful people by the wording of this report and its very general adoption, while the Managers of the Metropolitan Asylums Board will be fortunate if they escape the accusation of having sacrificed a scapegoat.

Has the punitive action of the Metropolitan Asylums Board been just and adequate? This question sums up the position now that the report of the special committee has been adopted. The Board has punished Mr. WHITE who for sixteen years has been a medical officer under their jurisdiction for errors of judgment and omissions of duty—to use the phraseology of the special report—while expressly stating that he and his assistants "spared no pains and neglected no attention suggested by their experience for the welfare of the patient." The errors of judgment or omissions of duty were various. The first one was held to be that Mr. WHITE expressed no unwillingness to undertake the obstetrical duties imminent upon the unfortunate woman's condition, whereas he had had no obstetrical experience since his career as a student terminated sixteen years ago. To this Mr. WHITE has replied that as a matter of fact he *did* suggest that in the interests of the institution the woman should be sent away for her confinement; and we should like to register a very strong opinion that a qualified medical man is bound to consider himself competent to deal with a case of ordinary and uncomplicated pregnancy, so that unless there were premonitory symptoms presaging a difficult case, we cannot conceive why Mr. WHITE should have supposed that he would be unable to conduct the labour. If there were such symptoms we have seen no allusion made to them. Secondly, Mr. WHITE was adjudged to have failed in his duty by not putting into writing an official record of the case. He did not enter the circumstances in his report to the Managers of the Board, but inasmuch as he related all the facts to the Darenth Committee so that the Chairman of the Darenth Committee and the Clerk to the Asylums Board were consequently enabled to make "minute inquiries into the facts" we cannot see that his lapse from the strict path of duty was very grave, while any lapse that may be held to have occurred must be equally laid to the charge of others. If Mr. White is to be punished for what can only be technically described as concealment, what should happen to the Darenth Committee who are convicted by the report of the special committee of having "failed to discharge as they ought the duties entrusted to them"? Again, Mr. White is considered by the special committee to be guiltily responsible for the absence of a qualified or experienced nurse to attend the case. To this we have to say that if the resources of the Darenth Imbecile Asylum are not competent to deal with the ordinary emergencies arising from a pregnancy—for, be it remembered, there does not seem to have been any reason to suppose that the pregnancy would be other than an ordinary one—then it is time that the Managers of the Metropolitan Asylums Board should put the institution for whose conduct they are responsible upon a proper nursing basis. The environment of the lying-in bed is not totally different from that of the ordinary sick bed and it is difficult to see why the asylum should not have been able to provide adequate care for this patient if it is properly equipped in other respects. It is well known that a child was born at Leavesden Asylum a few months ago and that no special medical nursing arrangements were then found necessary. The woman was in this latter case pregnant when admitted, so that ample opportunity was given to the Metropolitan Asylums Board and the house committee to take every possible precaution that the patient's condition warranted. Nothing was done. Why, therefore, should Mr. White be held to have erred in judgment or to have committed an omission of duty by following this example? Lastly, Mr. White was mildly censured by the special committee's report because the coroner was not notified of the death, while the fact that no post-mortem examination was made was stated in his disfavour. It is always advisable that there should be an inquest where a death has occurred in a public institution and we think that in this case it was particularly advisable that Mr. White should have made a post-mortem examination (which would certainly have been ordered by the coroner), but to dismiss him from his post after sixteen years of honourable service for two such errors in judgment as these seems to us to be a rigorous punishment that could only be justified by employers whose own record of work performed amounted to infallibility. If the Metropolitan Asylums Board has such a papal reputation as this, no servant can expect to remain in their employ after having been detected of an imprudence; but we are not sure that the Board are wise to make any, even the most indirect, claim to perfection, good as their administrative work is.

The Metropolitan Asylums Board has yet to deal with the circumstances relating to the occurrence of the pregnancy, for the special committee in making the report which has led to the enforced resignation of Mr. White precluded these from their consideration, confining their attention strictly to the episode of the unfortunate woman's confinement and subsequent death. The Board is now holding an inquiry into the earlier history of the case and it behoves the Managers to make this inquiry very rigid, firstly, because it is the side of the affair which most nearly concerns the public weal, and secondly, because by the treatment which they have meted out to Mr. White they have rendered any more affable attitude towards other delinquents impossible in its inconsistency. For these and other reasons no less obvious the inquiry on which the Board is now engaged must be thorough. There must be no concealment, there must be no fear of publicity, there must be no expense spared. If negligence on anyone's part allowed the alleged guilty attendant to obtain access to the female wards the negligent person must be dismissed from the employment of the Board. If uncontrovertible evidence as to the violation of the woman proves to be obtainable, the person who suggested that the guilty man should not be punished because the unsupported word of the imbecile woman would have no weight must be severely reprimanded. Only by such all-round severity can the Board now escape the appearance of having sacrificed Mr. White to save others equally guilty from blame; only by such Draconian methods can it regain the confidence of the public which has been sorely and unduly shaken.

Our readers will have noticed for some years in the communications of our Correspondent in Berlin frequent reference to the subject of medical chambers and courts of honour in Germany. Apparently in most parts of Germany the members of the profession have the power of electing members to what are called the medical chambers. These chambers discuss subjects of medical interest and are often consulted by the Government on such subjects or on questions of public health, the Government recognising the advantage of the opinion of independent medical men as distinct from that of their own official medical advisers. These medical chambers have besides, and principally, certain powers of a disciplinary kind over their members, but they do not extend very far. They have no punitive authority and can only make themselves felt by depriving any offending practitioners of the right of voting in the election of members of the chambers. Certain members of the chambers are chosen to meet from time to time in Berlin as a Conjoint Committee, and this committee has the privilege of sending delegates to the Local Government Board for the representation of subjects of medical interest to the medical officers. It will be seen from all this that the medical profession in Germany has direct means of making itself felt or of putting itself into official communication with the Government. It has, in fact, a sort of direct representation in the departments of the State concerned with local government. There have been several attempts of late years, as our Correspondent has shown, to develop the importance and authority of these medical chambers. These seem to have been largely approved by the profession. But it is not unanimous as to the points of reform to be insisted on, and it is at variance, as we shall see, with the Government on some questions on which the Government will not give way.

In Saxony it has been proposed that a Bill shall be brought forward enabling the medical chambers or boards to draw up a code of ethics and form a court of honour for each district to judge infractions of the code. The court would have the power of a law court to punish by simple warning, by reprimand, or by fine from 20 to 1500 marks (£1 to £75). Many medical men doubt whether the creation of courts with such powers would conduce to an improvement in the ethical tone of the profession.

In Prussia a much more stringent Bill has been brought forward. Every provincial board is to elect four of its members, who with a learned judge are to constitute a "court of honour." They will also act as mediators in disputes between medical men. A Government lawyer is to act as Public Prosecutor. The penalties are simple warning, reprimand, or a fine up to £150. A Court of Appeal is, moreover, to be instituted in Berlin, consisting of the Director of the Medical Department of the Home Office as President, three other members of this Department to be elected by the Crown, and three representatives of the medical boards to be elected by their members.

The profession has not, on the whole, taken much interest in the election of members to the medical chambers, but if at the time of any particular election questions affecting medical men are agitating the profession more interest is shown in the election. Thus in 1893 the question of the free choice of medical men by members of clubs gave animation to the contest. And at the time of the later triennial election of 1896 the profession has been excited by the insistence of the Government on certain points that do not commend themselves to medical practitioners. One of the most burning of these points is the exclusion of the medical officers of the army and navy from the jurisdiction of the courts of honour. Upon this the Government will not yield, while the profession is, on the other hand, equally firm in its opinion that standards of honour should be equally binding on all medical men whether engaged in civil or in military work. Another point of difference between the Government and the profession is that the Government—at least in Prussia—wish to extend the authority of their courts to the punishment of other than merely medical misdemeanours in medical men and make them judges of other misconduct. Much objection, too, is taken to the proposal in the Prussian Bill to introduce the Public Prosecutor or other lawyers into what is essentially a medical court. The letter of our Berlin Correspondent of last week showed that these differences of opinion between the Government and the profession are so acute as to endanger the enactment of the Bills that have been brought in. The Minister of Public Instruction has written to the Conjoint Committee of Berlin to remind it that the Government of Prussia brought in this Bill to please the medical profession, and he accompanies the reminder with the remark that laws against unqualified practice so much desired by the medical chambers will not be enacted apart from legislation on ethical misdemeanours. Such laws against unqualified practice have of late years been abrogated and their re-enactment is contemplated. This is a great inducement to the chambers to meet the Government half way and we may hope that the differences will be removed by a little reasonableness on both sides.

The subject is exciting much discussion in both the lay and the medical press of Germany. It is only another proof of the great public importance of the medical profession and of the need of the maintenance in it of a high standard of professional honour. We are of opinion that the profession might concede to the Government the exclusion of the medical officers of the public service from the jurisdiction of the courts. These officers are subject to other discipline and are answerable to other authority than that of the chambers or of the courts contemplated in these Bills. On the other hand, the Government might concede to the medical chambers the exclusively medical constitution of the courts of honour. The profession has its own high code of conduct, and the more it is trusted, the more domestic the court by which such conduct is judged, the better the result is likely to be. We sympathise with the objection to the introduction of the Public Prosecutor or any other lawyer into a medical court. We shall watch this controversy with interest. It is not without its lessons to the profession and the Government of our own country. Our medical corporations may perhaps realise that in a most enlightened country the law gives much recognition, and proposes to give much power, to the medical profession itself; and we may all take a hint and a hope from the point made by the Minister of Public Instruction that legislation against unqualified practice will be enacted *pari passu* with means for better securing the honour of the regular profession.

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OF all the evil consequences of fractures of the bones of the limbs none is more common or more painful than the stiffness which is so often met with after the repair of the injury to the bone. This stiffness is due to one or other or to both of two causes—the existence of adhesions between muscles or tendons and the injured bone or the development of adhesions within the affected joints owing to injury to these joints at the time of the fracture. Extra-articular adhesions are the more common, but of the occurrence of intra-articular adhesions as a sequel to fractures close to joints there can be no doubt. All surgeons have recognised the great value of skilled massage—rubbings and movements—in the treatment of this stiffness. Under its influence the fibrous bands seem to melt away and the range of movement daily grows. In severe cases it has to be supplemented by free passive movements under an anæsthetic, but even then the treatment is prolonged and painful and tries both the patience and the endurance of the patient. On the principle that prevention is better than cure surgeons have been slowly feeling their way to the earlier application of massage in the hope that by moving the joints almost from the first adhesions will be prevented from forming and the patient will enjoy a useful and painless limb as well as a strong one when the splints are laid aside. Two illustrations of this practice at once suggest themselves. In all fractures near the elbow-joint it is now a common practice to move the joint gradually more and more freely almost from the outset of the treatment. Again, in the treatment of Colles's fracture of the radius the deserved popularity of Carr's splint is chiefly due to the fact that it affords no hindrance to the daily—or even more frequent—movement of the fingers and thumb of the injured hand. This course of procedure has become more and more popular and trusted.

Some surgeons, however, have gone still further and recommend that massage shall be employed from the very outset and they maintain that thus used it is not only a powerful preventive of adhesions, but that the fractures unite more kindly under its influence, and the troublesome pains so often experienced in the early days after a fracture will subside more quickly than if treated in any other way.

We publish to-day a paper on this subject from the pen of Mr. W. H. BENNETT, and in our Paris letter in THE LANCET of Jan. 8th there was a report of a discussion on this subject at the Academy of Medicine introduced by M. LUCAS-CHAMPIONNIÈRE, who is the chief advocate of this method in France. Some two years ago Mr. NOBLE SMITH called attention to this subject at a meeting of the Medical Society of London. Mr. BENNETT does not go so far as does M. LUCAS-CHAMPIONNIÈRE, for he uses splints to support the broken bone until repair is well advanced, and he recommends the early and systematic employment of massage to allay pain, to hasten repair of the bone, and to secure at once a supple, moveable and useful joint. There is no doubt something to be said for the view which Mr. BENNETT advocates, although some will be inclined to think that massage is advocated with some amount of exaggeration of its value. Certainly movement of an injured part is not necessary for its perfect or rapid repair. Of all the conditions of success in the treatment of fractures none is so important as the perfect correction of displacement of fragments. Unless the structure and outline of the bone are perfectly restored its function is more or less impaired, and we view with suspicion any method of treatment which in any way seems to lessen the importance of this primary consideration. Given perfect correction of displacement it is usually an easy matter to maintain it and then we doubt not that massage practised even quite early will be useful. But if massage is exalted into the chief place in the treatment of fractures and correction of displacement is regarded as of only minor importance we fear its wider employment will be attended with much harm.

Annotations.

"Ne quid nimis."

"UNDESIRABLE INVALIDS BILL."

SUCH is the title of a measure which it is proposed to bring once more before the New Zealand House of Representatives. It was introduced last year and withdrawn, but is now again to be discussed. The principles of the Bill are directed against the landing on the islands of patients afflicted with communicable diseases and stringent measures are to be adopted with regard to those people already in the colony who are similarly afflicted. Foremost amongst such diseases is tuberculosis, more particularly pulmonary tuberculosis. We have frequently drawn attention in our columns to the great endeavours which are now being made to prevent the spread of this malady, but we cannot altogether recommend such extreme precautions as are proposed by this Bill. No phthisical person will be allowed to enter New Zealand. This in itself will be very difficult to enforce. Medical testimony would of course have to be forthcoming as to the diagnosis and many early cases of the disease would probably escape detection whilst, on the other hand, many cases in a state of quiescence or arrest are perfectly harmless to their fellow creatures and it would be very hard on them to forbid their landing. Then it is proposed to deal with those residents who are phthisical. What the exact measures to be adopted are we do not know in detail, but presumably they are those which have been so frequently suggested—namely, notification and elaborate modes of disinfection. The question naturally presents two sides, the inconvenience caused to the sufferers and the protection of the healthy. But if the former is carried to the extremes that are intimated their lives will be almost as bad as those of the lepers, and if every health resort adopted the same plan their lot would be hard indeed. Hitherto, when such a crusade against pulmonary tuberculosis has been adopted it has ended in failure, and we doubt whether New Zealand will be any better off if the Bill becomes law. We would rather urge further sanitary precautions and public tuition in regard to personal conduct than such cogent action as the Bill proposes. If every medical man would undertake to give each phthisical patient who consults him written or printed directions as to the disposal of expectoration, disinfection of handkerchiefs, &c., similar to those given to the patients at our principal chest hospitals, much might be done in a prophylactic direction. But for a colony to forbid phthisical subjects to enter its domains is a proceeding too drastic for the conditions it proposes to deal with.

THE AMENITIES OF CERTAIN CORONERS' COURTS.

AT an inquest held by the Batley coroner on Jan. 25th upon the body of a young man named Greenway, aged twenty years, who had died upon the night of Jan. 23rd, the coroner is reported to have made some very singular remarks as to the conduct of the medical man in charge of the case. According to the report given in the local press Greenway ate some tinned salmon upon the night of Saturday, Jan. 22nd, and was seized with acute abdominal pain. He went to the house of a friend, where he remained until his death, which occurred on the following night, but was attended by a medical man, Mr. Woods. This gentleman very rightly refused to give a certificate until he had made a post-mortem examination, which he did on Monday, Jan. 24th, and then found that the deceased had suffered from a gastric ulcer which had perforated and so caused death. Mr. Woods then told the father, by whose permission the post-mortem examination was made, that he would give a certificate, but the coroner having been informed of the circumstances had ordered an inquest, which was accordingly held. During the course of the examination of the father of the deceased the coroner is reported to have said that "if the doctor knew that some statement had been made about tinned salmon he ought to have had his head shaved. A death had to be inquired into not only for the person who was dead but in the interest of the public to prevent anyone being falsely accused. ...... The doctor had no right to interfere with a body in the custody of the law, and the witness had no right to give the doctor leave to open the body." A police sergeant deposed that before the post-mortem examination he saw the medical man and told him that the facts would be reported to the coroner. On the other hand, Mr. Woods's solicitor wrote on behalf of Mr. Woods saying that that gentleman never saw Sergeant Craven until 6 o'clock on the night of Jan. 24th, two hours after the examination had been made, and that

that was the first intimation he had of the matter being in the hands of the coroner. Why the coroner should have made the offensive remark that is attributed to him—if he did do so—we fail to see. It is true that the deceased mentioned that he had eaten some tinned salmon, but there was a total absence of suspicious circumstances about his repast. Why should not Mr. Woods make a post-mortem examination to find out the cause of death? To our thinking it was the only thing for him to do and made the inquest entirely unnecessary. Also, having held an inquest, why did not the coroner call Mr. Woods to give evidence? This is the sort of episode that is a strong argument in favour of a medical coroner, for a medical coroner would have seen at once that the post-mortem examination had cleared up the whole case. By a striking coincidence an inquest was held on the following day at Attercliffe Common where the proceedings of the coroner were, if he is correctly reported, still more impertinent to the medical profession. A child having died suddenly in bed the medical man gave it as his opinion that the cause of death was phthisis. A midwife, however, who, to quote from the *Sheffield and Rotherham Independent* of Jan. 27th, 1898, "although not holding a diploma, had had eighteen years' experience of her profession, had reason to think that the child had died from convulsions. The coroner said he was inclined to trust a woman of eighteen years' experience in preference to a man who had perhaps had little experience beyond passing an examination. Such a woman knew more than some medical men. Many women did not take the trouble to sit for the certificate, but he should think that a woman of eighteen years' experience could walk through that examination. Under the circumstances he should have little hesitation in advising the jury to record a verdict of Death from convulsions." A verdict was then given in accordance with the coroner's advice and in direct opposition to the only medical evidence submitted to the court.

A CASE OF ACUTE GRAVES'S DISEASE.

In the last number of *Brain* a very unusual case is described under the above title by Dr. Arthur Foxwell. The patient was a woman, apparently unmarried, aged forty-one years, admitted to hospital on account of weakness, anorexia, and rapid wasting. The family history was good and there was no neurotic tendency to be traced. Her previous health had also been good. The only significant point was the history of a strain while rowing, ten years before her admission. This had given rise at the time to pain in her left side and she had occasionally suffered from this pain ever since. The illness for which she sought admission had commenced six months before with weakness and stiffness in the joints on rising in the morning. Three months later she began to suffer from morning nausea, but without vomiting. About a month after this enlargement of the thyroid was first noticed. Prominence of the eyeballs was also observed at this time, but the patient herself was unaware of it. For a month before admission she had suffered from frequent vomiting and for two weeks she had been unable to take any solid food. She had also been so weak as to be unable to walk and she had perspired profusely whenever she fell asleep. On admission she was found to have slight prominence of the eyes and the left pupil was larger than the right. The thyroid was enlarged, especially the right lobe, over which a systolic murmur was audible. The cardiac impulse was diffuse and there were pulmonary, tricuspid, and mitral systolic murmurs. In the first and second left intercostal spaces there was an area of circumscribed dulness, thought to be due to an enlarged thymus. Pericardial friction was also heard over the sternum between the third and fourth cartilages on this side. There was evidence of slight consolidation at the apex of the right lung. The urine showed no abnormality in either quality or quantity. The history of the case after admission may be briefly recorded. Troublesome sickness made a resort to various modes of artificial feeding necessary, but the patient rapidly wasted, the cough became troublesome, the thirst extreme, and she died exhausted about nine days after her admission. Briefly the symptoms were—(1) the three cardinal symptoms of Graves's disease; (2) enlargement of the thymus; (3) dilatation of the left pupil; (4) evidence of consolidation of the right apex, cough, pyrexia, &c.; and (5) extreme restlessness. At the necropsy the thymus was found to be considerably enlarged superficially, but extremely thin, and there was solidification of part of the apex of the right lung. The heart was not enlarged and there was no pericarditis or valvular disease. There was no marked change in the ganglia of the cervical sympathetic. The brain was slightly more adherent than usual to the skull cap. There was a patch of yellowish fibrous thickening over the foremost part of the vermiform process of the cerebellum, small in extent, but surrounded by a considerable area of thickened pia mater. There was also similar inflammatory sclerosis of the pia covering the floor of the fourth ventricle. There was acute softening of the surface of both optic thalami, excessive vascularity of the surface of the brain, of the internal capsule, and also of the cerebellum and medulla, leading to the occurrence of occasional small hæmorrhage. There were also sclerotic changes involving portions of the tegmen, the pyramids, the gracilis and their nuclei, and the nuclei of the tenth nerves. It is exceedingly difficult, as Dr. Foxwell remarks, to connect those changes with the various symptoms which were present, but it seems certain that the case is not to be regarded as an uncomplicated one of Graves's disease.

IMMUNITY AND LATENCY AFTER OPERATIONS FOR REPUTED CANCER OF THE BREAST.

The questions upon this subject raised by Mr. Marmaduke Sheild at the last meeting of the Royal Medical and Chirurgical Society are of the highest importance and we trust that at the next meeting, to which the discussion was adjourned, those who are able to speak with authority will give the benefit of their experience. At present there is the widest divergence of opinion on several of the most important points raised by the questions: What is immunity; what is latency; and what is cure? It is greatly to be desired that clear definitions of these terms should be laid down and that they should not be confused under a cloud of words. We understand that the discussion at the next meeting, on Feb. 8th, will be opened by Sir Thomas Smith and that Mr. Howard Marsh and others will take part in it.

SANDWICH-WOMEN.

Some years ago a good deal of amusement was excited by an advertisement asking for a specified number of bald men, who were to have tattooed upon their heads the name of an article of commerce and then, presumably, to parade the streets so decorated. The idea of course was never put in practice, but owing to a number of newspapers quoting the notice in full the name of the article obtained a wide and harmless publicity. Again, a short time ago the conductors of omnibuses were entrusted with the distribution of sample tins of an article of diet and in this case too some amusement was excited, no particular harm was done, and possibly the advertisers benefited by their ingenuity. It is quite otherwise with the latest development of street *réclame*, which has recently in London substituted young women in a more or less startling costume with printed inscriptions on the front and back of their garments for the sandwich-man, to whom long usage has accustomed us. One of the new mediums of advertising has already appeared in a police-court, summoned apparently for obstructing the footway because she had not the nerve to plod like the sandwichman in close proximity to the wheels of passing vehicles, and the fact has caused many to wonder whether the police have not power to put a stop to such exhibitions altogether. The sight of young girls in coloured dressing-gowns and conical hats parading the streets, exchanging not over-refined witticisms with facetious passers-by, can only excite in the decent-minded pity for the victims and a feeling towards those who send them out that can hardly augment the sale of the articles made known by methods so objectionable.

THE INDUCTION OF PREMATURE LABOUR BY MEANS OF GLYCERINE.

DR. HEINRICH SAFT, assistant physician at the Provincial Lying-in-Hospital in Breslau, has published in the *Deutsche Medicinische Wochenschrift* of Jan. 20th an account of a method which he has devised for the induction of premature labour by means of glycerine. After enumerating various other procedures employed for this purpose, such as irrigations of hot water, introduction of bougies, introduction of indiarubber bags full of fluid between the uterus and the fœtal membranes, and the use of the colpeurynter, he says that they may require some days or even a week to produce the effect and that glycerine is the most efficient substance at present known. Glycerine has a strong affinity for water, easily withdrawing it from the animal tissues and in this way irritating the uterine ganglia and nerves so that muscular contractions are produced. Its application is not free from danger, as it has been found to injure the parenchymatous substance of the kidney and to cause hæmoglobinuria, destruction of the red blood corpuscles, shivering fits, and spasmodic dyspnœa. Various modifications have been suggested for the purpose of obviating these dangers. Teilhaber used rods about four inches long, coated with a mixture of glycerine, gelatin, and tricresol. Flatau replaced these rods by elastic bougies. Dr. R. A. Simpson injected three ounces of glycerine into the undilated os uteri of a primipara suffering from eclampsia and subsequently packed the cervix and vagina with plugs soaked with glycerine, but labour did not ensue and another injection of glycerine had to be given. The dilemma is that small quantities of glycerine are useless and large quantities are dangerous. Dr. Saft therefore endeavoured to devise a method by which a large quantity of glycerine might be introduced into the uterus without more than a very small proportion of it being absorbed. In the lying-in hospital with which he is connected Krause's method of inserting bougies was used and if it failed a catheter covered with an empty indiarubber bag was passed between the uterus and the membranes. The bag was fastened to the catheter by thread tied round its mouth and when it was in position it was filled through the catheter with from 400 to 500 c.c. (from 14 oz. to 18 oz.) of a solution of lysol. It occurred to Dr. Saft that if glycerine were substituted for the lysol solution and animal membrane for the indiarubber bag, then the glycerine would be able to exert its power of withdrawing water from the tissues without much of it being absorbed. For the animal membrane he used the swimming bladders of fish. These swimming bladders as prepared for the market (käufliches Fischblasencondom) possess most of the requisite qualities and having selected such as were capable of holding water he succeeded to his satisfaction in inducing labour without any ill-effects to the patients. Diffusion takes place through the swimming bladder, the glycerine withdrawing water from the uterus and fœtal membranes and thereby stimulating the uterine nerves and ganglia so that labour ensues. At the same time some glycerine diffuses outwards through the membrane, but the quantity is too small to be productive of injury. In selecting swimming bladders for this purpose it is necessary to make sure that they will hold water; most of those which are sold will not do so and all such must be rejected. They are then freed from fat by treatment with ether and are afterwards sterilised with an alcoholic solution of corrosive sublimate, the process being similar to the preparation of catgut by Schimmelbusch's method. When the bladder is drawn over the catheter about an inch is left between the bottom of it and the tip of the catheter; the two are then tied together with silk. When the instrument is inserted between the uterus and the fœtal membranes about 100 c.c. (3½ oz.) of glycerine are injected through the catheter, the lower end of which is then closed by means of a piece of indiarubber tube. The bladder must not be pushed high up into the uterus, but must lie directly over the internal os, and the bougie ought to be made of such a length as not to project beyond the vulva. Finally, the vagina is packed with iodoform gauze, which prevents the catheter from slipping out. No ill-effects to either mother or child were observed. Of seven patients treated in this way four had injections of from 40 to 60 c.c. (from 1½ oz. to 2 oz.) of glycerine and the average duration of labour was about 108 hours; the other three had injections of 100 c.c. (3½ oz.) of glycerine and the average duration of labour was about 52 hours. Dr. Saft considers that the result is not due merely to the introduction of a foreign body into the uterus, but that glycerine exerts a specific influence in consequence of its affinity for water. Strong solution of sodium sulphate is another of the fluids which tend to absorb water by osmosis and he proposes to make trial of it in the way above described in order to ascertain if it has the same effect on the uterus as glycerine has. The *Edinburgh Medical Journal* for January contains an account of a case in which three ounces of pure glycerine were injected into the uterus in the fifth month of pregnancy. The patient very soon had an intense rigor lasting more than forty minutes; her face was cyanosed and wore a frightened expression; her pulse was 45. These symptoms passed off, labour pains set in, the ovum was expelled entire, and the patient made an uninterrupted recovery.

THE PREVENTION OF CRUELTY TO CHILDREN.

THE organ of the National Society for the Prevention of Cruelty to Children for the present month contains an appropriate *résumé* of the work done by this society during the past nine years. We are reminded that it was on Feb. 22nd, 1889, that a Bill was first introduced into Parliament for the purpose of ensuring the humane treatment of children. Since that date events have abundantly proved the justice of this measure and the need of its operation. The intervening period has witnessed the rescue from violence, neglect, or other causes of suffering of 321,000 children. The society by whose efforts this result has been attained has in the meantime greatly increased its membership and has widely extended the sphere of its operations. When the Bill referred to was yet in its pre-natal stage the society had established six working centres; it then employed two official inspectors and drew an income from public subscriptions of £2186 a year. It was still quite young and there were many who disputed its right of existence. It has now 700 centres, 150 inspectors, an average income of £60,000 for current expenses, a reserve fund, and it is needless to add that it has also obtained an assured position among the admitted necessities of practical humanity. Not the least significant evidence of its position is found in the regrettable fact that the hands of its workers are full. During the last recorded month (December, 1897,) the society has had to deal with 2219 complaints of cruelty, of which 1912 were well founded. The year which has just closed has witnessed the climax of a stage of criticism during which the whole administration of the society has been closely scrutinised. It is particularly satisfactory to note that the result of that scrutiny has been on the whole most useful to the society by proving the absence of any grave errors of management, the honesty of its officials, and the general efficiency of its operations. The extension of its field of labour must necessarily bring with it a corresponding increase of responsibility, financial and other, and of the anxieties related thereto. The relief of these is worthy of a liberal effort on the part of the public and we are encouraged as much by a knowledge of the society's work as of its history to believe that this effort can be depended on.

HIPPOPHAGY.

THE following letter has been addressed to a Government department and a copy of it has been sent to us for comment:—

> The large number of horses, mules, &c., daily slaughtered renders an inquiry necessary as to what is done with the tongues. If they are prepared for human food the subject may be worth attention, as many, if not most, of the animals, from age and other causes, must be in a diseased and unhealthy condition and if the parts named are smoked and tinned for sale they must be a source of danger to public health, and if so means should be employed for preventing the mischief and if desired I will forward what may be considered an effectual check to such objectionable traffic. If, on the other hand, the authorities are satisfied that they are not prepared and sold as ox tongues I hope you will kindly pardon me for trespassing on your attention.

We do not think that there is much evidence that the tongues of horses which have been killed or taken dead to the knackers' yards are used as human food in England. The eating of horseflesh is permissible under law, and probably where horses are killed of set purpose for human food their tongues are used as well as other parts; but this is a very different matter. With regard to foreign tongues which are imported into this country, some of them may be horseflesh; the probability of this will depend upon the country producing the import, in the most obvious of which oxen happen to be vastly more plentiful than horses.

RETRO-ŒSOPHAGEAL ABSCESS.

THE difficulty of diagnosis in retro-œsophageal abscess is illustrated by the following case published in the *University Medical Magazine* of Philadelphia, January, 1898, by Dr. Crozer Griffith. A pale but fairly nourished child, aged twenty-one months, had suffered from troublesome cough for four months which during the last four weeks had been metallic and croup-like and on exertion had been accompanied by noisy breathing. On several occasions nocturnal croup-like attacks had caused alarm and had necessitated medical aid. Examination showed laboured but not rapid respiration with prolonged expiration. The chest was not noticeably rachitic, but the transverse furrow below the nipples became very marked during inspiration. With each breath the sterno-cleido-mastoid muscles acted and the nares moved. Numerous coarse mucous râles were heard all over the chest and with inspiration noisy rattling of mucus in the bronchial tubes. Cough was very striking and exactly like that of tracheal stenosis from tumour. The patient's condition became worse, tracheotomy was performed without relief, and death followed. A necropsy revealed an abscess behind the trachea and bronchi which reached upwards to the first dorsal vertebra and downwards about two inches below the bifurcation of the trachea. Its posterior wall was formed by carious vertebræ. Before the degree of pressure exerted on the trachea and bronchi could be ascertained the abscess was accidentally punctured. The œsophagus was pushed to the left. There was no abnormal curvature of the spine evident externally. After the necropsy the parents stated that two months previous to the onset of the cough and dyspnœa the child had held his back stiffly, and had walked awkwardly, supporting himself with his hands. From an examination of the literature of retro-œsophageal abscess Dr. Griffith draws the following conclusions. None of the symptoms are characteristic; the diagnosis is often difficult and at times impossible. Dyspnœa is present to some extent in all cases and in most is a prominent and urgent symptom. Cough is nearly always present. Sometimes it is slight, sometimes very brassy, suggesting laryngeal stenosis, sometimes (as in his case) it suggests pressure on the respiratory tract lower down. The voice is seldom affected and then but slightly. Dysphagia is absent (in contrast to retro-pharyngeal abscess), no doubt, because the œsophagus easily changes its position. In two cases it was present, but they prove the rule, for in one the abscess was partly retro-pharyngeal and in the other the dysphagia did not develop until the abscess had ruptured into the œsophagus, and then it was only temporary. Swelling in the neck existed in only three cases. As to the etiology, caries was present in seven cases and was proved to be absent by necropsy in two. Baginski states that in most of his five cases the cause was diphtheritic pharyngitis. The disease is pre-eminently one of early childhood; in only two cases did it occur in adults.

FOR THOSE DISINFECTED.

THE question of what to do with people who live in one or two rooms, when a case of infectious disease has occurred and it is therefore necessary to shut up their homes for disinfecting purposes, has long been a difficult one. The choice of a temporary residence usually lies between the street and the workhouse, but the Vestry of St. George's, Southwark, have now opened a receiving house for the reception of the temporarily homeless ones at the suggestion of Dr. Waldo, the medical officer of health. Families are provided for in the new receiving house for eight hours and find everything at their disposal but food which they have to provide themselves. On arriving at the house they are given baths and their clothes are taken away and disinfected, while ample supplies of clean linen and makeshift garments of the overall nature are lent to them. The plan is a very good one and both Dr. Waldo and the vestry deserve to be praised, the former for having started the idea and the latter for carrying it into execution. By the way, a recollection of previous notes that we have considered it our duty to write upon the occasional relations between Dr. Waldo and the vestry renders the task of associating them together in a common word of praise very pleasant.

EXTRAORDINARY SELF-MUTILATION DURING DELIRIUM TREMENS.

IN the *New York Medical Journal* of Dec. 25th, 1897, Dr. Hendon has published the following case. A well-built, muscular young man was admitted to hospital in the active stage of delirium tremens. He constantly referred to his tongue and complained that it was choking him to death. No heed was given to this statement as it was regarded as a hallucination. He was persuaded to lie down and to be quiet. When seen again in half an hour he was on his knees frantically thrusting first one and then the other hand into his mouth, as if trying to dig out something with his finger-nails. On the floor was a large pool of blood. He was thought to be suffering from hæmatemesis and endeavouring to clear his mouth of clots. His tongue was then found on the floor; it had been torn out by the root. The hæmorrhage was checked by the application of Monsel's solution and the patient's hands were secured in a leather muff, but in about an hour he succeeded in freeing them, and again clawed at the root of his tongue whilst the blood spurted in jets between his fingers. When Dr. Hendon approached he sprang upon him with the fury of a maniac and forced him to the floor. He endeavoured to get his fingers round Dr. Hendon's throat, who realised that it was a struggle for life, his assistant having fled. Over and over they rolled on the floor bathed in blood, presenting a horrible spectacle. Suddenly the patient's struggles grew weaker and his grasp relaxed. In a few minutes he could be held with one hand, while his hands were again secured with the other. But just as this was completed a convulsive tremor was felt through his body and he died without a struggle. The necropsy revealed the catarrhal condition of the stomach and the congestion of the pia mater usually seen in alcoholic subjects. This extraordinary case conveys the lesson that hallucinations of patients suffering from delirium tremens should not always be disregarded.

THE HEALTH OF MR. GLADSTONE.

WE are glad to be able to announce that Mr. Gladstone's health has decidedly improved during the past two or three days. The neuralgia has been less frequent and persistent and although he had a sharp attack of pain last Sunday night Monday found him quite free. His nights are sometimes disturbed, but he gets a very fair amount of sleep and goes through the day's routine of exercise and meals without giving more anxiety to his friends than is inevitable, taking his age into consideration.

UNIVERSITY COLLEGE HOSPITAL.

UNIVERSITY COLLEGE HOSPITAL still keeps up the custom of holding a festival dinner in aid of its funds, and the gathering which assembled in the Whitehall-rooms of the Hôtel Métropole on Wednesday, Feb. 8th, was a brilliant one in many respects. Among those present were the Duke of Bedford (who presided), the Duchess of Bedford, Lord and Lady Reay, Sir Henry Thompson, Sir John Williams, Mr. and Mrs. Christopher Heath, Mr. and Mrs. Victor Horsley, Mr. John Tweedy, Professor Schäfer, Dr. Poore, Dr. Corfield, Dr. Radcliffe Crocker, Dr. Dudley Buxton, Dr. H. R. Spencer, and Miss Ellaby, M.D. Paris. Special interest attached to this gathering by reason of the fact that the hospital, owing to the irony of circumstances, is suffering from the additions which it has lately received to its coffers by the magnificent gift of £120,000 from Sir J. Blundell Maple to rebuild the hospital and by the special donation from the Prince of Wales's Fund. One of these sums, it must be remembered, was given for the specific purpose of rebuilding the hospital and the other on the condition that twenty-five of the unoccupied beds should be reopened. This, however, does not seem to have been made clear to the benevolent public and further support has been received by the hospital all too slowly. At the present time the financial condition of the institution is such that the committee have been compelled to dispose of £3000 Bank stock, the last fund available for general purposes, to enable them to clear off the debt of £9000 to the bankers and to provide a sum of money to pay some of the most pressing debts to tradesmen. Although twenty-five beds will be opened in consequence of the gift from the Prince of Wales's Fund, twenty-five will still have to remain closed unless some speedy assistance arrives. It is a pity that an institution such as University College Hospital, which treats some 47,000 persons annually, should find itself in these straits, and it would be more than a pity if this state of things were not at once rectified. University College Hospital can show a record of brilliant names on its rolls, having been the School of the Quains, of Cooper and of Liston, and the training ground of Anthony Todd Thompson, Robert Carswell, Robert Grant, Sharpey, Erichsen, and of Reynolds, Sir Richard Quain and Sir William Jenner, and an institution which can show such a record should certainly be one of the first to receive public support. Subscriptions to the amount of £3000 were announced during the evening, but it is to be hoped that a far larger sum than this will soon be forthcoming. At the last festival dinner of the hospital Sir George Faudel-Phillips remarked that the English purse in regard to charity was inexhaustible; we trust that University College Hospital will be able to realise the truth of this remark.

THE HEALTH OF SIR RICHARD QUAIN.

THE good constitution of Sir Richard Quain still continues to serve him and to astound his friends. His state varies, of course, much from time to time, but his power of taking nourishment is little impaired and his interest in public questions, and especially in the affairs of the General Medical Council, is little abated.

AMICABLE SETTLEMENT OF A LIBEL CASE.

THE libel actions brought by Dr. Herbert Collier against the proprietor and publisher of a Yarmouth paper for publishing certain libels upon him have come to a fortunate termination. The defendants undertook to make a full apology, to withdraw every kind of imputation upon Dr. Collier's character, and to pay all costs. This is an eminently satisfactory result and we congratulate Dr. Collier upon his vindication. The honour of a medical man is his most precious possession and anything which casts a slur upon it—as the imputations of the paper would undoubtedly have done in Dr. Collier's case—must damage him to some extent and may do so irretrievably. This circumstance makes it impossible for the medical man to do otherwise than evoke the aid of the law and many is the time that members of our profession have spent a large proportion of their savings in vindicating their honour. Dr. Collier has, however, not had to suffer in this way, for the defendants not only expressed their sincere regret through the medium of counsel in court for the trouble that had been caused by their unguarded conduct, but also agreed to pay all costs incidental to the litigation.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND: THE LECTURES FOR 1898.

THE following arrangements for the lectures at the Royal College of Surgeons of England are announced:—On Monday, Feb. 14th, Wednesday, Feb. 16th, and Friday, Feb. 18th, Dr. T. G. Brodie will deliver the Arris and Gale Lectures, his subject being the Place of Formation and Chemical Properties of the Antitoxins. On Monday, Feb. 21st, Wednesday, Feb. 23rd, and Friday, Feb. 25th, Mr. H. J. Waring will deliver the Erasmus Wilson Lectures on the Pathology and Treatment of those Diseases of the Liver which are Amenable to Direct Surgical Interference. On Monday, Feb. 28th, Wednesday, March 2nd, and Friday, March 4th, Mr. F. G. Parsons, Hunterian Professor of the College, will lecture upon the Muscles of Mammals with special relation to Human Myology. On Monday, March 7th, Wednesday, March 9th, Friday, March 11th, Monday, March 14th, Wednesday, March 16th, and Friday, March 18th, Professor Stewart, F.R.S., Professor of Comparative Anatomy in the College, will lecture on the Vertebral Column and certain recent additions to the Museum of the College, of which he is Conservator. On Monday, March 21st, Wednesday, March 23rd, and Friday, March 25th, Mr. Henry Morris will lecture upon the Surgery of the Kidney. All the lectures will be delivered at 5 o'clock P.M.

A BRIEF paper in the *Indian Magazine* for January by Mr. Alexander Rogers recalls the fact "that the plague now raging at Bombay and other parts of the Presidency is precisely similar to one that prevailed about 250 years ago at Agra and in the North-West." He quotes an extract from a translation of the Emperor Jehangir's autobiography which he has now in hand, and were the names of persons and places altered we could easily fancy that we were reading an account of the present visitation.

THE Senate of Glasgow University have appointed Professor Michael Foster, secretary of the Royal Society and Professor of Physiology in Cambridge University, to be Gifford Lecturer in the Glasgow University in succession to Professor Bruce. Candidates for the Chair of Forensic Medicine at the University must send their applications to the Secretary for Scotland on or before Feb. 22nd.

A DINNER of the Royal Medical and Chirurgical Society will be held at the Whitehall Rooms of the Hôtel Métropole on Thursday, Feb. 17th, at 7 for 7.30 P.M. Fellows of the society intending to be present should send their names to Dr. Norman Moore and Mr. R. W. Parker, the hon. secretaries.

SIR DYCE DUCKWORTH has been selected to deliver the Harveian Oration before the Royal College of Physicians of London for 1898, and Dr. W. M. Ord is the Bradshaw Lecturer of the College for the year. Dr. G. V. Poore is announced to give the Milroy Lectures for 1899.

THE annual dinner of the West London Medico-Chirurgical Society will be held at the Trocadero Restaurant on Thursday, Feb. 17th, at 7.30 P.M. Members intending to be present should send their names to Dr. McCann, 5, Curzon-street, Mayfair, W.

IN our correspondence columns we publish a letter which we have received from Professor W. K. Roth, acknowledging an address presented to him in his official capacity as general secretary of the International Medical Congress held last year at Moscow.

THE treasurer of Guy's Hospital has received the splendid sum of £20,000 from Mr. Henry Lewis Raphael to be used in building a Nurses' Home, to be known as the "Henrietta Raphael Nurses' Home," in memory of his wife.

IN consequence of the decrease in the contributions to the North-West London Hospital during Jubilee Year the treasurer, Mr. George Herring, has given the large sum of £5000 as a donation to the institution.

THE annual dinner of the Hunterian Society will be held at the First Avenue Hotel on Friday, Feb. 11th, at 6.30 for 7 P.M. Dr. G. E. Herman, the President of the society, will take the chair.

MR. HERBERT ALLINGHAM, F.R.C.S. Eng., has been appointed Surgeon to the Prince of Wales's Household.

MR. PHILIP E. BILL, M.R.C.S. ENG., public vaccinator for the Crickhowell district of the Crickhowell Union, has been awarded the Government grant for efficient vaccination for the tenth time in succession.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE seventh meeting of the Royal Commissioners was held in the Moses Room of the House of Lords on Monday, Jan. 31st. The Right Hon. Viscount Llandaff (the chairman) and all the members were present during the whole of the sitting with the exception of Sir George Barclay Bruce, who came rather late. During the sitting the examination of Sir ALEXANDER BINNIE was concluded, and Mr. HAWARD, Comptroller to the Finance Department of the London County Council, gave evidence with regard to the financial condition of the water companies.

Sir ALEXANDER BINNIE gave some information with regard to the supply of the Serpentine and of the lakes in St. James's-park, but was unable to give the source of that in Regent's-park. The water for the Serpentine is supplied from a deep well situated near the Bayswater-road at the upper end of the Long Water. It flows through the Long Water and the Serpentine and is pumped back and filtered in Kensington-gardens; the only water lost is that which escapes by evaporation. The lakes in St. James's-park are supplied partly by a well and partly by one of the water companies. In answer to the Chairman Sir Alexander Binnie said that two storm-water sewage effluents belonging to the County Council discharged into the Lee near Old Ford and that the river below the entrance of this effluent was more foul than it was above that point.

Mr. POPE, Q.C., on behalf of the London water companies said he wished to understand exactly what Sir Alexander Binnie's ideas were with regard to the purchase of the water companies' undertakings. He understood that the witness was in favour of the purchase by the London County Council of all the water companies, that the property should be administered by the London County Council alone, and that the surrounding districts should not be represented.

Sir ALEXANDER BINNIE replied that those districts should have some representation, but with regard to the method of purchase he thought that a special clause should be introduced and that purchase under the Land Clauses Act would not be satisfactory.

The counsel of the London County Council objected to examination of this kind.

In answer to other questions as to the conclusions to which Sir Alexander Binnie had come Mr. Pope obtained from the witness an admission that in his opinion the agitation on the question by the London County Council would not cease if the Commissioners should decide that it would not be wise for the County Council to be allowed to purchase the water companies.

Sir ALEXANDER BINNIE said that the continuous supply now given by the companies was really due to pressure brought to bear on them by the London County Council. With regard to the amount of water which should be abstracted from the Thames he could not admit that a daily flow of less than 250,000,000 gallons over Teddington Weir was sufficient. It was necessary that that amount should pass down to cleanse the river bed. The fact that much more water than this passed with the ebb and flow of the tide under London Bridge did not affect the question. The conditions existing in the River Mersey were not identical with those which obtained in the Thames at London, and it was of the utmost importance that for the cleansing of the lower reaches of the Thames the amount of water should not be too much reduced. The witness maintained that a storage of 27,000,000,000 gallons was not an excessive estimate to allow for a storage of ninety days. Water taken straight from the Thames and put on filter-beds would soon block them up, and reservoirs were necessary not only for storage but to allow time for sedimentation. If the Welsh scheme were carried out the work done would of course necessarily be unproductive until it was completed.

In answer to Sir John Dorrington Sir ALEXANDER BINNIE stated that he thought it would be safe to rely on a single aqueduct to bring the water from Wales.

Lord ROBERT CECIL, on behalf of the Hertfordshire County Council, asked whether the Lee Conservators had the same powers to protect the Lee that the Thames Conservators had to protect the Thames and suggested that the statutory provisions affecting the Lee were disregarded.

With regard to the wells in the chalk which belonged to the East London and to the New River Companies Sir ALEXANDER BINNIE said that the only figures he had of the amount of water which they could produce was derived from the report of the water examiner.

Major-General SCOTT, the water examiner, pointed out that his figures were derived from the companies themselves, "as a matter of courtesy."

Sir ALEXANDER BINNIE had learned for the first time that day that the Surrey County Council had passed a resolution in which they decided that they, like the County Council of Middlesex, desired to have matters affecting water-supply left as they were.

Lord ROBERT CECIL said that the people of Hertfordshire thought they had a prior right to their own water.

The CHAIRMAN pointed out that the companies took well water under the same conditions as private individuals took it.

In answer to questions with regard to possible control of the administration of the water companies by the London County Council Sir ALEXANDER BINNIE thought that the companies would object to efficient control because it would be supposed that the County Council wished to depreciate the value of their property.

In answer to the Chairman Sir ALEXANDER BINNIE said that the County Council thought the main pipes should be at the distance of 2 ft. 6 in. from the surface, and the Chairman suggested that it was a chivalrous proceeding for the County Council to first buy the companies' property and then to make regulations against themselves.

On behalf of the Kent Company Mr. LITTLER referred to the Charlton well which Sir Alexander Binnie had stated was given up because of the increase of population around it. Mr. Littler stated that the well was disused because the Metropolitan Board of Works in making excavations for their drainage had conducted a quantity of brackish water to a place situated about eighty feet from the well and therefore had advised the company to give up the well. With regard to the quality of the Kent water Mr. Littler suggested that it contained only a quarter of the amount of organic matter which existed in that supplied to the city of Glasgow and he asked the witness whether he knew that South Staffordshire, York, Portsmouth, Newcastle, and many other important towns were still supplied by private companies and that the Birmingham Corporation had revised and increased their water rates, and whether the amount charged by the Birmingham Corporation was not now greater than that charged by the Kent Company?

The counsel representing the West Middlesex, Chelsea, and Grand Junction Companies reserved their examination.

Major-General SCOTT asked Sir Alexander Binnie if he could submit a plan for the severance of that source of supply which affected Surrey and London. It seemed to him a matter of very great difficulty and complexity, especially in view of the fact that the Surrey County Council wished matters to be left as they are.

The latter part of the sitting was taken up in the examination of Mr. HAWARD, the comptroller of the finance department of the London County Council. The witness put in some tables showing the amount of capital raised, authorised, and expended by the London water companies up to March 31st, 1897, and the amount of capital estimated to have been paid each year in respect of stock taken up at par by shareholders of the companies from 1872 to 1897, and the estimated amount of premium value of such stock. The rest of the time was taken up with details of a complicated character with regard to the financial position of the companies and of the previous action of Parliament in relation to the raising of new capital by the companies.

The CHAIRMAN pointed out that the Commissioners were not appointed to supervise what had been done by Parliament or to blame previous Parliaments for what they had done. For his part he could not see why the companies should consider the interests of the general public in the issue of their shares. Parliament had presumably acted with their eyes open. It was suggested that years ago there was no County Council to open their eyes.

The eighth meeting of the Commissioners was held on Tuesday, Feb. 1st. All the Commissioners were present. The whole of the sitting was occupied in the examination of Mr. Haward and was taken up with the reception of evidence on the financial position of the water companies. Tables were put in—(1) showing how the capital of the London water companies has apparently been raised during the period from 1872 to 1897. (2) Showing the cost of management (excluding law and Parliamentary expenses) in the case of each of the London water companies, worked out per million gallons average daily supply for 1896–97, together with the dividends paid by the companies for that year. (3) Showing the amount claimed by each of the London water companies in 1880 in respect of back dividends and the amount allowed by the late Mr. E. J. Smith. (4) Showing the estimated amount of dividends which the London water companies—excluding the New River Company—could from December, 1896, and in March, 1897, claim to divide on their paid-up capital beyond the maxim or prescribed rates of dividend — (*a*) on the assumed legal position; and (*b*) on the basis of a limitation to six years. (5) Showing the amount of capital of each of the London water companies which is subject to sinking fund, an estimate of the annual payments to the sinking fund, and estimates of the total amount of the sinking fund at future dates. (6) Showing a comparison between the Stock Exchange value on Dec. 31st, 1896, of the debenture, loan, and preference capital of the London water companies and the estimated value of the same if secured on the rates. (7) Showing as on Dec. 31st, 1896, (1) the total nominal capital of the London water companies on the market; (2) the value of such capital (share and loan) at Stock Exchange prices; and (3) the yield per cent. to an investor according to the last year's dividends and interest on and market prices of the stock.

In addition to these tables a number of diagrams were put in showing the average monthly prices of the ordinary stocks of each of the water companies since Jan. 1st, 1873, together with the prices at which it is estimated Consols would have stood if paying the same rates of dividend as the companies. The financial points connected with the matters given in the tables were considered in detail.

The next meeting of the Commissioners will take place on Monday, Feb. 7th.

THE SCANDAL AT THE DARENTH IMBECILE ASYLUM.

A MEETING of the Managers of the Metropolitan Asylums Board was held in the Chamber of the London County Council, Spring-gardens, on Saturday, Jan. 29th, the Chairman, Sir EDWIN GALSWORTHY, presiding.

Among other orders of the day was the report of the General Purposes Committee recommending "(*a*) That for the reasons set forth in the interim report of the General Purposes Sub-committee, dated 20th January, 1898, Dr. A. T. O. White, the acting medical superintendent of the Darenth Adult Asylum, be called upon to resign immediately; (*b*) that the interim report, dated 20th January, 1898, of the Sub-committee *re* patient M. D., lately deceased at the Darenth Adult Asylum, be approved and adopted."

Mr. R. M. HENSLEY (chairman of the committee), in submitting the first paragraph for adoption, regretted having to propose a resolution which meant the absolute resignation of his services to the board of an officer who had been in their employ for sixteen years. The grounds on which the recommendation was made were grave derelictions of ordinary routine duty. Had Mr. White done his duty and reported the case in the usual way the committee would have been compelled to approach the case in a formal manner. Though the case happened just before the recess only a verbal report was made and the doctor was not present at the meeting of the committee. He made no entry in his case-book. Medical evidence showed that it was extremely desirable that a post-mortem examination should have been held, but Mr. White never entertained the idea of holding one. All these facts, however, had nothing whatever to do with the fatal issue of the case.

Colonel WEBB seconded the motion.

Mr. LILE attempted to move as an amendment that paragraph (*b*) of the report be considered before (*a*), but was over-ruled by the chairman.

Mr. MUSPRATT moved as an amendment that Mr. White should revert to his duties as assistant medical officer and cease to act as superintendent. He did not understand the point about Mr. White failing to give written instructions with regard to the charge of the case. Mr. White was in charge of the case and it was not in the charge of a nurse. That the case had occurred was lamentable but they ought not to allow that Mr. White was responsible. Mr. White did report the matter to the chairman of the committee with the result that a meeting of the committee was specially summoned to consider the matter.

Mr. S OSBORN seconded the amendment. In doing so he remarked that the medical evidence which had been supplied was insufficient. Mr. White had informed the members of the Darenth committee and he (Mr. Osborn) thought there was a reason for the case not being entered on the books. At all events the committee were fully aware of what had taken place and there was no desire to keep anything secret. It did not say much for the Board's arrangements if they were not equal to looking after an ordinary midwifery case. From a legal point of view he (the speaker) did not think an inquest necessary.

The amendment was lost by 33 votes to 6.

Mr. LILE suggested that the report be referred back to the committee and that it should commence at the beginning. He suggested that an attempt was being made to hush up the matter, but he was ruled out of order by the chairman who stated that no such attempt whatever was being made.

The Rev. W. G. POPE desired to move an amendment to the effect that the matter should be referred to the Local Government Board in order that a public inquiry should be held into the whole of the circumstances, but he also was ruled out of order.

The original motion was then carried.

Mr. HENSLEY moved that paragraph (*b*) be adopted. This, he said, practically amounted to a vote of censure upon the committee.

Mr. WELLS seconded the motion.

Brigade-Surgeon-Lieutenant-Colonel MYERS moved an amendment to the effect that the Board should record its opinion that the Darenth committee should not have omitted from its report any portion of the letters of the Commissioners in Lunacy.

This was seconded by Mr. J. WILLMOTT.

Mr. J. LOBB considered that the Board had always been dominated by what he called a policy of hush.

The CHAIRMAN objected to the term "hush" and denied that the Board had such a policy.

After a long discussion in which attempts were made to adjourn the debate the amendment was lost.

Mr. BRASS wished to add after paragraph (*b*) words to the effect that the General Purposes Committee be requested to lay the matter before Sir George Lewis with power to take criminal proceedings against the man whose actions led to the death of the patient.

The CHAIRMAN would not accept this amendment.

Mr. LILE moved that the main question be not put until the next meeting, when the whole report would be before them.

Eventually the original motion was put and carried by 24 votes to 6.

KIMBERLEY SANATORIUM.

THE idea of building a sanatorium at Kimberley for the reception of patients suffering from pulmonary complaints owed its inception, we believe, to the Right Hon. Cecil Rhodes, who three years ago wrote to one of the members representing Kimberley in the Colonial Parliament expressing his desire to establish such an institution. The word sanatorium, however, is in one sense rather a misnomer, for although Mr. Rhodes, as chairman of the De Beers Consolidated Mines, Limited, has subscribed £26,000 towards its building and equipment the house is in reality a magnificent hotel, and in no sense of the word a hospital or convalescent home. There are no official medical or nursing attendants, and the sole object of the building is to afford what is now somewhat colloquially termed "home comforts" for those seeking the climatic advantages of South Africa. As stated in a recent number of the "Union Line" *Gazette*, "the sanatorium, which stands on rising ground between and above the townships of Kimberley and Beaconsfield, with both of which it is connected by a tramway, has not only its own spacious enclosure with well-laid-out garden, tennis-courts, and croquet-grounds, but has in front a private domain of over 150 acres, which guarantees the purity and salubrity of the air." It has all the requirements of a first-class family hotel and there are thirty bedrooms. "The sanitary arrangements have been most carefully considered under medical supervision. Every effort will be made to supply the best food and wines and the service, under skilled management, will be performed by a staff of trained servants specially selected in England." The following physiographical facts are given: height above sea level, 4100 ft.; rainfall 18 in. per annum; mean annual humidity of atmosphere 55° of saturation; mean temperature, October to March (summer), 72°, April to September (winter), 56°. The hours of sunshine during the year are very many.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE ordinary quarterly comitia was held on Jan. 27th, the President, Sir S. WILKS, Bart., being in the chair.

The PRESIDENT announced that he had nominated Dr. C. T. Williams, Dr. G. V. Poore, and Dr. S. Coupland to be the adjudicators for the Weber-Parkes Prize to be awarded in the year 1900, the subject being the Etiology and Prevention of Human Tuberculosis. The President nominated Sir Dyce Duckworth to be the Harveian Orator for 1898, and Dr. W. M. Ord the Bradshaw Lecturer. He also announced that the Council had nominated Dr. Poore to be the Milroy Lecturer for 1899.

The PRESIDENT referred to the steps that had been taken to promote the introduction of the University of London Commission Bill, and stated that he had on behalf of the College attended a conference with the Senate of the University of London and also a deputation to the President of Council, the Duke of Devonshire. He also stated that together with the President of the College of Surgeons he had addressed a memorial to the Secretary for War in behalf of reform of the Army Medical Department. He read the memorial, which urged the amalgamation of the Army Medical Staff and Medical Staff Corps into an Army Medical Corps with the conferment of military titles upon its members. The President then brought under the notice of the Fellows the proposal to have a portrait of Dr. Munk, the Harveian Librarian, painted for the College.

Dr. T. Beattie, Dr. E. J. Cave, Dr. A. C. Latham, Dr. L. Rogers, and Dr. R. B. Wild were admitted to the Membership of the College.

Licences were granted to 109 successful candidates at the recent examination. Diplomas in Public Health were granted to the thirteen candidates who passed the examination conducted by the two Royal Colleges.

Communications were read from (1) the Secretary of the Royal College of Surgeons; (2) Dr. Bond, the Secretary of the Jenner Society; (3) Dr. Dickinson resigning his seat as Representative of the College on the Governing Body of Mason College, Birmingham, the President nominating Dr. C. T. Williams to the seat thus vacated; (4) the family of the late Professor Heidenhain thanking the College for its vote of condolence; (5) the Westminster Tramways Opposition Committee (referred to the Committee of Management); and (6) the Committee of Delegates of the Medical Schools in respect to a proposed deputation to London Members of Parliament on the University question (referred to the University Committee).

Dr. Pollock, Dr. Corfield, Dr. Galabin, and Dr. G. H. Savage were elected to fill vacancies on the Council caused by the retirement in rotation of Dr. Hensley, Dr. Gervis, Dr. Ord, and Dr. Cavafy.

Reports were presented from the Library Committee, the Committee of Management, the Finance Committee, and the Representative of the College on the General Medical Council.

The annual return by the examiners of the results of the examinations in 1897 was presented.

DAWLISH COTTAGE HOSPITAL.—The annual meeting of the Dawlish Cottage Hospital was held on Jan. 24th. The committee reported that 67 in-patients had been admitted, being an increase of 10 on the preceding year; 134 out-patients had been visited, necessitating 1883 visits; and 139 casualties had been treated. The financial statement showed total receipts of £431, and an expenditure of £395. The need of an operating-room at the hospital was alluded to.

Obituary.

JULES PÉAN.

[FROM OUR PARIS CORRESPONDENT.]

DR. PÉAN, the celebrated surgeon, died on the night of Jan. 29th–30th from pneumonia following influenza for which he had been some two or three days in bed. His death was totally unexpected by the medical fraternity and neither his pupils nor his friends knew that he was ill, and his loss will be very widely felt. Jules Péan was born in 1830 near Châteaudun. He was the son of a miller, a fact he was fond of recalling, and suffered many privations at the beginning of his career, having to support himself in Paris entirely by fees received for coaching his fellow students in anatomy. In 1853 he came out first at the *concours* for the election of resident medical officers at the hospitals. Shortly afterwards he became prosector to the Faculty of Medicine and then surgeon to the hospitals of Paris, where he very rapidly acquired a great reputation for his operative skill. He was one of the first surgeons to perform with success operations on the abdominal cavity, which had been considered up to that time absolutely impossible. His first ovariotomy was done in 1864, at a time when the surgical authorities of the Academy of Medicine declared that to perform this operation was a crime. He performed about this time the first splenectomy ever done in France. In addition he made many discoveries in the domain of operative surgery such as vaginal hysterectomy, the method of *morcellement* for the extirpation of large tumours, prophylactic clamping of vessels, and excision of the larynx, all of which are associated with his name. Péan's operation, that is to say, the extirpation of the entire uterus by *morcellement* through the vagina in cases of pelvic suppuration, marks a red-letter day in the history of surgery even outside France. His method of preventing hæmorrhage by clamps was the discovery of which he was most jealous. Some ten years ago he had an animated discussion with Verneuil, who disputed with him the honour of the invention. During their long controversy it came out that the honour of the invention of the original clamp called after Péan's name belonged to the instrument maker Charrière, but that Péan had really been the first to apply it systematically in surgical practice. In the latter days of his life Péan also had a controversy with his old pupil Doyen as to which of them had the priority in the invention of vaginal hysterectomy in cases of pelvic suppuration. The last subject that he studied was that of excision of the thyroid body as well as a method of supplying the missing parts of bones, or even entire bones, by stumps of "ébolite" inserted into the periosteum. For twenty years he was surgeon to the St. Louis Hospital, where his operations were always followed with interest by a crowd of onlookers (*assistants*) from all parts of the world. The clinical lecture which he delivered upon these occasions was always highly appreciated. An accomplished orator, with a full and finished style, Péan expressed himself with a kind of geniality which gave point to the provincial accent which he never lost. Quick to seize the salient points of any question with a comprehensive glance, not only was he an operator of the very first class, but an unrivalled clinician. He left his post at the St. Louis Hospital in 1892 on account of his having reached the limit of age, but finding himself unable to give up the exercise of his art he built himself a private hospital called the International Hospital, where his following of pupils and patients accompanied him. His principal publications, in addition to numerous papers upon various subjects communicated to the learned societies, consist of eight volumes of his "Lectures on Clinical Surgery," four of which volumes are taken up with the diagnosis and treatment of pelvic tumours. He had been a member of the Academy of Medicine since 1887 and was nominated Commander of the Legion of Honour at the time of his retirement.

M. PÉAN AT FORTY-SEVEN YEARS OF AGE.

Dr. James Murphy, of Sunderland, sends us the following personal reminiscences: "It is with the most profound regret that I have heard of the death of my friend and master, the great Péan, at the age of sixty-seven, from pneumonia. When I went to Péan first I had the good fortune to carry with me a letter of introduction from Lord Lister and to this I am indebted for a most cordial reception and to having had the privilege while I was in Paris of assisting Péan in most of his operations both in hospital and in private practice. His was the most striking personality I have ever seen—a low-sized, powerfully-built man, with high receding forehead, dark piercing eyes, sharply chiseled features, Jewish-looking nose, and a cold, determined-looking mouth, with lips and chin clean shaved and large whiskers turning grey—a handsome face withal and one in which courage, determination, and an utter disregard for consequences were markedly expressed. I shall never forget the first time I saw him; it was at l'Hôpital de St. Louis on a Saturday at 9.30 A.M. I was shown into a large theatre where some 200 surgeons and students of various nationalities of both sexes and of ages varying from twenty to seventy were assembled. The jargon of the different languages reminded one forcibly of Babel's Tower, but suddenly all was hushed, everyone rose, and then, amid a deafening stamping of feet, clapping of hands, and round after round of applause, a door opened and in an instant Péan was before us. He was, as usual at operations, dressed as for a dinner party, wearing a cut-away coat bearing his ribbon of the Legion of Honour, white open waistcoat, black trousers, and patent leather boots. He bowed to his audience, who then sat down, and he proceeded to do his operations with a rapidity and manual dexterity that I have never seen the equal of. He had two regular assistants, one M. Collin and the other whose name I forget, and in addition some five or six favourite pupils or friends, each of whom had to do something; and whether, as would often happen, one of his assistants happened to be an Egyptian, a Russian, an Austrian, or even an Irishman, he spoke in such forcible French there was no mistaking what he wanted you to do, and you did it. He spoke the whole time during his operation, generally, as I have said, *forcibly*, but sometimes when matters seemed to us to be getting serious he would take up a forceps, pull a hair from M. Collin's whiskers, and say, 'Voilà la tumeur' steady us, not speak for a time, and then complete the operation. I never saw him make a mistake. In doing an abdominal section he would sit between the patient's legs, make an incision from the diaphragm to the pubis—not *cap de pied* as it used to be called—and rapidly cut down on the peritoneum, and there one could see the tumour and the intestines through the peritoneum. I admired most the extraordinary skill with which he would remove a large uterine fibroid, per vaginam, *par morcellement;* but equally brilliant were his hysterectomies for malignant disease, where he would often leave as many as thirty pairs of forceps in the vagina. In all operations he was *facile princeps* and neither his brain nor his hand ever hesitated. Most of his work was abdominal, but he was an all-round operating surgeon and I saw him do three or four laryngectomies, one of which, Bertrand, I saw alive three years after operation. Sometimes he was criticised by his opponents, but he used to simply laugh at them, and as far as I could judge he never worried about their hostile criticism, and on the Thursday evenings he would often invite me to his box at the opera where he and Madame Péan generally had a party of twenty. His private operations he generally did in the convent in Rue de la Santé, and when he had to retire, owing to the age clause, from St. Louis Hospital he founded l'Hôpital International. It used to be said at one time that his income was £40,000 a year, and the late Sir Spencer Wells told me he knew of a case in which an English countess paid him £1600 for an amputation of the breast. He was a pupil of Nélaton, and for manual dexterity he was the greatest surgeon of the century."

JOHN STEWART, R.N., M.D. St. And., L.R.C.S. Edin.

The death has been announced of Dr. John Stewart, of Perth, at the advanced age of eighty-nine years. After having taken the degree of L.R.C.S. Edin. in 1833 and the diploma of M.D. at St. Andrews University in 1835 he entered the Royal Navy and became Staff-Surgeon in 1841. He saw a great deal of active service, serving in the *Bellerophon* in the Mediterranean and taking part in the bombardment of St. Jean d'Acre and Beyrout. He also accompanied the expedition to Nankin in the flagship *Cornwallis* during the first China war. He was present during the war in New Zealand in the *Osprey*, where he encountered many hardships and perils, his vessel being ultimately wrecked. Dr. Stewart was also at the bombardment of Sebastopol. He was a member of the Imperial Order of the Medjidieh and received medals for Syria, China, and the Crimea, and also a Greenwich Hospital pension. He was the author of several small medical works. He was a staunch advocate of total abstinence, which he himself practised through life, and was universally respected in his native town, Perth, in which cemetery he was buried last week, the funeral being strictly private in accordance with his expressed wish, only near relatives and intimate friends being present, the chief mourner being his nephew, Lieutenant-Colonel Duncan Menzies, of Blarich, commanding the 1st Sutherland Highland Rifle Volunteers.

JOHN STEELE-PERKINS, F.R.C.S. Eng., L.S.A.

Mr. John Steele-Perkins died at Exeter on Jan. 28th in his ninety-first year. He was the oldest surgeon in that city and probably in the west of England. The deceased received his medical education at Guy's and St. Thomas's Hospitals, taking the L.S.A. in 1828 and the M.R.C.S. Eng. in 1831. In 1875 he received the F.R.C.S. Eng. Mr. Steele-Perkins was highly esteemed in Exeter; he had held the appointment of medical officer of health and was for fifty years surgeon to the West of England Institution for the Blind. He took a great interest in the volunteer movement, being brigade-surgeon of the Devon Volunteer Artillery. Although Mr. Steele-Perkins had reached such an advanced age he remained in possession of his faculties almost to the last and only took to his bed two weeks previously to his death.

Deaths of Eminent Foreign Medical Men.—The deaths of the following eminent foreign medical men are announced:—Dr. F. Bini, Emeritus Professor of Psychiatry in the Florence Medical School.—Dr. S. A. Rogers, Professor of Anatomy in Memphis Hospital Medical College, U.S.A.

Typhoid Fever at Illogan, Cornwall.—At a recent meeting of the Redruth Rural District Council it was stated that Dr. Bruce Low, who had inspected the district to ascertain the cause of the recent outbreak of typhoid fever, was of opinion that the water-supply was the primary cause of the epidemic, but the dangerous water had been cut off. Dr. A. E. Permewan, J.P., the medical officer of health, joined Dr. Bruce Low in recommending that the accumulated refuse in the crowded parts of the district should at once be cleared away under the supervision of the council's inspectors and after considerable discussion this was agreed to. Up to the present there have been 33 cases of typhoid fever in Illogan with 4 deaths.

THE DANGER OF MAKING A PUBLIC SHOW OF INCUBATORS FOR BABIES.

The introduction of incubators for babies into this country has been favourably noticed in The Lancet. The incubators which we described were exhibited at Earl's-court.[1] They were manufactured by scientific instrument makers of high reputation who provide many of the apparatus used in Professor Koch's laboratory. Skilled attendants were employed who had been specially trained not merely in the care of babies and the management of incubators but more particularly in the nursing of prematurely born or especially debilitated infants. Again, though the Victorian Era Exhibition was looked upon as a mere pleasure resort by many it was also a serious exhibition where objects of art of great value were collected side by side with scientific inventions bearing on medical and public health questions. Thus surrounded there was nothing derogatory to the dignity of the healing art in the exhibition of incubators at Earl's-court. Also a healthy site was chosen in the broadest part of the gardens where there was plenty of fresh air. The incubators were scientifically ventilated and only received the air taken from the outside. This exhibition had an extraordinary success. On one occasion there were no less than 3600 visitors in a single day. This success, however, has not proved an unmixed blessing. It attracted the attention and cupidity of public showmen, and all sorts of persons, who had no knowledge of the intricate scientific problem involved, started to organise baby incubator shows just as they might have exhibited marionettes, fat women, or any sort of catch-penny monstrosity. It is therefore necessary that we should at once protest that human infirmities do not constitute a fit subject for the public showman to exploit. Incubators are only useful for prematurely-born children, and especially for infants whose lives cannot possibly be saved in any other way. Therefore constant medical supervision and the presence day and night of nurses trained in the use of incubators and of wet-nurses is indispensable. To organise all this in a satisfactory manner necessitates a considerable outlay and cannot be lightly undertaken by inexperienced persons. An incubator show, if such there must be, should correspond in every respect to a hospital ward. Now, at the World's Fair held at the Agricultural Hall, Islington, there is an incubator show where the charge for admittance is only *2d*. We fail to see how this small sum can cover the cost of properly trained attendants and of wet-nurses. On visiting this exhibition we were informed that the infants were fed by their mothers—but how can the mothers attend during the whole of the night at the Agricultural Hall and where is their sleeping accommodation? Then, again, the incubators do not derive their air-supply from without. The infants breathe the atmosphere of the interior of the Agricultural Hall, where, apart from the numerous visitors, the whole of Wombwell's menagerie is kept. Just opposite the incubators there are some leopards and everyone is familiar with the obnoxious odour that arises from the cages in which such animals are incarcerated. There is a similar exhibit at the Royal Aquarium, and we cannot think that the dust of bicycle racing, the smoking of the men, and the exhalations from the crowd of people who visit that resort are likely to constitute an atmosphere suitable for prematurely born infants. Of the thousands who daily flock to these two buildings, how many convey pathogenic germs which may enter the incubators since they are not ventilated from without? Then what connexion can there be between the style of the public or of the entertainments to be seen at these places and a purely medical scientific question? Is it in keeping with the dignity of science that incubators and living babies should be exhibited amidst the Aunt-Sallies the merry-go-rounds, the five-legged mule, the wild animals, the clowns, penny peep-shows, and amidst the glare and noise of a vulgar fair? At Barnum and Bailey's Show also there is a baby incubator show where, however, the air is brought in from without; but, again, what connexion is there between this serious matter of saving human life and the bearded woman, the dog-faced man, the elephants, the performing horses and pigs, and the clowns and the acrobats that constitute the chief attraction to Olympia? But if music-hall proprietors, caterers for refreshments at exhibitions, and public showmen generally who have no sort of scientific training are going to start baby incubator shows in all parts of the country the question arises whether the attention of the sanitary authorities should not be directed to the dangers that may result. It is easy to foresee what is likely to happen. The most obvious way to avoid all difficulties is to obtain the loan of fully developed and healthy babies. The general public would scarcely detect this fraud, and these shows might easily degenerate into a disguised form of baby farming. The sanitary authorities should be particular in inquiring whether there is a proper supply of healthy wet-nurses. Under ordinary circumstances there should be not less than one wet-nurse for every two infants. It should be ascertained whether these nurses sleep on the premises and are awakened every three hours to feed the children. If no efficient check be applied bogus shows will probably be organised, then the mothers will be made to go and feed the children in the daytime and carry them home at night. Even an ordinary infant could not safely stand such a transition. If, however, the infant is really prematurely born it would be little short of homicide to remove it from a warm incubator and carry it home at night through the possibly cold, foggy streets. We are all the more anxious that these incubator shows should be energetically dealt with and rigorously suppressed as the experience acquired on the continent, and notably at the Paris maternity, clearly indicates that incubators when managed by properly qualified persons are instrumental in saving many lives.

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[1] See The Lancet, May 29th, 1897.

LOCAL GOVERNMENT BOARD INQUIRY INTO THE MAIDSTONE EPIDEMIC.

The Local Government Board inquiry into the recent outbreak of typhoid fever at Maidstone was opened at the Sessions House, Maidstone, on Monday, Jan. 31st. Mr. J. S. Davy, Mr. G. W. Willcocks, and Dr. Theodore Thomson were the Commissioners appointed by the Board; Mr. J. F. Parker and Mr. Lance Monckton, deputy town clerk, appeared for the Maidstone District Council; Mr. Dickens, Q.C., and Mr. Hohler for the Maidstone Water Company; Mr. Talbot for the Rural District Council; Mr. J. Brennan for the Maidstone Ratepayers' Association; and Mr. Howlett for the County Lunatic Asylum at Barming. It was explained by Mr. J. F. Parker that he appeared for the Maidstone authorities as they had no power to engage counsel under the Public Health Act without the consent of the Local Government Board. Application had been made, but the Local Government Board declined to sanction the expenditure.

Mr. Percy Adams, M.R.C.S. Eng., D.P.H., was the first witness called. Examined by Mr. J. F. Parker he said that while acting as deputy for his father in August and September of last year he was struck by the number of deaths from diarrhœa in the registrar's returns and he thought it was advisable to issue a public notice warning the people to boil their water and take other precautions. This notice was issued on Sept. 15th. On the same day he saw Dr. Washbourn, of Guy's Hospital, with a view to obtaining his assistance. By Sept. 16th 38 cases had been notified and their distribution excluded the idea of a contaminated milk-supply, but suspicion attached in his mind to some mineral waters made in the town with Farleigh water. He called on the water company on Sept. 18th and received every assistance from them. On the 19th he visited the sources of the Farleigh water-supply. He described the condition of things at Tutsham where between 250 and 350 hop-pickers had been encamped. The Tutsham water was cut off on Sept. 19th when the epidemic was at its height. The chief incidence was felt from Sept. 19th to 27th, after which it declined. The general cause of the outbreak, in his opinion, was the Farleigh section of the Maidstone water-supply.

In cross-examination by Mr. Talbot and Mr. Dickens, Q.C., witness stated that the filter-beds were not habitually in use. Properly constructed and kept in order filter-beds were an efficient protection against fæcal pollution. In the Farleigh area there were many houses provided with privies and water-closets without water. Some of the drains are flushed by hand only. There might be 4000 unflushed house drains in Maidstone; and those in the Farleigh area being on higher ground would be more exposed to sewer gas rising if it were not for the trapping. As a rule the house drains were trapped. A case of typhoid fever was notified in the "special area" on July 6th before the Farleigh water was turned on there and another case was notified on Aug. 20th, but not in the special area. A third case occurred in the rural district on Sept. 4th at a house supplied with Farleigh water. The first case at Barming Asylum occurred on Sept. 10th. The diarrhœa of which he had spoken commenced in July.

Re-examined by Mr. Parker Mr. Percy Adams said at Tutsham he found that the catch-pit of the orchard spring was sealed down with cement, but at Ewell the same care was not taken and two dead rabbits were taken out of the centre catch-pit. The fever had exercised no selective action as between rich and poor. He attributed the secondary cases in part to want of care in home nursing and neglect of precautions.

Mr. Matthew Adams, F.R.C.S. Eng., was the next witness. Examined by Mr. Parker he said his annual report for 1896 showed that the town was generally very healthy and suffered very little from typhoid fever and diarrhœa. He had prepared tables showing the death-rates from typhoid fever in England and Wales, Kent, and Maidstone respectively for a series of years. The figures for Maidstone were 121 per 1,000,000, against 179 for England and 180 for Kent. In conjunction with Dr. Washbourn he prepared an interim report on the water, which was presented to the Sanitary Committee on Sept. 27th, 1897. In his opinion specific pollution of the Farleigh water was the cause of the epidemic. At the beginning of the outbreak the fever hospital was fully occupied with diphtheria and scarlet fever patients, but no time whatever was lost in providing for the emergency. A nursing staff was obtained and a public laundry was erected. After the middle of October he regarded the cases subsequently occurring as due to secondary infection. In that connexion he had drawn attention to carelessness on the part of milk-dealers. In one case he found milk-cans on premises where the fever was present so placed that clothes which had been roughly washed after being exposed to contamination by typhoid material might drip into the cans.

Mr. Adams, continuing his evidence on Tuesday, said that he had repeatedly drawn attention to the insanitary condition of house drainage in Maidstone. As a regular part of his duty his reports had been sent to the Local Government Board.

A question here arose as to the propriety of calling Dr. Washbourn, who made a joint report with Mr. Adams on the water. It was contended by the Town Council that as the Local Government Board had refused to sanction the payment of expenses incurred by expert evidence out of the rates this witness could not be called.

Mr. J. S. Davy said that the attendance of Dr. Washbourn was very desirable and he would take the personal responsibility of any costs that might be incurred.

Mr. F. R. Parker pointed out that the joint report of Dr. Washbourn and Mr. Adams condemned the spring at Tutsham-in-Fields on account of the excessive number of bacteria present, including bacillus coli.

Mr. Adams, continuing, submitted figures from which he drew the inference that the Farleigh area people were attacked through habitually drinking polluted water and the people in the other areas through casually drinking it. He also submitted diagrams which showed that the great mass of the disease occurred before the influence of the Tutsham springs was removed. A marked fall occurred fourteen days after that water was excluded and a further fall fourteen days after the whole of the Farleigh supply had been cut off. From a diagram showing the rainfall and the level of the subsoil water for every day in the year he showed a remarkable correspondence between the outbreak and the movement of the subsoil water. He was quite satisfied that the cause of the epidemic was pollution of the Farleigh branch of the company's water-supply with the specific organism of typhoid fever, and with regard to any particular source the evidence bore heavily against Tutsham-in-Fields. Other sources, however, might be involved.

Cross-examined by Mr. Dickens, Q.C., he certainly did not think the state of the drains was the cause of the epidemic.

Mr. Adams concluded his evidence on Wednesday. Dr. Washbourn and Dr. Sims Woodhead were examined, and

Mr. T. F. Bunting, the borough surveyor, was giving evidence when the inquiry was adjourned.

A *résumé* of the joint report of Mr. Adams and Dr. Washbourn on the Chemical and Bacteriological Analyses of the Farleigh Water-supply will be found in a leading article in The Lancet of Jan. 8th, page 110.

ARMY MEDICAL SCHOOL, NETLEY.

The seventy-fifth session of the Army Medical School was brought to a close on Jan. 31st when the prizes were distributed by General Sir Henry W. Norman, G C.B , G.C.M.G., C.I.E., in the presence of the military staff of the Royal Victoria Hospital and a large gathering of visitors. Among those present were the Director-General A.M D. (Surgeon-Major-General Jameson, C.B.); Inspector General Turnbull, R.N., of Haslar Hospital; Surgeon-General Sir Joseph Fayrer, Bart., K.C.S.I.; Dr. Frederick Roberts, of University College Hospital; Deputy-Surgeon-General Cayley, I.M.S.; and Surgeon-Colonel Martin.

Professor J. Lane Notter, M.D., read the report, which showed that thirty-five out of thirty-six surgeons on probation had proved themselves fit to receive Her Majesty's commission, that the conduct of the young officers while passing through the school had been excellent, and that there had been a good tone throughout the school. The following is a list showing the successful candidates for the two services. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows:—

ARMY MEDICAL STAFF.

	Combined marks.		Combined marks.
*H. O. B. Browne-Mason	5322	A. H. O. Young	3996
†F. S. Penny	5099	E. A. Bourke	3858
B. Watts	4756	M. M. Lowsley	3597
H. G. Martin	4519	A. C. Lupton	3521
J. G. Berne	4241	G. B. Carter	3497
F. F. Carroll	4123	N. H. Ross	3493
J. D. G. Macpherson ...	4069	P. H. Collingwood ...	3120
W. P. Gwynn...	4055	C. J. O'Gorman	3796
S. de C. O'Grady	4020		

* Gained the Maclean Prize for Clinical and Ward Work.
† Gained the Pathology and Parkes Memorial Bronze Medal.

INDIAN MEDICAL SERVICE.

	Combined marks.		Combined marks.
*T. H. Delany	5754	S. Hunt	4844
†J. W. F. Rait	5619	A. G. Sargent	4784
S. R. Douglas	5466	W. H. Cox...	4779
‡E. J. O'Meara	5392	De V. Condon	4740
§G. Tate	5072	H. A. J. Gidney	4641
R. F. Baird	5050	H. Kirkpatrick	4619
A. T. Gage	4892	F. D. S. Fayrer	4432
G. C. Laing	4857	P. H. Chitale	4421
G. MacPherson	4851	W. Lethbridge...	4115

* Gained the Pathology Prize and Herbert Prize.
† Gained the Montefiore Medal and Prize of 20 guineas and the de Chaumont Prize in Hygiene.
‡ Gained the Martin Memorial Gold Medal.
§ Gained the second Montefiore Prize in Surgery.

Sir **Henry Norman** distributed the prizes and, addressing the Director-General and young officers, said that he trusted that he should not be considered irregular if before saying anything about the present occasion he expressed deep regret at the death since the termination of the last session of the school of the late Director-General of the Army Medical Department (Sir Wm. Mackinnon), who during a long and distinguished career gained the confidence and esteem of all with whom he was brought in contact in every position he held, from the time he was assistant surgeon in the 42nd Highlanders (Black Watch) during the Crimea until he became Director-General. His services included a time during which he was Assistant Professor in the Army Medical School. Personally he had known Sir W. Mackinnon over forty years and had received valuable assistance at his hands, as he had been attended by him not only in sickness but also on the field of action under fire. He was sure that the example of Sir Wm. Mackinnon would not be thrown away. He hoped also to be allowed to express the pleasure he felt at seeing his old friend Sir Joseph Fayrer, to whom he owed many obligations, especially that of being pulled through a severe attack of typhoid fever some thirty years ago. About seventeen years since he (the speaker) presented the prizes to the surgeons on probation at Netley, and he had very great pleasure in accepting the invitation to come to Netley on the present occasion; for reasons known to many of those present Netley and everything connected with it must have great interest for him. He had been much pleased at hearing such a satisfactory report of the result of the session, and it reflected great credit on the officers now leaving that they had taken such full advantage of the able instruction they had received from the learned professors in the school. He was sure that they would all take away with them a knowledge of the great benefits of the institution, and he sincerely trusted that they would gradually acquire further knowledge and the fruit of experience. They must recollect that the science and art they practised was not stationary. There was something always being discovered, and they would have ample opportunity of bringing this knowledge into play in the exercise of their duty in alleviating pain, caring for the sick, and saving life. No doubt many of those present thought that medical and surgical science had attained to great perfection, but he had no doubt that a great amount of discovery would yet be made, and during their careers. It was impossible for a medical officer to go through a course of service without seeing occasion to modify his opinions. In the treatment of cases a most remakable instance of change and improvement had been found in a country where it might have been little expected. In 1877 it fell to his lot to be in Japan accompanied by Dr. Smith, who was then Principal of the Calcutta Medical College and who had been a comrade of his years before. While there a steamer came in full of wounded men, and his friend Dr. Smith wanted to see the medical arrangements. Now there was a great difficulty in getting into the hospital on account of the objection to foreigners, but they persevered and were taken round by a Japanese surgeon in uniform. Dr. Smith had had plenty of experience during the Indian Mutiny. He found the Japanese hospital in most perfect order—having been just organised—yet in that country twenty-five years ago European science was unknown. He was told by Dr. Smith that the latest improvements in surgery known in Europe or America were being carried out, and also that limbs and lives had been saved which but a few years before might not have been saved in our own field hospitals. He congratulated the young officers on having passed the examination with great credit. In future they would not only have opportunities of alleviating suffering and doing much good, but also chances of seeing many lands, experiencing adventures which are so dear to most Britons, and many of them, no doubt, would see field service. They had read or heard of the deeds done by many medical officers in the, he was going to say late, rising on the Indian Frontier, but, unhappily, he could not say late, because that day he had seen that a large number of officers and men had been killed in the Khyber, and there might be more opportunity for service yet. When they saw the full accounts of these operations, which had not been received yet, he had no doubt they would find that many medical officers had distinguished themselves by devotion to duty under fire. He felt sure that those he was addressing would follow in their predecessors' footsteps, and whether employed in peace or war they would render good service. He had now only to wish them all success in their careers, much happiness in their private lives, and at the end of their service a happy and honourable retirement.

Sir **Joseph Fayrer** on being asked to address the young officers said that he had suddenly been called upon to perform an agreeable duty—to offer to them hearty congratulations on the success they had achieved. They had all won prizes because they had all gained their commissions. It was more than fifty years since he had occupied the same position as they did to-day and he need not say how great were their advantages compared with his. He knew no young men who set out in life better prepared than they were, and whichever service they belonged to they should take advantage of it and ever be ready to learn. The great country of India, to which many, nay all, of them in time were going and in which they were all so interested, had been suffering from plague, disease, famine, war, murder, and sedition. He hoped that under the strong administration of a wise Government this combination of troubles might be recovered from, and that those whom he was addressing might aid with their skill to provide against the repetition of such troubles plague, famine, and its attendant diseases. As to the prospective conditions of the Services it was idle to contend that there was not a great amount of discontent and he very much sympathised with them, but they should never allow discontent to interfere with the steady and loyal performance of their duty. His own conception was that in the course of time all would come right. A good deal had already been done, but he ventured to say that a good deal was still required before the medical services were placed on a proper basis. He trusted that they might come back in the future with honours added to their names and much prosperity.

The DIRECTOR-GENERAL, after congratulating the young officers, proposed a vote of thanks to Sir Henry Norman. He said they were much indebted to him for his visit to Netley, but their obligation to him extended very much further back, because some years ago he had given to them his daughter to be their lady superintendent of nurses, and the high estimation in which the army nursing service was held was due in a great measure to her precept and example.

The proceedings were brought to a close by a few kind and well-chosen words by Surgeon-Major-General NASH, P.M.O. at Netley.

The company was subsequently entertained at luncheon by the officers of the Army Medical Staff.

JERRY-BUILDING AT BELFAST.

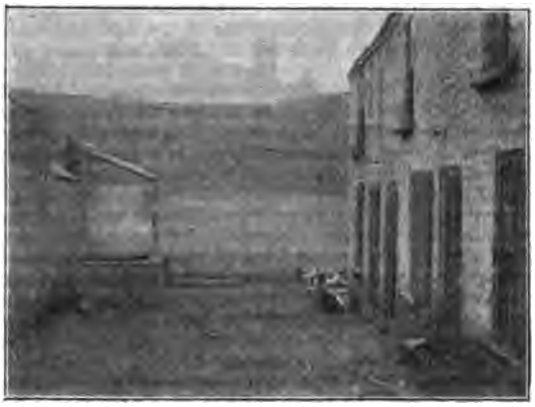
(FROM OUR SPECIAL COMMISSIONER.)

WHATEVER may be the defects of the water-supply, the sewers, the soil, the conflict of authorities, and the feebleness of sanitary control, there is not the slightest doubt that the greatest sources of evils in Belfast have been, and still are, the jerry-builder, and the condition of the slum property. The mill owners certainly compromise the health of the city by the way they pollute the streams and object to such measures being taken as would prevent floods. But, on the other hand, they have created industries on which the prosperity of the town depends. The religious warfare which divides the population of Belfast has left the door wide open to all manner of abuses. The energy of the people has been wasted in carrying Protestant candidates against Roman Catholic candidates, and Roman Catholic candidates against Protestants.

The rapid increase of population, now amounting to something like 10,000 new inhabitants per annum, has of course created a great demand for more and more houses and speculative house-builders have been able to reap a golden harvest. Not only have the Irish migrated from all parts of Ireland to Belfast but a great many Scotch and English families have found it to their advantage to settle in this town. Various new industries which have sprung into existence in other towns have also caused a sudden increase of population. For instance, there is the bicycle trade in Coventry where houses cannot be built fast enough and where it is now almost impossible for a workman to find lodgings. But the bicycle trade affords employment only to men, while the peculiarity of Belfast is the facility with which all-round employment can be obtained for an entire family. In other towns the men may earn high wages but there is no work for their families. At Belfast the wages for adult males are not particularly high but there are a number of light trades, such as the making of small card-board boxes, in which the women and even the children can readily obtain employment. Thus it is the family as a whole which makes the larger income and not the principal bread winner. Then, and in spite of bad trade, the factories are increasing in size. Belfast has suffered less than other towns from commercial depression. New factories are in course of erection and new wings are added to old factories, hence even English families are migrating to Belfast in the hope of bettering their position.

Though Belfast is a modern town, still some quarters are comparatively old. Here there is more excuse for the defective condition of the houses; but how can such places be condemned and pulled down when the erection of modern houses has been sanctioned that present similar sanitary defects. Before, however, describing the new I will attempt to depict some portion of the older Smithfield district. Turning into a small side street that gives on to the broad expanse of College-square a few steps suffice to produce a sinister contrast. Instead of large and prosperous houses glimmering in the winter sunlight which reaches them freely after passing over a noble stretch of open ground we find small black streets with dreary rows of dirty cottages, where the scattered rays of the winter sun cannot reflect their brightness from the grimy walls. Here it seemed as if the sun had ceased to shine, though but a moment ago its rays had appeared bright and cheerful, playing among the dewdrops that still hung to the trees in College-square. In spite of the cold and semi-frozen mud bare-footed children were loitering about in the streets. Through half-opened doors older people might be seen brooding gloomily over the vestige of a small fire. The squalor and dirt of these interiors may well be imagined by those who are familiar with the indoor life of the Irish poor. The narrowness of the rickety wooden steps of the staircases which, leading to the upper rooms of the cottages, abut at their lower extremity almost on to the street shows the smallness of these dwellings. In some instances the stairs, little better than a mere ladder, descend into the middle of the ground-floor room and there is no passage leading up to them. What some of these houses must be like may be judged from the fact that the rent charged for a cottage in Institution-court is only 1*s.* 7*d.* per week. The chief institution in this court seems to be a large privy which stands out in bold relief within some few feet of one of the principal streets of the district. This privy likewise serves as an ashpit, the household rubbish being thrown into it over the low protecting wall. There is no cover to prevent the rain entering or the dust being blown out. The court opens wide on to a thoroughfare. The accompanying illustration (Fig. 1) is from a photograph which was taken not from the court, but from the thoroughfare and therefore it shows what every person passing in the street may see. Of course all sense of privacy is obliterated. The inhabitants of the cottages go backwards and forwards to the privy in view of all the people who pass along the street at the top of this small court. Nor are there any means, especially at night, of preventing the strangers who pass by from frequenting the privy. As the privy can be used by anybody and everybody, it is nobody's duty to keep it clean. Consequently it becomes so foul that some persons have not ventured to approach the seat and have soiled the floor. A party of scavengers had been round on the morning of my visit and had swept out the court. With their brooms the fæcal matter on the floor in front of the seat of the closet had been more evenly spread over the boards. As will be seen by the illustration only a portion of the pavement of the court remains, and the stones have been shaken out of their proper places. They lie loosely on the soil, which is consequently as damp as if there had never been any pavement at all. The uncovered portion of the privy, in which fæcal matter and household refuse mixes together and is kept in a moist condition by the rain, measures about six feet by four feet. Naturally the odours that escape are very obnoxious and in the street at the top of the court, not twenty yards away, there is a national school where children congregate in close proximity

FIG. 1.



Institution-court from the street.

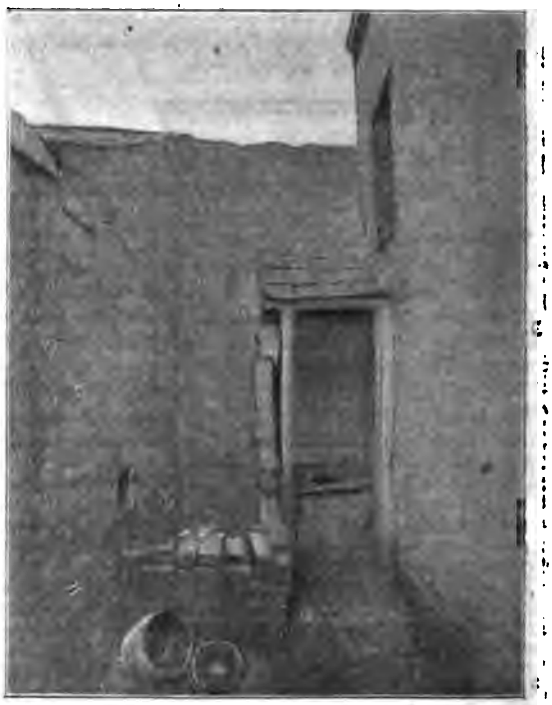
to this unhealthy accumulation of filth. About four feet from the privy there is a broken grid which drains the court. This grid, instead of lying flat over the drain, sticks upwards out of the ground. The pavement stones round about are of all shapes and slant in all directions, suggesting the effects of a small earthquake. Instead of helping to drain the court towards the grid or gully, they form obstacles to the passage of the water which consequently collects in small pools where, after remaining stagnant long enough to become foul, it gradually sinks into the subsoil. The houses in the court are of course damp and are inhabited by extremely poor and wretched people.

In addition to a privy thus exposed to public view in Institution-court, I found that close at hand, at one end of Killen-place, a manure heap had been allowed to accumulate and half block this small street. The heap consisted of straw, mud, ashes, dirty rags, a choice collection of ripped-up and shapeless old boots and shoes, tins, gallipots, garbage, and fæcal matter. Some of the bedroom windows overlooking this manure heap were broken and pieces of sacking hung across the window frames so as to keep out the cold. The gutters of the street were out of level and the stagnant water they contained could only be brought to the gully by the force of the scavengers' brooms, and by the time the scavengers come to the rescue the water in the gutter has become black and thick. Then just round the gullies and more than elsewhere the pavement has generally given way. There is often an indenture round the grid of the gully forming a small moat, the last obstacle to prevent the water reaching the sewer. From this final entrenchment the water can only reach the sewer by being lifted bodily up to the gully. As a rule this water is not so lifted but sinks into the earth outside and round the gully to reappear again in the walls of the houses, which it ascends by the force of capillary attraction. A gully of this description is close to the manure heap which stands in the middle of the street, and on the ground floor, behind a window that can be scarcely more than four feet from this gully, lying against the damp and foul wall, a woman had just given birth to a child on the morning of my visit.

The houses in Keppel-place are more modern and have four rooms. They are rented at 3*s.* 4*d.* per week. Fairly good accommodation should be obtained for that price, yet the condition in front of these cottages is a trifling grievance when compared to that which is allowed to prevail behind. In front we find gutters that permit water to stagnate till it becomes foul and then it renders the front walls damp and we have a manure heap in the middle of the street festering under broken bedroom windows, but there is at least a free current of air passing down the street. Behind there are tiny little yards barely 6 ft. wide and enclosed by high walls where the air cannot circulate so freely. At one end right across the entire width of one of these yards there is an open trench which serves the double purpose of ashpit and privy. On the side nearest to the house a little hut is constructed which forms the closet. In one yard the roof of this closet had entirely fallen away so that there was nothing between the closet and the bedroom windows above and privacy is therefore impossible. In the house where the infant was born on the day of my visit the roof still remains over the closet, but as the door has long since fallen off it is evident that there is no better privacy here. Thanks to a remarkable lens of only 2¼ in. focus, manufactured expressely for THE LANCET by Messrs. Swift and Son, I was able to photograph this closet (Fig. 2) in spite of the exiguity of the space. It will be seen that not only has the door disappeared, but the wall has parted from the framework of the door, and only requires a gentle push to fall bodily into that part of the trench which serves as an ashpit. The seat of the closet, broken in two halves, is absolutely loose, and anybody attempting to sit upon it would very probably fall into the privy and bring the wall down after him. It is positively dangerous to approach the place. The children of the house do not go near it. They befoul the open yard, leaving their seniors to occasionally clear up the mess and throw it into the ashpit. The adults presumably make use of slop-pails within the house, and empty them into the ashpit. Viewing the condition of the masonry above ground it would be preposterous to imagine that the ashpit and privy are carefully cemented and rendered water-tight under ground. Its contents are kept in a moist condition by the rain that falls into the uncovered ashpit, and the water, rendered foul by the fæcal matter, garbage, &c., sinks into the subsoil. The gases which it generates are drawn into the house by the higher temperature that prevails within. Besides, it will be seen that there is a window just overlooking this privy and placed conveniently near to give admittance to the foul emanations that escape into the outer air. Great dilapidation also prevails inside the houses. In the house next door the partition wall that divides the upstair rooms is falling in, and I was consulted as to whether it was not dangerous to sleep by the side of such a wall.

To leave this melancholy neighbourhood I went through a sombre passage known as Larry's Hold. Here there were dark recesses where filth of all sorts had been thrown and fæcal matter had been deposited along the walls. There is a public-house at the far end of the passage, and on reaching the broad thoroughfare beyond called Barrack-street I arrived just in time to see a herd of about forty pigs coming out of a house on the opposite side of the street. These houses have long backyards that lead down to the banks of a small shallow stream denominated the Pond Bourne. In several of these yards a great number of pigs are not only kept but slaughtered. I consequently noticed that there was a considerable amount of blood in the stream together with stable manure and some offal. Drains were also emptying into the stream, which is thus converted into a sewer. But though there had been some rain the water was hardly a foot deep and protruding mud banks and other obstacles created stagnant pools and one of these seemed to consist more of blood than of water. In a yard on the banks of this stream where a great number of pigs are kept there is an open, uncovered, large privy and ashpit placed on the highest part of the ground. From the corner of this privy a black fœtid liquid oozed through the privy wall and lazily trickled across the yard towards the pig stables and the stream situated at the lowest extremity. Now all this is occurring in the very centre of the town, not far from the luxurious neighbourhood of College-square. Overlooking the poisoned waters of this stream and the piggeries on its banks are the back windows of fairly good houses including a public-house and a confectioner's shop. Finally, in a short passage leading up from Barrack-street to Davis-street the ground floor of the cottages is below the level of this muddy and unpaved thoroughfare. Indeed, most of the houses about here are very damp. Fungous growths can be picked off the walls, and this damp is caused by water that mixes freely with fæcal matter. In most cases also the contents of privies

FIG. 2.



Closet in a yard in Keppel-place.

when emptied have to be carried through the inhabited rooms, for it would have cost too much money and too much space to build back passages. Perhaps now it will more easily be understood why typhoid fever is endemic at Belfast.

(To be concluded.)

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

West Riding County District.—Dr. J. R. Kaye's report on the health of this large and important district for 1896 is the first which he has issued in his capacity of county medical officer of health, but it has to be noted that his appointment only dated from the middle of the year under review. The sanitary survey of the West Riding which was commenced in 1894 by Dr. Whitelegge is progressing union by union and Dr. Kaye tells us that the action which has been taken as a result of such inspections has had a highly beneficial effect. During 1896 inquiries were made as to isolation accommodation in forty-eight sanitary districts and in July of that year an inquiry under the Isolation Hospitals Act was held in reference to a hospital district for the several sanitary areas within the Penistone Union. Other schemes are pending and the prospect in this direction is hopeful. In another and perhaps little less important direction, that of smoke abatement, there are signs of activity; and we expect that in their endeavour to cope with this nuisance the county council will meet with almost as much support as opposition. There are but few disinterested persons who are at all acquainted with the smoke-producing areas of the West Riding and who have sojourned for a short time in places like Leeds and Bradford who would not most heartily welcome the bestowal of greater powers on any body capable of dealing with this question in an energetic and effectual manner. From replies which have been received to a circular letter issued by the Sanitary Committee of the county council to the several district councils in the Riding it is clear that little is being done and we are therefore very glad to hear that an attempt is being made to procure for county councils further powers in this direction. If such powers are conferred either on county councils or on the joint boards established for the purpose it is to be hoped that the electors will have the energy to return only such representatives as will have proper regard for sunlight and fresh air. Lead poisoning is another matter which is receiving the attention of the West Riding Sanitary Committee and through their influence protective clauses compelling the company to deliver water which is inactive on lead pipes have been introduced into five West Riding Water Acts. This question of lead poisoning is, as Dr. Kaye points out, a momentous one for the inhabitants of the West Riding, in which, according to a recent report of the Local Government Board, there are over 700,000 persons whose public water-supply has given rise to multiple cases of lead poisoning during recent years. Dr. Kaye is to be complimented on his first report, but we must not forget, in our admiration for the West Riding Sanitary Committee, that they in no small measure reap a harvest sown by Dr. Whitelegge.

Portsmouth Urban District.—Portsmouth affords a good illustration of the impracticability of supervising the meat-supply of a large town without the assistance which a public abattoir affords. In Porstmouth, which has an estimated population of 178,612, there are no less than 172 registered slaughter-houses, 115 of them being in actual use. During 1896 as many as 4366 visits were paid to these places, but, as Dr. M. Fraser (the medical officer of heath) observes, even all this expenditure of inspectorial energy is insufficient to prevent the slaughter of diseased animals and the sale of meat unfit for consumption. Furthermore, as he points out in urging the erection of an abattoir, such an establishment would dispense with the accumulation of offal in different parts of the town and its consequent conveyance through the streets. We gather, however, from Dr. Fraser's tone that there is no immediate prospect of an abattoir being established in Portsmouth, and it can only be hoped that the report of the Commission on the Prevention of Tuberculosis may contain some recommendations on the general question of abattoirs which will stimulate town councils like that of Portsmouth to progress in this direction. In the matter, too, of isolation accommodation Portsmouth appears behindhand, there being provision for but 120 patients instead of 180 as there should be on the usually accepted basis.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6785 births and 4031 deaths were registered during the week ending Jan. 29th. The annual rate of mortality in these towns, which had been 20·6 per 1000 in each of the two preceding weeks, declined again last week to 18·7. In London the rate was 20·4 per 1000, while it averaged 17 6 in the thirty-two provincial towns. The lowest rates in these towns were 11·3 in Croydon, 12·2 in Huddersfield, 12·6 in Gateshead, and 13·0 in Oldham; the highest rates were 22·4 in Birmingham, 22·6 in Brighton, 22·9 in Norwich, and 29·6 in Wolverhampton. The 4031 deaths included 488 which were referred to the principal zymotic diseases, against 526 and 521 in the two preceding weeks; of these, 149 resulted from whooping-cough, 148 from measles, 82 from diphtheria, 45 from scarlet fever, 34 from "fever" (principally enteric), and 30 from diarrhœa. No death from any of these diseases was recorded last week in Plymouth or in Preston; in the other towns they caused the lowest death-rates in Huddersfield, Croydon, Nottingham, and Bolton, and the highest rates in Bristol, Wolverhampton, Sunderland, and Gateshead. The greatest mortality from measles occurred in Oldham, Hull, Birkenhead, Blackburn, Sunderland, and Bristol; and from whooping-cough in London, Derby, Sheffield, Gateshead, Portsmouth, and Norwich. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 82 deaths from diphtheria included 36 in London, 6 in Cardiff, 6 in Wolverhampton, 4 in Birmingham, 4 in Liverpool, and 4 in Leeds. No fatal case of small-pox was registered during the week under notice either in London or in any other of the thirty-three large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 3061, against 3450, 3253, and 3149 on the three preceding Saturdays; 244 new cases were admitted during the week, against 239, 215, and 248 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 516 and 567 in the two preceding weeks, declined again last week to 471, and were 116 below the corrected average. The causes of 46, or 1·1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Oldham, Newcastle-upon-Tyne, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Leeds, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the three preceding weeks from 24·3 to 19·0 per 1000, further fell to 17·4 during the week ending Jan. 29th, and was 1·3 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 9·5 in Leith and 15·8 in Edinburgh to 20·0 in Aberdeen and 21·3 in Greenock. The 525 deaths in these towns included 27 which were referred to whooping-cough, 22 to diarrhœa, 7 to scarlet fever, 6 to measles, 3 to diphtheria, and 2 to "fever." In all, 67 deaths resulted from these principal zymotic diseases, against 57 and 64 in the two preceding weeks. These 67 deaths were equal to an annual rate of 2·2 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 11 and 21 in the two preceding weeks, further rose to 27 last week, of which 18 occurred in Glasgow, 5 in Edinburgh, and 3 in Greenock. The deaths referred to scarlet fever, which had been 7 and 9 in the two preceding weeks, declined again to 7 last week, of which 3 were recorded in Edinburgh, and 2 in Dundee. The 6 fatal cases of measles showed a further decline from recent weekly numbers, and were all registered in Glasgow. The deaths from diphtheria, which had been 9, 2, and 5 in the three preceding weeks, declined to 3 last week. The 2 fatal cases of "fever" were recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 158 and 139 in the two preceding weeks, further declined to 92 last week, and were less than half the number in the corresponding period of last year. The causes of 23, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the three preceding weeks from 31 0 to 33·0 per 1000, declined again to 28·9 during the week ending Jan. 29. During the past four weeks of the current quarter the death-rate in the city has averaged 31·2 per 1000, the mean rate during the same period being 22·4 in London and 19 1 in Edinburgh. The 194 deaths registered in Dublin during the week under notice showed a decline of 27 from the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 12 and 21 in the two preceding weeks; of these, 8 resulted from "fever," 4 from whooping-cough, 3 from scarlet fever, 1 from diphtheria, and 1 from diarrhœa. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 2·7 in London and 2·1 in Edinburgh. The deaths referred to different forms of "fever," which had been 2 and 8 in the two preceding weeks, were again 8 last week. The 4 fatal cases of whooping-cough exceeded the number recorded in any recent week. The deaths from scarlet fever, which had declined from 5 to 2 in the three preceding weeks, rose again to 3 last week. The mortality from diphtheria showed a marked decline from that recorded in recent weeks. The 194 deaths in Dublin last week included 29 of infants under one year of age and 53 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a further decline from those returned in recent weeks. Five inquest cases and 3 deaths from violence were registered; and 68, or more than a third, of the deaths occurred in public institutions. The causes of 17, or nearly 9 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING 1897.

Complete statistics relating to sickness and mortality during the year 1897 in each of the forty-three sanitary areas of London are summarised in the accompanying table. The mortality figures relate to the deaths of persons actually belonging to the various sanitary areas and are the result of a complete system of distribution of deaths occurring in the institutions of London among the different sanitary areas in which the patients had previously resided. With regard to the notified cases of infectious diseases in London during 1897, it appears that the proportion of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 10 2 per 1000 of the population, estimated at 4,463,169 persons in the middle of the year. In the preceding three years the rates were 9·4, 9·5, and 11·1 per 1000 respectively. Among the various sanitary areas the lowest rates were 4·9 in St. George Hanover-square, 5·3 in Hampstead, 6·4 in St. Martin-in-the-Fields, 6·6 in Hammersmith, 6·7 in Stoke Newington, and 6·9 in Marylebone; the highest rates were 12·3 in Hackney and in Whitechapel, 13·1 in Limehouse and in Poplar, 13·3 in Clerkenwell, 13·4 in Mile End Old Town and in St. Luke, 13·8 in Bethnal Green, and 15 0 in Battersea. The prevalence of small-pox in London showed a further marked decline during 1897, the new cases notified being only 104, against 2813, 1192, 979, and 225 in the four preceding years; of these, 32 belonged to Camberwell, 10 to the Port of London, 9 to Poplar, and 8 to Strand sanitary areas. The number of small-pox patients admitted into the Metropolitan Asylum Hospitals during 1897 was 86, all of whom were received before the end of July; and no cases have been under treatment in these hospitals since August last. The prevalence of scarlet fever in London during 1897 showed a decline from that recorded in the previous year, the number of cases notified being 22,850, against 18,446, 19,757, and 25,647 in the three preceding years; this disease was proportionally most prevalent in Fulham, Limehouse, Mile End Old Town, St. George Southwark, Newington, St. Olave Southwark, Rotherhithe, and Battersea sanitary areas. During the year under notice 15,256 scarlet fever patients were admitted into the Metropolitan Asylum Hospitals, against 11,271 and 15,982 in the two preceding years; the number of cases under treatment, which had been 3601 at the beginning of the year had declined to 3507 at the end of December last. Diphtheria also showed decreased prevalence during 1897, the cases notified being 13,192, against 11,186, 11,223, and 13,808 in the three preceding years; this disease showed the highest proportional prevalence in Hackney, Holborn, Clerkenwell, St. Luke, Bethnal Green, Whitechapel, Mile End Old Town, Poplar, St. Saviour Southwark, and Camberwell sanitary areas. The Metropolitan Asylum Hospitals contained 829 diphtheria patients at the beginning of 1897; 6592 cases were admitted during the year, and 1066 remained under treatment at the end of December last. The prevalence of enteric fever in London during the year under notice differed but slightly from that recorded in 1896; among the various sanitary areas this disease was proportionally most prevalent in St. Pancras, Stoke Newington, Hackney, Clerkenwell, St. Luke, St. George-in-the-East, Limehouse, and Poplar. The number of enteric fever patients admitted into the Metropolitan Asylum Hospitals during 1897 was 939, against 534, 661, and 600 in the three preceding years; and 116 cases remained under treatment at the end of December last. Erysipelas showed the highest proportional prevalence in Marylebone, St. Giles, St. Luke, Shoreditch, Bethnal Green, St. George-in-the-East, and Rotherhithe sanitary areas. The 264 notified cases of puerperal fever showed a slight decline from the number recorded during 1896; 27 belonged to Islington, 27 to Lambeth, 16 to Kensington, 16 to Newington, 15 to St. Pancras, 14 to Fulham, 14 to Camberwell, and 12 to Poplar sanitary areas.

During the year under notice the deaths of 78,972 persons belonging to London were registered, equal to a rate of 17·7 per 1000, against 17 4, 19·4, and 18·2 in the three preceding years 1894–5–6. This rate was, with one exception, lower than in any year on record, and was 1·8 per 1000 below the average rate in the ten preceding years. In the various sanitary areas the lowest death-rates were 11·8 in Hampstead, 12·8 in Lewisham (excluding Penge), 13 2 in St. George Hanover-square and in Lee, 13 4 in Wandsworth, 13·7 in Plumstead, and 14·3 in Stoke Newington; the highest rates were 22 1 in Clerkenwell, in St. Olave Southwark, and in Bermondsey, 23·1 in Holborn, 23·7 in St. George Southwark, 24·6 in St. Saviour Southwark, 25 1 in Limehouse, 25·7 in St. Luke, and 26·4 in St. George-in-the-East. Taking the five groups of sanitary areas the rate of mortality during 1897 was equal to 16·0 per 1000 in the West, 16·6 in the North, 17·2 in the the South, 21·2 in the East, and 21·8 in the Central districts. To the principal zymotic diseases 11,454 deaths were referred during the year under notice; 4089 resulted from diarrhœa, 2240 from diphtheria, 1927 from measles, 1837 from whooping-cough, 779 from scarlet fever, 566 from different forms of "fever" (including 1 from typhus, 557 from enteric fever, and 8 from simple and ill-defined forms of fever), and 16 from small-pox. These 11,454 deaths were equal to an annual rate of 2·57 per 1000, against 2 64, 2·62, and 3·11 in the three preceding years, 1894–5–6. Among the various sanitary areas the zymotic death-rates ranged from 1·09 in St. George Hanover-square, 1 16 in Hampstead, 1·19 in St. Martin-in-the-Fields, 1 43 in Lee, 1·61 in Marylebone, 1·63 in St. Giles, and 1·66 in City of London, to 3 61 in Clerkenwell, 3 66 in St. Saviour Southwark, 3·82 in St. Luke, 4 07 in Shoreditch, 4 27 in St. George-in-the-East, and 4 35 in St. George Southwark and in Bermondsey. The 16 fatal cases of small-pox registered in London during 1897 were 27 below the corrected average number in the ten preceding years; of these, 5 belonged to Camberwell, 2 to Greenwich, and 2 to Strand sanitary areas. The 1927 deaths referred to measles were 948 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in St. Luke, Bethnal Green, Shoreditch, St. George-in-the-East, Limehouse, St. Saviour Southwark, St. George Southwark, and Bermondsey. The 779 fatal cases of scarlet fever were 311 below the corrected average number; this disease was proportionately most fatal in St. James Westminster, St. Luke, St. George-in-the-East, Bermondsey, and Rotherhithe sanitary areas.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1897.

(*Specially compiled for* THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1897.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,463,169	104	22,850	13,192	4	3106	65	264	5796	38	45,419	10·2	16	1927	779	2240	1837	1	557	8	4089	11,454	2·57	78,972	17·7	158
West Districts.																										
Paddington	128,161	1	489	324	—	46	—	8	136	1	1005	8·0	—	2	21	64	44	—	9	1	102	243	1·94	1214	14·4	149
Kensington	171,427	—	747	332	—	116	5	16	237	1	1454	8·6	—	32	30	81	19	—	21	1	120	304	1·78	2677	15·7	166
Hammersmith	105,959	—	396	164	—	45	4	8	92	1	700	6·6	—	5	11	30	28	—	8	1	128	211	1·99	1760	16·7	171
Fulham	120,040	—	759	388	—	53	5	14	134	1	1354	11·3	—	61	26	63	61	—	12	1	148	362	3·04	2034	17·0	162
Chelsea	96,692	—	488	312	—	52	1	4	98	—	955	9·9	—	18	17	54	41	—	14	—	100	244	2·55	1713	17·8	161
St. George Hanover-square	80,330	1	177	120	—	39	2	1	51	—	391	4·9	—	17	7	16	13	—	10	—	25	88	1·09	1059	13·2	133
Westminster	53,027	—	181	111	—	28	1	4	66	1	392	7·4	—	26	13	24	16	—	6	—	47	132	2·49	1004	18·9	168
St. James Westminster	22,576	3	131	50	—	13	2	1	24	—	224	9·9	—	13	8	3	6	—	3	—	9	42	1·87	393	17·5	165
North Districts.																										
Marylebone	140,808	4	397	221	—	88	1	5	254	2	972	6·9	—	9	9	46	41	—	14	—	108	227	1·61	2572	18·3	136
Hampstead	77,275	—	234	107	—	32	2	2	40	—	407	5·3	—	9	6	17	25	—	5	—	28	90	1·16	911	11·8	127
St. Pancras	242,255	3	942	542	—	223	8	15	388	3	2124	8·8	1	87	24	114	124	—	38	—	209	597	2·47	4518	18·7	168
Islington	341,134	3	1577	733	—	259	1	27	313	1	2914	8·6	1	99	61	129	134	—	46	—	184	653	1·91	5387	15·8	136
Stoke Newington	34,136	2	108	64	—	37	1	3	23	—	228	6·7	—	7	2	19	15	—	10	—	19	72	2·12	488	14·3	121
Hackney	216,698	3	1373	780	—	209	5	11	273	—	2654	12·3	—	127	37	134	97	—	36	—	196	626	2·90	3573	16·5	147
Central Districts.																										
St. Giles	37,840	3	209	56	—	33	—	2	94	—	397	10·5	—	9	7	7	18	—	6	—	14	61	1·63	697	18·5	146
St. Martin-in-the-Fields	12,711	1	44	14	—	5	—	—	17	—	81	6·4	1	1	2	3	5	—	1	—	2	15	1·9	206	16·3	178
Strand	23,552	8	126	41	—	20	—	—	18	—	213	9·1	2	10	3	5	6	—	4	—	18	48	2·06	500	21·3	161
Holborn	30,493	—	119	161	—	25	—	—	46	—	351	11·5	—	6	4	16	19	—	5	—	35	85	2·79	703	23·1	184
Clerkenwell	66,162	—	366	349	—	63	—	2	99	—	879	13·3	1	49	14	48	49	—	11	—	66	238	3·61	1459	22·1	184
St. Luke	41,279	—	238	186	—	41	—	2	85	—	552	13·4	—	40	13	21	28	—	4	—	61	157	3·82	1056	25·7	149
City of London	30,228	2	95	63	—	23	—	2	26	2	213	7·0	1	7	8	10	10	—	9	—	5	50	1·66	642	21·3	130
East Districts.																										
Shoreditch	121,883	1	625	371	—	107	2	2	226	1	1336	11·0	1	116	30	78	63	—	20	—	189	497	4·07	2628	21·6	183
Bethnal Green	129,098	2	723	549	1	106	—	7	383	1	1772	13·8	—	114	25	84	57	1	17	1	140	439	3·41	2761	21·4	171
Whitechapel	79,724	—	500	301	1	65	—	4	119	—	980	12·3	—	45	15	34	16	—	8	—	63	171	2·16	1623	20·4	148
St. George-in-the-East	47,917	1	242	191	—	43	1	3	85	—	566	11·8	—	68	14	28	24	—	10	—	60	204	4·27	1262	26·4	197
Limehouse	58,508	—	427	193	—	52	—	4	87	—	763	13·1	—	63	12	29	37	—	4	—	61	206	3·54	1462	25·1	193
Mile End Old Town	111,883	—	816	445	—	83	—	7	145	—	1496	13·4	—	77	12	62	58	—	23	—	98	330	2·97	2086	18·7	149
Poplar	169,811	9	1041	704	—	195	3	12	261	1	2226	13·1	—	83	28	120	83	—	30	—	175	519	3·06	3363	19·8	170
South Districts.																										
St. Saviour Southwark	24,919	—	131	104	—	16	—	—	28	—	279	11·2	—	32	7	12	12	—	2	—	26	91	3·66	611	24·6	195
St. George Southwark	60,388	1	381	191	—	40	1	1	88	—	703	11·7	1	67	14	28	32	—	10	1	109	262	4·36	1426	23·7	189
Newington	122,191	—	769	331	—	79	—	16	159	—	1354	11·1	—	85	33	65	82	—	9	—	165	439	3·59	2588	21·2	177
St. Olave Southwark	11,480	1	88	29	—	10	—	1	10	—	139	12·1	—	6	2	2	8	—	1	—	15	34	2·96	253	22·1	154
Bermondsey	85,629	1	507	278	—	62	—	1	94	—	943	11·0	—	76	34	62	62	—	13	—	124	371	4·35	1883	22·1	190
Rotherhithe	40,643	—	288	86	—	24	—	4	73	—	475	11·7	—	21	22	21	17	—	2	—	49	132	3·26	766	18·9	174
Lambeth	300,048	2	1388	741	—	184	10	27	322	17	2691	9·0	—	140	42	144	144	—	26	—	295	791	2·65	5247	17·5	151
Battersea	163,877	5	1585	621	1	93	—	7	211	1	2524	15·0	—	79	47	106	79	—	19	—	140	470	2·79	2734	16·2	162
Wandsworth	195,612	1	1024	573	—	98	6	9	239	—	1950	10·0	—	27	29	111	42	—	16	1	144	370	1·91	2606	13·4	135
Camberwell	257,575	32	1191	1170	—	150	1	14	297	—	2855	11·1	5	141	32	170	111	—	31	—	260	750	2·91	4276	16·6	159
Greenwich	178,367	1	818	600	—	144	2	10	239	—	1814	10·2	2	36	32	70	67	—	29	—	180	405	2·27	3058	17·2	157
Lewisham (excluding Penge)	86,152	—	298	219	—	46	—	2	81	—	646	7·5	—	17	9	36	19	—	7	—	69	147	1·71	1099	12·8	129
Woolwich...	41,409	2	224	148	—	18	1	2	36	—	431	10·4	—	2	8	33	8	—	4	—	50	105	2·54	732	17·7	157
Lee	39,215	1	210	110	—	17	—	1	51	—	390	10·0	—	6	3	17	5	—	3	—	22	66	1·43	516	13·2	135
Plumstead	61,057	—	373	135	—	25	—	3	46	4	586	9·6	—	3	6	24	22	—	3	1	61	120	1·97	837	13·7	117
Port of London	—	10	15	4	1	9	—	—	2	—	41	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 388 cases of membranous croup.

† Including deaths from membranous croup.

The 2240 deaths referred to diphtheria exceeded by 223 the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Clerkenwell, Bethnal Green, Poplar, Bermondsey, Battersea, Camberwell, and Woolwich. The 1837 fatal cases of whooping-cough were as many as 797 below the corrected average number; this disease was proportionally most fatal in Clerkenwell, St. Luke, Limehouse, Newington, St. Olave Southwark, and Bermondsey sanitary areas. The 566 deaths referred to different forms of "fever" were 68 below the corrected average number; among the various sanitary areas the highest "fever" death-rates were recorded in Stoke Newington, Clerkenwell, City of London, St. George-in-the-East, and Mile End Old Town. The 4089 fatal cases of diarrhœa were as many as 1119 above the corrected average number; this disease showed the highest proportional fatality in Fulham, St. Luke, Shoreditch, St. George-in-the-East, St. George Southwark, Newington, St. Olave Southwark, and Bermondsey sanitary areas. In conclusion, it may be stated that the mortality in London during 1897 from these zymotic diseases in the aggregate was nearly 7 per cent. below the average.

Infant mortality in London last year, measured by the proportion of deaths under one year of age to registered births, was equal to 158 per 1000, against 143, 165, and 160 in the three preceding years. The rates of infant mortality in the various sanitary areas ranged from 117 in Plumstead, 121 in Stoke Newington, 127 in Hampstead, 129 in Lewisham, 133 in St. George Hanover-square and in City of London, and 135 in Wandsworth, to 183 in Shoreditch, 184 in Holborn and in Clerkenwell, 189 in St. George Southwark, 190 in Bermondsey, 193 in Limehouse, 195 in St. Saviour Southwark, and 197 in St. George-in-the-East.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-COLONEL F. B. SCOTT, C.M.G., lately at Quetta, is appointed Principal Medical Officer of the North-Western District (Chester), vice Surgeon-Colonel J. H. Hughes, who goes to India.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Surgeon-Captain F. Wyville-Thomson (Bengal), are placed temporarily at the disposal of the Government of the North-Western Provinces and Oudh. The services of Surgeon-Lieutenant-Colonel D. W. D. Comins, Inspector-General of Gaols, Bengal, are placed temporarily at the disposal of the Chief Commissioner of the Central Provinces.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major W. H. B. Crockwell, having resigned his appointment in the Volunteer Medical Staff Corps, ceases to belong to the Army Medical Reserve of Officers. Surgeon-Major John Sutcliffe resigns his commission.

VOLUNTEER CORPS.

Artillery: 2nd Middlesex: Surgeon-Captain I. Scarth, M.B., resigns his commission; Leonard Arthur Bidwell to be Surgeon-Lieutenant. 1st Ayrshire and Galloway: Surgeon-Lieutenant T. Easton, M.D., resigns his commission. *Rifle*: 3rd Volunteer Battalion the Lancashire Fusiliers: Surgeon-Captain John Turville Smith, late Captain 1st Volunteer Battalion South Lancashire Regiment, resigns his commission, and is appointed Lieutenant. 3rd Volunteer Battalion the East Surrey Regiment: Surgeon-Captain J. J. de Z. Marshall, from the 1st Cinque Ports Volunteer Rifle Corps, to be Surgeon-Captain. 2nd London: Surgeon-Lieutenant W. A. Bond, M.D., to be Surgeon-Captain.

THE NEWS FROM INDIA AND THE INDIAN FRONTIER.

The news from the Indian frontier as to the reverse sustained by a British column in the Afridi country is most unfortunate and disappointing, not only on account of the loss of life and casualties it involved, but from the effect it is likely to have upon the tribes at a time when there was every reason to believe their further opposition had entirely broken down. The Anglo-Indian press very severely criticises the conduct of the campaign and dwells adversely upon the incompetence and inexperience of many of the officers appointed to posts on the military staff of the expedition. Nor can it be said, after reading the official account in General Westmacott's report, that there was not grave mismanagement somewhere. The mistaken withdrawal of the force, for example, crowning the ridge held to cover the advance of the main body of the troops which was the key of the position, the subsequent entanglement of the column in a mountain gorge and the seeming want of proper precautions to guard against the well-known tactics of the enemy are not pleasant reading. The ridge had to be retaken and reoccupied after hard fighting and the return march was very nearly becoming a serious military disaster. The loss of life and number of casualties among the officers were as usual disproportionately large. It is said that Sir William Lockhart has never had a free hand, but has been hampered and controlled by orders from the Simla Government. Be this as it may the conduct of the campaign as a whole and the military capacity of those conducting it as well as the efficiency of their respective staffs have been already subjected to severe criticism. We know from past experience how any alleged failure of the medical department in the field is apt to become exaggerated and to lead to public inquiry and the purely combatant branches of the service cannot expect to escape altogether. We entirely concur, however, in Sir William Lockhart's remarks as to the extremely difficult nature of the country and the very arduous character of a campaign against the Afridis. And, in spite of this Mamani reverse, we still think that the neck of the tribal revolt has been broken although a spring campaign may have to be undertaken to secure the entire submission of the tribes. To add to the difficulties of the Indian Government at the present time the progress of the plague has not been stayed and there have been serious riots in some of the infected districts.

MUTATO NOMINE.

It is worthy of remark that whereas the officers of our Army Medical Staff are victims to discontent their brethren in our navy being happy a precisely opposite condition of things should be prevalent in the United States. In his annual report for 1896 the Surgeon-General of the United States Navy writes as follows: "Within the past year the number of vacancies in the medical corps has increased, there being fifteen vacancies at the present time, nor does there appear to be any immediate prospect toward filling the corps. Legislation looking toward the improvement of the present status of assistant surgeons in the navy and placing them on a similar footing with assistant surgeons of the army is urgently needed and a Bill having this object in view will be submitted to the Department for its consideration at an early date, with the recommendation that it be transmitted to Congress with a favourable endorsement." It seems that during the fiscal year ending June 30th, 1897, the Department received no fewer than 275 applications for information concerning the appointment of assistant-surgeons in the medical corps of the navy, but apparently the attractions set forth were not sufficiently rose-coloured, for "permits to appear before the naval medical examining boards" were issued to only 44 applicants only. This was bad enough, but the sequel is still worse. Of the 44 prospective competitors 8 failed to put in an appearance, 8 more were rejected on physical grounds, and 19 were found to be professionally unfit. In the end only 9 candidates succeeded in proving themselves to be physically and technically qualified for admission into the medical corps of the navy.

PROPOSED AMALGAMATION OF THE BRITISH AND INDIAN MEDICAL SERVICES.

The *Pioneer Mail* of Jan. 14th has an article, or rather a series of articles, on the above subject *apropos* of the anticipated issue of a new medical warrant and the question of purely military titles for the Indian Medical Service being complicated by the fact of the latter service being divided practically into a civil and military portion. Our contemporary goes somewhat fully into the history of the subject of the amalgamation of the military medical services and says that whether it be carried out or not it is difficult to resist the conclusion of a Surgeon-General of Her Majesty's forces that "the division of civil from military duties must be trenchant and distinct." The *Pioneer Mail* adds that it is certain some fresh recommendation will be made by the Welby Commission, which took some important evidence on the question tending to show the unsatisfactory nature of the existing system in both its military and civil branches.

DEATHS IN THE SERVICES.

Staff-Surgeon John Stewart, M.D. St. And., L.R.C.S. Edin., R.N. (retired), at his residence, Craigard, Kinnoull, Perth, on Jan. 28th. He was born at Perth in 1810, and entered the Navy in 1836, being appointed to the *Bellerophon*. He was present in 1840 at the bombardment of St. Jean d'Acre and Beyrout, on the coast of Syria, and subsequently joined the frigate *North Star*, and was present at the bombardment of Woosung in China. During the siege of Sebastopol he served on board H.M.S. *Sphinx*, and was later engaged at Therapia, Constantinople. In addition to the Sebastopol clasp and the Order of the Medjidieh he received five medals.

THE ESCAPE OF SOLDIER LUNATICS.

Two insane patients quite recently managed to effect their escape from the lunatic ward of the Cambridge Hospital at Aldershot by forcing out two of the heavy iron bars of the window. The two soldiers were subsequently captured at Guildford.

THE SOUDAN EXPEDITION.

According to the latest intelligence the Dervishes were evacuating Metemmeh and concentrating at Omdurman, where they were strengthening the defences. The Anglo-Egyptian force is encamped on a healthy site in the desert in the vicinity of the Nile and is very healthy.

Consequently on the reductions in the Army Staff of the Tirah field force Brigade-Surgeon-Lieutenant-Colonel Thomsett has returned to ordinary duty.

Correspondence.

"Audi alteram partem."

THE INTERNATIONAL MEDICAL CONGRESS AT MOSCOW.

To the Editors of THE LANCET.

SIRS,—A few weeks ago I received from the British Consulate a beautifully executed address to the following effect signed by ninety-nine British medical visitors:—

> "To Professor Roth, the Secretary; the Organising Committees;
> the Ladies' Committee; and the Students of Moscow.
>
> "We, the undersigned Members of the Twelfth International Medical Congress held at Moscow, 1897, desire to express our appreciation of the admirable manner in which the arrangements of the Congress have been carried out, and we desire especially to acknowledge with cordial thanks the hospitality and kindness we received alike from the organising committees of the medical profession in Moscow, St. Petersburg and Warsaw, as also from the Russian people in general."

I did all that was possible to make the contents of the address known to the persons concerned, who, I am in a position to state, were extremely gratified. The Executive Committee of the Congress have charged me with the agreeable task of expressing to our colleagues our best thanks for this kind mark of attention and I therefore beg you to insert this letter in THE LANCET.

I am, Sirs, yours faithfully,
W. K. ROTH,
General Secretary of the Twelfth International Medical Congress.
Moscow, Jan. 28th, 1898.

"IDIOPATHIC DILATATION OF THE COLON."

To the Editors of THE LANCET.

SIRS,—In the excellent and interesting paper on "Idiopathic Dilatation of the Colon" by Mr. Frederick Treves published in THE LANCET of Jan. 29th he ventures the opinion that "there is strong evidence to support the suggestion that *all* cases of idiopathic dilatation of the colon in young children are due to congenital defects of the terminal part of the bowel." I am convinced that this statement is too absolute. No doubt the majority of extreme cases, where the distension is enormous, so great as to threaten life, and the outcome of which is indeed almost invariably fatal, are the result of actual mechanical obstruction from congenital stricture of the lower bowel. Several instances of this extreme form due to congenital malformation of the gut have come under my own observation. All have been fatal and all have occurred in very young children. The extreme degree of dilatation, accompanied by all the symptoms of dangerous embarrassment of vital organs, does, however, occur in children as the result of extreme and persistent constipation alone, aggravated often by injudicious treatment but without organic stricture.

Dilatation of the colon is an almost constant accompaniment of chronic constipation in children; it is usually not excessive, but often sufficient to cause bulging of the lower costal cartilages and upper abdomen and pushing up the organs above so that the heart's apex may be displaced to the nipple or above it and tympanitic resonance extend upwards to that level.

In a clinical lecture on this subject published in THE LANCET in December, 1886, I gave a full account of a case in a boy of five and a half years, under my care at the Children's Hospital, Great Ormond-street,[1] in which the dilatation was as extreme and the symptoms apparently as urgent as that on which Mr. Treves performed his brilliant operation. Without repeating the case in detail I may say that the heart was pushed upwards, the apex being above the nipple in the third left intercostal space and pulsation was marked in the first and second left spaces above it also. No source of obstruction could be detected. The boy was in great distress, vomiting constantly, cyanosed, cold, collapsed, with intermittent pulse and threatening of syncope. The condition of the patient became so urgent and indeed desperate that I decided to puncture the transverse colon to relieve the deadly upward pressure of the distended bowel. This was done accordingly without further delay with a fine trocar duly sterilised. Gas issued freely through the tube and a large quantity was allowed to escape. The distension subsided, the urgent symptoms were forthwith relieved, and the patient eventually recovered.

It may be said that after all there is no positive proof of the absence of organic obstruction, since there was fortunately no post-mortem examination. The proof lies, I think, in the sequel — which is not recorded in the lecture referred to — viz, the fact that the patient recovered not only at the time but permanently. Under a course of massage and electric stimulation of the gut combined with the exhibition of strychnia and saline laxatives, treatment extending over a long period of many months, the colon recovered its calibre and tone and the bowels acted spontaneously without aperient medicine. The case remained under my observation for several years after this re-establishment of function and the recovery proved final and complete. I do not think it can be conceived possible that such permanent recovery could take place if the dilatation were due to obstruction through any organic stricture of the gut below.

I am, Sirs, yours faithfully,
Jan. 31st, 1898. W. B. CHEADLE.

"LEGISLATION AS A REMEDY FOR MEDICAL GRIEVANCES."

To the Editors of THE LANCET.

SIRS,—I am afraid from his allusion to my "address" reported by you in THE LANCET of Jan. 22nd that Dr. Carr has not had the opportunity of reading the address itself published by you on Jan. 1st. What you published on the 22nd was only my reply to Mr. Carter's address. If Dr. Carr will kindly refer to mine of Jan. 1st he will find that he has inadvertently failed to meet the whole basis of my argument — namely, Section 6 of the Medical Act of 1886, according to which upon registered practitioners alone is conferred the privilege of being "entitled to practise medicine, surgery, and midwifery." If he will also refer to the Medical Act, 1858, he will find that my definition of a duly or legally qualified practitioner as only a person whose name is on the Register is without doubt correct as I always quote it from Section 34. I feel sure that a completer study of medical legislation will convince Dr. Carr and those who wish to deal earnestly with the problems of medical reform that there is more in our Medical Acts than many believe or others care to admit.

May I also allude to a curious misconception which is evidently not confined to Dr. Carr? I never attacked, as he evidently thinks I did, either the status or rights of the members of the Society of Apothecaries. I simply showed at the General Medical Council that a new claim put forward by Mr. Upton was based upon his wrongful employment of the word "qualification." My letter in THE LANCET of Jan. 29th deals with this matter.

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[1] THE LANCET, Dec. 11th, 1886, p. 1117.

I am, Sirs, yours faithfully,

Cavendish-square, W., Jan. 31st, 1898. VICTOR HORSLEY.

"THE WHOLE QUESTION OF NURSING."

To the Editors of THE LANCET.

SIRS,—I have recently received a letter from the Incorporated Medical Practitioners' Association enclosing an article reprinted from its official organ, the *Medical Times and Hospital Gazette*, requesting me to vote for a motion for the appointment of a Select Committee to inquire into "the whole question of nursing," which appears to include the midwives agitation and the trained nurses' movement. A Bill was introduced into Parliament last session entitled "A Bill for the Registration of Midwives," and this Bill will probably be brought forward again this year and doubtless the subject has already been fully considered by the medical profession. The reprint states that "a large number of trained nurses are asking for protection and some means of organisation amongst themselves and control over their calling, and, further, that the medical profession demand a public inquiry on the simple and conclusive grounds that the present state of affairs is fraught with the gravest injury and danger to the public." Now, Sirs, I constantly meet a large number of the medical profession both in town and in the country and I have never heard of any such demand expressed, but on the contrary those whom I have consulted on the matter deny that there is any demand at all. Thus I venture to write and ask your views as to whether you consider that the Incorporated Medical Practitioners' Association is entitled to speak authoritatively in the name of the medical profession? It appears from the circular that a Dr. Hugh Woods is the president, Dr. Bedford Fenwick the president of the Council, and Mr. Frank Greaves the secretary—names that may be well known in the profession, but quite unknown outside of it to the general public.

The Royal British Nurses' Association, incorporated by Royal Charter, most carefully presided over by Her Royal Highness Princess Christian and otherwise influentially supported, appears to me to do everything that is required for the protection of the public and for the nurses themselves against imposture by unqualified ones. I should feel grateful for your opinion as the matter will shortly come before us in Parliament. I am, Sirs, yours truly,

Jan. 28th, 1898. G. B. HUDSON.

*** The Incorporated Medical Practitioners' Association is not entitled to speak authoritatively in the name of the whole medical profession. For all intelligent attempts on the part of the rank and file of the profession to obtain for themselves greater political freedom we have respect, but the views of certain of the leaders of this association upon nursing must be received with caution.—ED. L.

"THE LIMITS OF PROFESSIONAL SECRECY."

To the Editors of THE LANCET.

SIRS,—In your leading article in THE LANCET of Jan. 29th on the case of a man who died in Guy's Hospital after being stabbed you give the very important opinion: "We therefore consider that Dr. Perry" (the medical superintendent) "and the house surgeon acted in the only way in which they could have done either from the point of professional rectitude or that of expediency. It would be a sorry day for hospitals if it came to be known that they were, in addition to their health-giving functions, the portal to a criminal dock, and although the prevention, detection, and punishment of crime are matters which every good subject ought to have at heart such cases are not the objects for which hospitals were founded nor are their officers to be regarded as agents of the law." I so entirely disagree with you that I take the liberty of writing to say so and as I have for many years had special reasons for turning my thoughts to the dealing of criminals in the court-house and in prison I feel justified in expressing my opinion.

It is my firm conviction that no medical man in a case of murder has any justification in withholding professionally acquired evidence; and, further, that if he has a suspicion that a murder or manslaughter has taken place, or that a murder has been attempted, he ought to draw the attention of the proper authorities, leaving them to judge of the necessity for a public investigation. No medical man can have the right to fill the position of a judge and jury or in any way to compound a crime by keeping silence. I say, again, let him suspect that one has even been attempted and it should be his duty without fail to inform the criminal authorities whose business it would be to investigate. As for injured people being deterred from going, or from being sent, to a hospital because of the public knowledge that hospital surgeons and physicians are given to the common practice of reporting suspicious cases to the police I would say if it must be so it must be. If the injury is at all dangerous to life some medical man will see the injured one and the result should be the same. Let the offender hide himself if he can, but let it be commonly known that he will have no assistance from medical men. Hospitals and prisons are capital places for dangerous criminals (by committing minor offences) to hide in, but the officers of neither one nor the other should shield them.

I would not suggest that medical men should report purely suicidal cases. As you say, to attempt suicide is criminal, but the poor wretch if he recovers is in most instances sorry for his misdeed and if he does not recover a coroner's jury will find that he was temporarily insane. And let us so judge the ones who recover. A suicide only offends against himself except for defiling the place wherein he takes his life. He has not, as in the case at Guy's Hospital, attempted the life of a fellow creature. I think that attempted suicide is properly made a crime, for the law thus helps to prevent the offence becoming common. But that the offence should be punished by conviction is another thing. In this part of England I can say from my prison experience of many attempted suicides—and bad surgical cases some of them—that magistrates are content, after having dealt with would-be self-murderers by remanding them for a week or more, to dismiss them in the charge of their friends. Accordingly medical men do not act contrary to the spirit and the common-sense of the law if they refrain from informing the police of any case under their care. Last year I learnt from one of my prison patients, a Frenchman, that no notice was taken in his country of an attempt at suicide. He was much surprised at the behaviour of our police and I can add that he was, as many are, very delighted to get well from his self-inflicted wound, so English law has saved him to, we may hope, "ever after live happily."

A case which happened in this city about a year ago peculiarly illustrates my opinion with regard to a medical man's behaviour in the question of murder. A woman in company with a man in a cottage was stabbed in the left thigh, the profunda artery being cut through. The nearest medical man called in was the city coroner. He, I believe, did his best by cross-examination to ascertain whether the wound was self-inflicted or not and was led to understand that it was a case of suicide. The body of the woman, who died about twenty minutes after the injury, was taken to the hospital close by. The senior house surgeon, assisted by his junior, made a post-mortem examination, and he gave evidence at the inquest before the said coroner that the wound was self-inflicted. The junior house surgeon has recently told me that it has always been his strong conviction that the wound could not have been self-inflicted. At the time of his telling me I said that he ought to have offered his evidence to the coroner, that it should have been his duty to do so, and to have left the sifting of the evidence, whether the wound was self-inflicted or not, to the coroner and his jury.

I maintain I was right, although here we have the additional deterrent that he would have had the unpleasantness of presenting evidence totally at variance with that of his friend and his senior. Of course, hospitals were not founded, as you say, for the detection of crime. Nor were they founded for shielding crime, nor were hospital surgeons and physicians intended to act as harbingers of criminals. It is reasonable to expect a medical man to keep secret when injuries are self-inflicted, as in cases of suicides, abortions, poisonings, &c., but not in cases of murder, manslaughter, rape, poisoning by another, burglary, &c.; and, I would add, it is not "a point of expediency" that they should. Such secrecy does not aid the protection of their fellow creatures which should be everyone's aim.

I am, Sirs, yours faithfully,

Canterbury, Jan. 28th, 1898. PUGIN THORNTON.

"THE MARKING OF INFECTED HOUSES."

To the Editors of THE LANCET.

SIRS,—Regarding the statements of Dr. George Woodward in THE LANCET of Jan. 29th respecting "placarding houses in which are contagious diseases" and that "such a custom would not be tolerated in England," together with your own observation to the effect that "the practice is, however, unknown in modern England," I beg to say that during an epidemic of small-pox in the Chesterfield Union in 1888 I had every infected house with this disease spotted above the front door with a placard printed in large red letters: "This house is infected with small-pox." On any fresh case coming to my knowledge I always took the bill-poster with me and under my own eyes every infected house was so marked and made conspicuous to the public and I am confident this warning was the means of keeping people away from the more immediate sources of danger and assisted considerably in abating the general outbreak at that time. I may add that I found no special objection to the practice either in the rural or urban districts, and it was continued until the epidemic disappeared from the union. So far as I know I was the first to adopt this practice in England if not in the United Kingdom.

I am, Sirs, yours faithfully,

ANGUS MACINTOSH, M.D. Glasg.,
Medical Officer of Health, Combined District,
Chesterfield, Jan. 29, 1898. Chesterfield Union.

THE LEGAL POSITION OF THE GENERAL MEDICAL COUNCIL AND THE MEDICAL DEFENCE UNION.

To the Editors of THE LANCET.

SIRS,—I am glad to find that Mr. Lawson Tait gives credit to the Medical Defence Union for continuing the policy initiated by the Council when he was President. In the suppression of unqualified practitioners wherever these may be found the Union has ever tried to do its duty; but that duty has been rendered harder and more difficult by the varied interpretations placed upon the Medical Acts by magistrates and even judges.

With regard to the question raised by Mr. Tait in reference to the "penal cases" brought by the Union before the General Medical Council the old fallacy of considering that august body as a legal tribunal is again brought to the front. The General Medical Council has a certain penal power granted to it by Act of Parliament and after "due inquiry" it has the right to erase "a name" from the Medical Register. This penal power does not make the Council a legal tribunal—it is merely a "domestic forum" sitting as a body of professional men to hear professional charges made against registered practitioners. It has no power to issue summonses for the attendance of witnesses, no authority to administer the oath, no right to "commit for contempt," and no jurisdiction over costs. It was considered by the Council of the Medical Defence Union some years back—Mr. Lawson Tait being president—that the charges of "covering" and unprofessional conduct could be presented before the General Medical Council better by a medical man than by a solicitor into a legal tribunal with all the attendant rights and privileges peculiar to a court of law. There it will be, of course, necessary to instruct either counsel or solicitors to appear in support of the charges incidental to these penal cases.

I am, Sirs, yours faithfully,

Devonshire-street, Portland-place, W. A. G. BATEMAN.

INTERNATIONAL LEPROSY LEGISLATION.

To the Editors of THE LANCET.

SIRS,—It has always been my opinion, and it is what I have been contending for several years, that an *international leper law* is absolutely necessary to solve the universal leper problem. Some authoritative international body must be appointed to establish that law with the power of the Governments behind it. I proposed that there should be an international committee and that it should promulgate rules binding on every Government. This proposition of mine was rejected by the Berlin Lepra Conference as inopportune. In its place an international leprosy society was recommended. This is the society which had Professor Virchow, a non-contagionist, as its first president. It will be a society on the model of all other medical associations of the kind—for instance, the New York County Medical Society, on the authority of which useful body the lepers of New York were turned loose. My proposition was that the German Government should invite every civilised country to send a delegate with powers to act in matters of leprosy, these delegates forming the international committee.

In no other way can international legislation be enacted and enforced. The menace to this country from leprosy is from South America, West Indies, China, Japan, and Norway. We are interested, therefore, in having these countries settle their leper problem. To settle our own is comparatively a trifling matter. But if these countries are remiss—as they will be without international regulations—they will import the disease into this country and that in spite of all the precautions by which we may endeavour to defend ourselves. The infected bodies will come before the disease has broken out when it is still in a state of incubation. These men, thus unwittingly carrying into our country the hidden germs, would under the rule of a rational law have been kept aloof from contamination or if they had been exposed to it would have been kept under surveillance for a certain number of years by a board of health. Of course, a member of a leprous family would always be under the suspicion—that is, unless he had passed in healthy circumstances the maximum of the period of incubation. No man from a leper country would be permitted to emigrate without a clean bill of health. It would be a penal offence for a steamship company to carry a passenger from a leper country without this certificate.

The West Indies offer one interesting instance. Beaven Rake found in his asylum in Trinidad of 216 patients 74 Hindu coolies and he asks the question—Where do they get the disease? "We are told," says he, "that there are 250,000 lepers in India and it is therefore hardly fair to suppose that all the Hindus who develop leprosy in Trinidad become infected here. It is far more likely that in some or many of them the disease is already incubative when they land here, though it may not be evident enough to ensure rejection after medical examination." This proves clearly that a purely national law would not suffice for our protection. That law would control lepers at home and prevent the introduction of visible, evident cases; but as long as, by international agreement, the departure of dangerous people for these shores is not made impossible the peril cannot be conjured.

The international method is in operation to-day in Hawaii against Japanese and Chinese importation and it has served to keep in Japan, in 28,000 emigrants, all but four lepers who were sent back. There are in Molokai at the present moment only two Japanese lepers. Yet not only has Japan 23,647 registered lepers, but three times that number who have not been registered. It would be well if we adopted this Hawaiian leper-law; it is better than the Norwegian, which the Congress of Berlin sanctioned, but which is not complete enough. This mixed law of Norway has served only to transfer the leprosy problem of Europe to America. 175,000 Norwegian emigrants, many or most of them of leprous families, have come to our north-west and have constantly to be watched; 147 of them imported leprosy. Several things in the conclusions of the Berlin Congress, I may say in passing, were the result of compromise.

I am, Sirs, yours faithfully,

New York, Jan. 24th. ALBERT S. ASHMEAD, M.D.

THE SPREAD OF PUERPERAL FEVER: A SCHEME.

To the Editors of THE LANCET.

SIRS,—Excuse me troubling you for your opinion and advice on the following matter. In this borough we have a good many cases of puerperal fever. I do not say we are worse or better than other like places. I have long come to the conclusion that the midwives carry the disease about. There are perhaps three dozen in the town and only two to my knowledge have had any instruction. I have proposed at different times to some of my *confrères* that we should bring the midwives together, instruct them in the use of antiseptics, giving each a certificate and extending our help and support to them. To those who refused (if any) we would simply say that they were acting at their peril and had not our cognizance and moral support.

Some of my *confrères* think the plan feasible, others fear it would not receive sufficient support all round. I feel confident I can get all to join in giving me their help, though probably some would refuse to take or, rather, neglect to take any active part. Fearing a failure from the above cause I have thought that could we get the initiative to come from outside the profession our position would be much strengthened, and I have little doubt but that we could soon get a strong party of ladies of influence and intelligence to make a move. I do not wish to trouble you with detail and I have also a feeling that you will say this is a subject which requires treatment by higher powers, &c. In reply to such a suggestion I would say that it is a severe trial to attend at the bedside of strong young women in the prime of life feeling that you are comparatively helpless and knowing that the complaint which is killing them is one that might have been prevented. I say it is a severe trial to wait with patience till the powers that be come to your aid, and it is much harder still if there is any chance of success by one's own efforts. If you will kindly let me know what you think of the scheme I will be very grateful. Hoping I have made it sufficiently clear, I am, Sirs, yours faithfully,

Heywood, Lancs, Jan. 29th, 1898. THOMAS LAIRD.

⁂ So far from advising practitioners to wait for the action of higher powers we are always urging them to deal with such matters for themselves as promptly as possible. We think that such a meeting of the medical men of the locality would be a most sensible proceeding and do not see how anything but good could come of it. It seems to us that proper nursing with antiseptic precautions by fit people under the ægis of the medical profession would follow, and we do not think a better sequence could be desired. The success of the scheme depends on the unanimity of the profession in the neighbourhood.—ED. L.

"THE OPERATIVE TREATMENT OF CLEFT PALATE."

To the Editors of THE LANCET.

SIRS,—I read with much interest Mr. Edmund Owen's clinical lecture under the above title in THE LANCET of Jan. 29th and was pleased to learn that he practises in favourable cases closure of the palate during infancy. The chief object, I take it, in closing a cleft palate is to render the powers of speech more perfect than they otherwise would be and if the operation is postponed (as usually recommended in surgical text-books) until the third year of life or later the child by that time has probably learnt to talk and necessarily to talk badly, a habit once acquired very difficult to overcome completely.

At a recent meeting of the Liverpool Medical Institution I brought forward several children whose palates I had closed some three or four years ago. Their ages at the date of operation varied from eight months to eighteen months and the clefts involved the soft and part of the hard palate. These children now talk in a perfectly natural manner, it being quite impossible to detect from their speech that they ever had cleft palates. Mr. Owen and other surgeons have doubtless had a similar experience.

I am, Sirs, yours faithfully,
R. W. MURRAY, F.R.C.S. Eng.,
Surgeon to the Liverpool Infirmary for Children.
Liverpool, Jan. 31st, 1898.

THE NOTIFICATION OF INFLUENZA.

To the Editors of THE LANCET.

SIRS,—May I ask you why no means are taken to check the spread of the most contagious, widely-spread, and formidable epidemic—viz., influenza? One cannot take up a paper or consult any friend without seeing or hearing of someone being either ill or dead or permanently affected by that dreadful disease. It is quite a common case to hear invalids say, "Never the same since the influenza." From 50 to 100 deaths weekly in London are directly due to influenza, besides those who recover, very many of them being permanently invalided, is no small matter. Those recovering from influenza (which is most undoubtedly highly contagious and often contracted severely by almost momentary contact with very slight cases) are allowed to go travelling about, to concerts, theatres, churches, and elsewhere; while those recovering from scarlet fever, measles, and suchlike complaints would be heavily fined (which has had a very desirable effect). Why cannot this fearful scourge be included in the Notification of Infectious Diseases Act and treated accordingly? I expect that will be the only way of checking the vast amount of misery and loss of life this disease causes and the sooner it is adopted the better.

I am, Sirs, yours faithfully,
Worcester, Jan. 31st, 1898. W. WOODWARD, M.D. St. And.

AN APPEAL FOR ASSISTANCE.

To the Editors of THE LANCET.

SIRS,—I venture to appeal through the columns of THE LANCET to the charitable of our profession for financial aid in a most deserving case. Mrs. Tickler, of Cavendish-road, Harringay, is both aged and infirm; she is the widow of a Lincolnshire surgeon, who died about ten years ago, leaving her but poorly off, so that she has practically great difficulty in making ends meet. Her two daughters give her such aid as they can, but their occupation is not very constant or remunerative.

I shall be pleased to start the list by a donation of two guineas and also to act as Treasurer, should you wish it, due acknowledgment being made through your columns.

I am, Sirs, yours faithfully,
JOHN HUTTON.
2A, Harringay-gardens, Green Lanes, Feb. 1st, 1898.

"TREATMENT OF PNEUMONIA BY INHALATIONS OF OXYGEN GAS."

To the Editors of THE LANCET.

SIRS,—The case reported by Dr. Alex. M. Erskine in THE LANCET of Jan. 29th is not without interest as showing what can and what cannot be done by the inhalation of oxygen, but I think that the result might have been predicted without making the experiment. If the patient had been promptly and sufficiently bled—say, 15 or 20 oz., repeated if necessary—instead I am confident that much better results would have been attained and more easily. The woman's serious condition would have been speedily relieved and in all probability she would have recovered, being "a strong, healthy woman." I could cite several instances in corroboration of what I say and I believe that nothing is so efficacious as venesection.—I am, Sirs, yours faithfully,

F. LUCAS BENHAM, M.D., M.R.C.P. Lond.
Elizabeth-street, S.W., Jan. 29th, 1898.

"A CASE OF JEALOUSY."

To the Editors of THE LANCET.

SIRS,—The case of morbid jealousy so graphically described in THE LANCET of Jan. 22nd by Dr. William O'Neill opens up many points of sociological, psychological, and medical interest. Jealousy, it should be noted, does not arise out of physical love alone, being common in children and in grown-ups unsusceptible of this form of love. In the unmarried it seems to be about equally developed in either sex, but after marriage it is much more pronounced among the women, and this not because they have a greater disposition to it but because the provocation is greater in their case. As I have pointed out in my "Differences in the Nervous Organisation of Man and Woman," man is descended from polygamous ancestors and to pretend that he does not still retain a large measure of the polygamous instinct is to wilfully shut one's eyes to facts. Woman, on the other hand, is essentially a monogamous being, and it is probably largely owing to this fact that monogamous marriage prevails among civilised peoples. The human race, I take it, is now passing from a polygamous to a strictly monogamous era. At the present time there is a clashing of opposing instincts, with much resulting social disaster, but in process of time we may expect the monogamous instinct in man to be as powerful as in some of the lower animals. Now the emotion of jealousy is playing a large part in affecting this consummation, for although when inordinately developed in the woman it may actually drive the man to inconstancy by causing a constant breach of peace at home it for the most part operates in the opposite direction, for if the woman were indifferent to the man's inconstancy the path of inconstancy would be made easier for him than would otherwise be the case. Woman's jealousy is, in fact, a tremendous social power and one which has been strangely overlooked by the sociologist. As showing its extreme frequency, I may mention the fact that a barber's assistant recently informed me that he did not intend to marry; he had, so he said, seen too much of married life in others to be greatly disposed to embark upon it himself, for in all the five families in which he had lived as assistant the wife had been a veritable Mrs. Snagsby.

The subject of jealousy is equally interesting from the psychological standpoint. I have never been able to understand its mode of evolution; we seem to be as ignorant in this respect as we are of the evolution of the artistic temperament, neither of which can have evolved by natural selection. Is it not a remarkable fact, I may here ask, that one person should be so greedy for the *sole* love of another? I do not mean physical love, but love of any kind. If men had reached the highest ethical standard they would presumably all love one another equally. Must we not regard the inability of one individual to intensely love more than one or two others as a psychological defect? Nevertheless it is a defect which many a noble character would not willingly see corrected. This is one of the many arguments which could be advanced in favour of the view that man in his present stage of psychic evolution is imperfectly equipped for a realm of perfect bliss and requires to pass through a series of higher and higher evolutions before attaining to his highest destiny.

Nor are the phenomena of jealousy less interesting from a medical point of view. The inordinate development of this emotion always betokens a neurotic diathesis and not infrequently indicates the on-coming of insanity. It is responsible for much useless suffering and not a little actual disease, as Dr. O'Neill does not fail to point out.

I am, Sirs, yours faithfully,

Wimpole-street, Jan. 22nd, 1898. HARRY CAMPBELL.

ST. JOHN AMBULANCE ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—The St. John Ambulance Association propose to institute a course of home hygiene and in place of making use of the assistance of a qualified medical man to lecture have made regulations for the examination of "secretaries and executive officers of centres and class secretaries, the clergy, school teachers, county council lecturers, and all who are willing to occupy a portion of their time in spreading useful knowledge" for lecturers' certificates. It is further stated that "the attendance at a course of lectures before examination for a lecturer's certificate is not compulsory." The course consists of ten lectures of an hour and a half each and the honorarium is the magnificent sum of £5. I hope that a decided stand will be made by all branches against this innovation, which is a departure from the rule of the Association only to employ registered medical men. The branch of which I am chairman has sent the following resolution to the head office and I hope that others will follow our lead.—I am, Sirs, yours, faithfully,

BERTRAM M. H. ROGERS,
Chairman of the Bristol Centre of the St. John
Clifton, Feb. 2nd, 1898. Ambulance Association.

Bristol Centre St. John Ambulance Association.

The Executive Committee think that the proposed employment of lecturers other than medical men, who have always hitherto officiated in that capacity, to conduct classes in hygiene in connexion with the Home Hygiene course is much to be deprecated and cannot be done without loss of prestige to the St. John Ambulance Association.

TITLES OF BOOKS PUBLISHED 1890-1897.

To the Editors of THE LANCET.

SIRS,—We are preparing to publish early in the spring Volume V. of the "English Catalogue of Books," 1890-1897. As we wish to make it as complete as possible may we ask those of your readers who have published books between Jan. 1st, 1890, and Dec. 31st, 1897, for the full titles, sizes, prices, month and year of publication, and author's and publisher's names, to be sent as soon as possible, addressed to Editor, "English Catalogue of Books"?

We are, Sirs, your obedient servants,
SAMPSON LOW, MARSTON & CO., Limited.
St. Dunstan's House, Fetter-lane, London.

P.S.—Particulars of books which have already appeared in the annual volumes of the "English Catalogue of Books" are of course not required.

THE PLAGUE IN INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

WHILE plague is raging with all fierceness in Bombay an unfortunate difference in policy seems to actuate the municipal body and the Plague Committee. Last year when the outbreak assumed such large dimensions practically all sanitary measures for dealing with the disease were taken out of the hands of the municipality and a Plague Committee was formed with full powers for dealing with it. This committee has elaborated a great organisation for inspection, disinfection, and segregation, but the disease still holds sway and the recrudescence now existing seems to exceed in virulence and extent the original outbreak. During the interval the preventive inoculation of M. Haffkine has been largely practised at Mora, Damaun, Kirkee, and Lanowli. The results have proved extremely satisfactory. On the strength of these the municipality is actively moving and has established six inoculating stations, while curiously enough the Plague Committee has taken no action at all on this line and even refuse to devote any of its funds to this purpose. This want of union at a time of disaster is most lamentable. As a scientific tactical move the municipality has scored, because there is little reason to doubt that the successful results of inoculation will be repeated, while the Plague Committee has tied itself to the extremely difficult work of discovery of cases and segregation of contacts, which is not only most unpopular but can hardly be said up to date to have produced any favourable results whatever. Meanwhile the deaths in Bombay number nearly 1000 over the usual weekly average, the rate being 81·18 per 1000 as against the average death-rate of 43·59 per 1000. The registration of deaths is very unsatisfactory. The attendants at the cemetery are permitted to accept any cause of death which may be stated by the friends with the result that all sorts of diseases are registered instead of plague, in consequence of the systematic resort to concealment and the deception which is so largely practised. The only guide thus left is the amount of the total mortality above the average. It is proposed, however, to give the committee power to compel registration of death with the district medical officers.

In most places other than Bombay the plague seems on the decline. The city of Poona, which was so devastated not only by the primary outbreak last spring but by the recrudescence in the later period of the year, is now rapidly clearing itself and measures are being taken to disinfect all those who return to the city after their flight during the past year. For this purpose a cordon is placed round the city with disinfecting sheds at the chief road entrances and also at the station.

Jan. 14th.

AT the meeting of the Newport Board of Guardians held on Jan. 25th it was decided to take steps to obtain a loan of £38,000 for the reconstruction of the workhouse.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Hospital Sunday Collections.

THE Lord Mayor (Councillor Beale) has issued a circular to the chairmen of all the hospitals and other charitable institutions in the city participating in the Hospital Sunday collection which embodies a very important suggestion. Hitherto the collection in each year has gone in turn to the General Hospital, the Queen's Hospital, and the amalgamated charities, so that for each it is a triennial one. He now proposes that this system should be abolished and that the yearly contributions on Hospital Sunday should be divided equally among these three charities. He points out that from a business point of view the income will be paid over annually and will entail less bookkeeping and clerical work; that all the charities will be equally affected by local conditions of trade and other demands; and that the alteration will put the whole subject upon a broader basis, abolishing any spirit of competition or jealousy and emphasising the public obligation towards the charities generally rather than the claims of any one institution as compared with those of another. The question is essentially a practical one, which no doubt will be benefited by open discussion.

Singular Illness at Hatton Asylum.

A remarkable number of cases of serious illness have occurred among the residents and guests who were present at a ball given at the asylum on Jan. 21st, one of the nurses succumbing to the effects. Many vague rumours arose in the district as to the origin of the illness and the coroner opened an inquiry on Jan. 29th, in which the fatal case was considered. Evidence having been given as to the previous health of the nurse, aged thirty-six years, the coroner said that acting on the instructions of the Home Office the stomach and various portions of the internal organs would be sent to Dr. Stevenson, of Guy's Hospital, for analysis; the inquest was therefore adjourned until Feb. 18th. It is stated that about a hundred persons were affected. A public investigation is deemed necessary in the face of the peculiar symptoms presented by many of the patients and the conflicting explanations suggested by various authorities.

Feb. 1st.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Water-supply.

THE Waterworks Committee of the Manchester Corporation have had under consideration the circular letter of the Local Government Board calling attention to the water-supply. In the autumn of 1894 various complaints were made as to the quality of the water supplied to certain districts and the committee decided to obtain an independent examination and report. Professor Dixon and Professor Delépine were appointed on the recommendation of Dr. Ward who was then the principal of Owens College to carry out this work for the committee. They were given a perfectly free hand and were authorised to print their report without conference or consultation with any members of the Waterworks Committee or officials. In January, 1895, they reported that they had personally collected from the mains samples of the water representing all the reservoirs supplying Manchester. No bacteria associated with infectious diseases could be found in any of the samples examined and the chemical examinations also showed that there was no sewage contamination. A copy of this report has been forwarded to the Local Government Board with a statement that attention has been in the past, and will be in the future, directed to the subject of the water-supply of the city. The complaints as to the water in certain districts arose from some local inattention to the pipes in most cases, but some years ago there was a somewhat general outcry that the water from some of the reservoirs had a "fishy" taste, and this illustrated in a very pretty fashion the result of what is called disturbing the balance of nature. It was found that water-snails had increased to an enormous extent, for there was nothing to check this increase. There were no fish, and the chemist of the corporation, who was also an accomplished angler, advised the introduction of trout, with the result that in a comparatively short time this unpleasant taste disappeared and the complaints ceased. It need scarcely be said that the condition of the water is carefully watched, for the excellence of its water-supply is a matter as to which the corporation thinks itself fairly entitled to credit.

The Recent Attempt at Blackmailing: Sentence on the Offender.

In November last, it will be remembered, an impudent attempt was made to levy blackmail on Dr. Leslie Jones, a well-known and respected member of our profession in Manchester, by letters containing the usual scandalous imputations and threatening exposure if £50 were not "lent" to the writer, a clerk in the service of one of the railway companies. Dr. Jones handed the letter to the police, who arrested the man when he went to get an answer at an office he had named, and he was tried at the recent assizes. Counsel spoke of the prisoner's previous good character, to which witnesses bore testimony. It is singular that some of the vilest crimes are committed by those who have for years borne fair characters and according to their friends are examples of all the virtues. The judge said the offence of which the prisoner had pleaded guilty was one "so mean, so cruel, so wicked, and so dangerous to society that it was impossible to pass a light sentence," and he was condemned to be kept in penal servitude for three years. The prisoner declared through his solicitor that there was not a shadow of foundation for the charges he had made, and the profession generally is indebted to Dr. Leslie Jones for dealing so courageously with a terrible situation.

The Ladies' Health Society.

The Ladies' Health Society is one of the most practical and useful agencies that Manchester possesses for the diffusion of sound knowledge among the poor on matters concerning health. At the annual meeting, held at the town-hall on Jan. 18th, the report showed that last year had been one of good work but not of expansion for lack of means. The town is divided into districts under the active supervision of various ladies who give much of their time and energy to the services of their poorer sisters. But a most important feature of the scheme is that resident in each district is a "health visitor," an intelligent, well-instructed, and kindly woman of the working class who knows the difficulties of the wives and mothers living around and can enter into them more really than the best-intentioned "lady" visitor, for whom she is a sort of non-commissioned officer. As the report says, "These excellent servants of the society become more useful the longer they live among the people they desire to help, and a new health visitor, however great her tact and willingness, is surrounded by a sea of troubles." Some portions of the town are well covered but others are without this beneficent help for "the want of a sufficient income." Ladies can be found to give their superintendence, health visitors can be found, but it seems hard to get the money required for extending the work. The reports of the medical officers of health for both Manchester and Salford show high appreciation of the society. As Miss Dendy said at the meeting, the society aims at getting people to help themselves and not merely to give help and would rather teach fifty parents to care properly for their children than provide 5000 children with a free meal and call them "robins"—"their wise parents seeing the folly of providing food for children who were so well looked after without their aid. It was a beautiful idea to feed hungry children; carbolic soap, whitewash, cleanliness, lectures on health and morality, these were all desperately dull in comparison." It is too true that the almost useless and, as regards self-help and a sense of duty, absolutely hurtful intermittent charity so-called of free meals may relieve immediate suffering, but at the cost of perpetuating the evils from which it arises. This society aims at the prevention and cure of these evils and is worthy of more generous support than it has yet received from the people of Manchester.

Feb. 1st.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Royal Infirmary, Newcastle-upon-Tyne: Mr. Riley Lord's Fund.

A MEETING of the subscribers to the Queen's Commemoration New Infirmary Fund was held in the Council Chamber, Town Hall, Newcastle-upon-Tyne, on Wednesday, Jan. 26th, Mr. Riley Lord being in the chair. When the report of the Executive Committee was read it appeared from the report that upwards of £32,000 had been received. Mr. Lord was warmly congratulated upon the success of his scheme and then a discussion took place upon the terms of Mr. J. Hall's gift. Mr. Eccles said Mr. Hall's terms were very simple and he thought a hospital such as it was required and necessary to erect could be built for the sum of money Mr. Hall was prepared to give—£100,000. Mr. Eccles evidently thought the sum sufficient. Mr. J. G. Gurney said he had gone into details of the cost of several new hospitals and that he found the cost of none was under £400 a bed; in some cases it was much more. Matters now seem to have come to something very like a deadlock. A hospital for 400 is required and Mr. Hall wishes to expend £100,000 in building a hospital which it is said cannot be put up for the money under the stated conditions. Any sensible person would say under these circumstances that the donor and the recipient should come together and talk the position over, but this is just the very thing that cannot be brought about and so the matter lingers on. In the meantime the conditions under which the work of the infirmary is being carried on are most unsatisfactory and discreditable, the wards are overcrowded, the accommodation for outdoor patients is scandalous, and the longer the erection of new premises is delayed the greater does the inconvenience become. No such difficulties seem to have been experienced in accepting Sir J. B. Maple's princely gift by the University College Hospital in London.

Fatal Fire in Greaseworks at Walker Gate.

The resources of the Newcastle Infirmary were strained to the utmost on Saturday evening, Jan. 29th, when a large number of people more or less severely injured and burned were attended to in the course of a few hours. One man was killed on the spot. A woman was admitted suffering from compound fracture of the leg and other severe injuries. Some twenty-seven men, youths, and children were also admitted more or less burned and seriously hurt. One man died on Sunday; the other patients are so far going on fairly well. Besides the patients taken into the hospital many others were dressed at the infirmary and a still larger number at the scene of the disaster by local medical men. It is not known how the fire originated, but the disastrous results were due to the bursting of a large iron tank containing it is said some sixteen tons of creasote oil which, taking fire, was scattered far and near upon the crowd of onlookers by the force of the explosion. The scene was a discreditable one—there was not sufficient force present to preserve discipline and this arose from the circumstance that Walker Gate is beyond the city boundary, and the Walker Local Board having refused to subscribe to the Newcastle Fire Brigade the services of that highly efficient body of men could not be obtained. Neither could the Newcastle police force be utilised. Nothing could illustrate more forcibly than this terrible accident the want of accommodation at the Royal Infirmary. The wards were as usual filled when the accident happened and now the wounded are lying on the floor of the wards and there is no means of isolating what will be in a few days a large number of suppurating wounds. Those who are responsible for the delay—the dangerous delay—in erecting a new building must to some extent be looked upon as also responsible for consequences. Had not the present deadlock occurred the plans for a new building would have been well on towards completion. As it is it seems problematical when they will even be commenced to be prepared and yet more than £200,000 are available for building a new infirmary.

Annual Meeting of the Governors of the Hospital for Sick Children, Newcastle-upon-Tyne.

The annual meeting of the governors of this hospital was held on Wednesday, Jan. 26th, when Mr. W. A. Watson Armstrong presided. The annual report, which was read by the secretary, revealed a state of things very similar to that existing at most of the medical charities in the town—viz., an increasing amount of work and an expenditure in excess of the income. It is proposed to build in the grounds of the institution a house in which the nurses may reside. To do this will require an expenditure of £2500. If this were done (and it requires to be done, for the present accommodation for nurses is so inadequate that it is difficult to procure the services of such nurses as the committee is anxious to employ) there would be more room for the increasing demand for patients' beds. The design and construction of the hospital do not seem to have been by any means perfect; the drainage has had to be relaid and according to a report made upon the hospital a few years ago by Sir F. Burdett the accommodation for patients was faulty. Considering that the hospital is quite new the expense to which the committee has been put is surprising, and still more surprising is it to see the amount of money which has been wasted in construction. What has taken place at the Children's Hospital should be a warning to the Royal Infirmary. The Children's Hospital was built and given to the town by the late Mr. Flemming, and a gift horse must not be looked in the mouth it is said.

Small-pox at Middlesbrough.

The vaccination officer reports a serious outbreak of small-pox in Middlesbrough. There have been 40 cases with 8 deaths and the epidemic is extending. The town is a well-vaccinated one on the whole.

The Health of Dr. Embleton.

It will be a source of gratification to the numerous friends of Dr. Embleton to learn that he is making a satisfactory recovery from his recent accident and that in a few days he hopes to be able to drive out. Dr. Embleton is the Nestor of the profession at Newcastle and is in his eighty-ninth year.

Jan. 31st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow University.

THE resignation of Professor Simpson has now been officially recognised by the University Court and it is intimated that the Secretary for Scotland is willing to receive the names of those who desire to be regarded as candidates for the appointment up till Feb. 22nd. The University authorities are desirous of taking this opportunity to separate the departments of forensic medicine and public health and to secure the appointment of a professor of the latter subject and hence it is probable that the commission to be granted to the new professor of forensic medicine will contain conditions necessary to this policy. At present the University has no funds for the endowment of any new chair but a special effort is to be made in order to effect a proper representation of the important subject of public health in the teaching and work of the university. Hitherto the teaching has been shared between the professors of forensic medicine and chemistry, but this has been an unsatisfactory arrangement. The senate has elected Dr. Michael Foster, F.R.S., D.C.L., professor of physiology in the University of Cambridge, to be Gifford Lecturer on Natural Religion for the sessions 1898–99 and 1899–1900, in succession to Professor Bruce, whose term of office expires with the current session.

St. Mungo's College, Glasgow.

The botanical collection recently formed by Dr. James Swanson, professor of botany, has been increased by a large number of specimens presented by Mr. F. W. Moore, director of the Botanical Garden, Glasnevin, Dublin.

Glasgow Royal Infirmary.

The annual meeting of the subscribers to this institution was held on Jan. 31st. The Lord Provost, who presided and moved the adoption of the report, announced that every effort was being made to push forward the scheme for the reconstruction of the infirmary, but more funds were needed to make a full realisation of the scheme possible. The committee were determined to completely reorganise the internal arrangements of the hospital so as to bring them into harmony with modern demands, and money is not to be wastefully expended on outside decorative effects. The report shows the usual particulars and, it must be added, the usual balance on the wrong side of the account. It announces the decision of the directors to regard women as eligible for the assistantship in the gynæcological department and certain new arrangements by which the opportunities of the women students for clinical work will be increased.

Anderson's College Medical School, Glasgow.

Mr. Joseph Carroll, M.B., C.M. Glasg., D.P.H. Cantab., has been appointed lecturer on hygiene and public health at this school in room of the late Dr. J. Pearson Munro. Dr. Carroll has been for the past ten years medical officer of health for the borough of Ilkeston. He has lectured on sanitary subjects for the Derbyshire County Council, and has been for some years a member of the county health committee.

The Detection of Disease in Aberdeen.

An arrangement has been entered into between Professor Hamilton (chair of pathology) of the University of Aberdeen and the town council of that city whereby the former undertakes to conduct bacteriological examinations in all cases brought before him where infectious disease is suspected, the payment to be £120 per annum, and neighbouring local authorities to be allowed to participate in the benefits of the new system on contributing such portion of the sum of £120 mentioned as may be mutually agreed on. Professor Hamilton gives his personal services gratuitously, and the sum voted by the town council is to be expended in payment of a special assistant and of necessary laboratory outlays. Medical practitioners in the city have been requested to report any suspicious cases occurring in their practice.

Forres Leanchoil Hospital.

The number of patients treated last year was seventy-eight, the revenue received amounted to £491 odd and the expenditure to £618. Owing to large expense for new railing and gates and for levelling the ground the funds in hand on Dec. 31st, 1897 (£4596) showed a decrease of £396 compared with the previous year. The subscriptions for the past year amounted to £764 odd.

Feb. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Sir Christopher Nixon on Medical Education.

THE address delivered by Sir Christopher Nixon as incoming president of the Dublin branch of the British Medical Association dealt with the subject of medical education and examination and expressed in a clear and interesting way the opinion of its author on that subject. What was wanted, he said, was "an examination for each division of the kingdom conducted independently of the universities or corporate bodies, having no connexion with any existing institutions, ensuring a uniform standard of professional knowledge, and qualifying for a registrable licence to practise medicine, surgery, and midwifery." Sir William Stokes, in moving a vote of thanks for the address which had been delivered, joined issue with the president as regards some of his proposals, and suggested grave doubt as to whether the one portal system for each division of the United Kingdom would lead to a uniformity of standard, inasmuch as it would still be said that the English, Scotch, or Irish Board was less difficult or more difficult to please than its neighbours. He also alluded to the difficulty in obtaining any uniformity as regards fees for lectures and examinations, a matter outside the jurisdiction of the General Medical Council.

The Pigeon House Fort as an Auxiliary Workhouse.

A special meeting of the Dublin Corporation was held on Jan. 28th, to consider another application from the guardians of the South Dublin Union for the temporary use of a portion of the Pigeon House Fort for the accommodation of some of the convalescent inmates of that union. It will be remembered that the Fort was first asked for as an isolation hospital for infectious diseases. The guardians recently have applied for the submarine portion of the building as an auxiliary workhouse. The scheme was brought forward by Sir Robert Sexton with his usual ability but the proposal was rejected by a large majority. The deadlock in the matter therefore continues and will probably soon necessitate the interference of the Local Government Board.

Electrical Tramways in Merrion-square, Dublin.

A letter has recently been addressed to the chairman and directors of the Dublin United Tramways Company by a large number of the householders of the north side of Merrion-square suggesting that in laying the new line of electric tramways they should be placed at the side next the square gardens and as far as possible removed from the fronts of the dwellings. The side of Merrion-square is a favourite residential quarter, more especially for medical men, who constitute more than two-thirds of its inhabitants. Freedom as far as possible from the noise of traffic is to them a matter of much moment, and it is to be hoped that the Tramways Company will see their way to adopt the suggestion.

University Education in Ireland.

We are at present in the throes of a discussion on the *quæstio vexata* of Irish university education, the newspapers containing leading articles and letters on the question. On Jan. 31st a meeting in support of the establishment of a Roman Catholic university for Ireland was held in Belfast. Dr. Henry, the Roman Catholic bishop, who presided, formulated the claim of his body by demanding the establishment and endowment of a Roman Catholic university for the youth of his religion. Dr. Dempsey, Colonel Ross-of-Bladensburg, Lord Emly, Mr. Samuel Young, M.P., and others spoke.

Herbalists' Medicines.

An inquest was concluded in Belfast on Jan. 31st in reference to the death of a man which occurred on Jan. 9th under curious circumstances. It would appear that the deceased was accustomed to suffer from attacks of pains in the stomach, for the relief of which he took a bottle, called "Baird's hot bottle," supplied by a man of that name, a herbalist. It was a universal medicine "taken for everything external or internal." The deceased becoming suddenly ill on the morning of Jan. 8th his wife went after a few hours for a bottle of medicine to Baird's and gave her husband some of it. Later on, as he got worse, she went for a medical man and after he saw the man he brought another practitioner and they took the bottle away with them. The man died the next day and the medical man having refused a certificate the police took up the case. A chemical examination revealed that the medicine was a solution of ammonia and water tinged with a trace of chloroform, alcohol, and a minute quantity of essential oils. A post-mortem examination made by Dr. Lorrain Smith, lecturer on pathology at Queen's College, Belfast, showed that there was acute peritonitis depending on the bursting of an ulcer of the stomach. There was also renal disease. Dr. Smith's evidence was that the treatment deceased had received was not proper treatment, though he could not go so far as to say that the taking of the contents of the bottle accelerated death. The jury found a verdict of "death from peritonitis" and attached no blame to anyone. The coroner, in his summing up, said if the jury wished him to draw the attention of the Pharmaceutical Society to the practice of unqualified persons making up medicine he would do so, but they declined. The coroner said that being so he would do so himself.

The Belfast Hospital for Sick Children.

At the annual meeting held on Jan. 28th it was reported that during 1897 there were 312 intern and 7013 extern cases. There was a distinct falling-off in the number of out-patients owing to the fact that medicines are no longer supplied. The class for students was the largest for many years. A sum of £1000—a jubilee fund—was collected for the endowment of the hospital. The year closed with a credit balance of £204 12*s.* 3*d.* Mr. Mackenzie, on his retirement from the post of surgeon, which he had held for nineteen years, was appointed on the consulting staff, and Mr. Stack resigned on his leaving Belfast. To these vacant offices Dr. J. S. Morrow and Dr. Kirk were promoted, their posts being filled by Dr. Robert Campbell and Dr. Lynass. During the year Dr. Lorrain Smith has been appointed pathologist.

The Samaritan Hospital, Belfast.

From the report submitted to the friends of this hospital at the annual meeting held on Jan. 26th, I find that in 1897 731 cases were treated in the extern and 181 in the intern departments, and of the latter 25 were free. There were 127 operations, of which 18 were abdominal, with three deaths.

During the building of the new wing, erected by the munificence of Mr. Forster Green, and opened on May 28th, 1897, the work of the hospital was necessarily suspended in part, but the additions and improvements will prove of great value. The household expenditure, including surgical material and medicines, amounted to £436 7*s.*, while the contributions from the intern patients were £330 18*s.*

A Lady Official.

Miss Strangman, who had been for some time clinical assistant at the Cork Lunatic Asylum, was unanimously appointed assistant medical officer at the last meeting of the Board of Governors.

Feb. 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Uses of Bleeding, Emetics, and Blisters.

AT the meeting of the Academy of Medicine which was held on Jan. 25th M. Robin pleaded hard for a revival of the use of three therapeutic agents which have almost completely dropped out of use at the present day—namely, bleeding, emetics, and blisters. In cases of pneumonia, uræmia, and morbus cordis the letting of blood increases nitrogenous changes in the tissues, increases the oxidation of the products of disintegration, and assists chemical action in the nervous system. It also increases to a considerable degree the changes brought about by respiration and is a method of general oxidation which should not be neglected in cases of cardiac weakness, pulmonary œdema, malnutrition and toxæmia. Emetics in the treatment of pulmonary diseases are gradually being replaced more and more by antisepsis of the bronchi, but it must not be forgotten that besides their action upon the respiratory tracts emetics have an oxidising effect consequent upon the increased respiratory movements which they bring about. This action of emetics upon chemical change in the tissues was a reason for M. Robin to urge their reintroduction into practice, and he considered that emetics were just as useful in bronchial affections as purgatives in gastro-intestinal cases. As for blisters M. Robin agrees with M. Ferran and considers that they augment phagocytosis and increase nervous influence. They also aid respiratory movements and have an undeniable action upon respiratory chemical action which M. Robin considers very useful in pulmonary congestion, pleurisy, and pneumonia. M. Trasbot held that bleeding and emetics were excellent therapeutic agents in veterinary medicine. M. Huchard agreed with M. Robin as to the value of bleeding and emetics, but with reference to blisters he considered that there were several objections to their use and that these ought to be clearly set forth in the interest of patients themselves who often clamoured for the application of blisters, and that there were cases where their use would be very doubtful or even might be attended with fatal consequences, while M. Laborde pointed out that blisters sometimes brought on nephritis.

Expansion of the Right Auricle during Inspiration demonstrated by the Radioscope.

At the meeting of the Academy of Sciences held on Jan. 24th M. Bouchard reported the following interesting observation. He was examining the thorax (from the back) of a young girl whose right lung was slightly affected with a tuberculous infiltration, and he saw a convex projection which at certain definite intervals appeared to the right of the shadow thrown by the vertebral column in the place corresponding to that thrown by the heart to the left of the column. By following the movements of this projecting body, which did not correspond with the proper movements of the heart, and by comparing them with the up-and-down movements of the liver during respiration M. Bouchard decided that the shadow came out to the right when the liver sank and went back when it rose again. By making the patient turn her body slightly so that the left shoulder was somewhat in the rear of a line drawn through the transverse axis of the pelvis, M. Bouchard saw more distinctly the mass of the auricles and also their special movements. The increase in size of the auricular mass was quite plain during the sinking of the liver—i.e., during inspiration. In two other patients, the one with slight infiltration of the right apex and the other with a more extensive consolidation of the left apex, M. Bouchard was unable to arrive at the same results. He followed up these researches by examining two women suffering from asthma, but only in one was he able to demonstrate the increase in size of the auricle which brings about a slight diminution in the intra-thoracic pressure during inspiration and so at once causes an influx both of blood and of air.

The Uses of Picric Acid in Surgery.

On Jan. 19th M. Larouche communicated some observations to the Society of Surgery upon two cases of poisoning brought about by the use of picric acid as a dressing for burns in two children. Each of the children was dressed with 200 grammes of an ointment of the strength of 1 in 10 and both suffered from vomiting, intestinal pains, diarrhœa, black urine, and jaundice. M. Brun had seen a case of death following the use of this acid in an infant aged eighteen months and had abandoned its use. M. Tuffier considered that any other antiseptic was as good or even better and M. Felizet agreed. On the other side, however, MM. Michaux and Reynier said that they had seen very good results follow the use of picric acid. M. Championnière said that he never used it. M. Potherat cited some cases of poisoning in infants from its use, while MM. Hartmann and Reclus said that its use was accompanied by great pain. M. Walther drew the following conclusion from these various opinions: that infants appeared to be very sensitive to this particular antiseptic and that even adults exhibited very varying degrees of tolerance—a fact which must be taken into consideration as regards its use.

Obituary.

In addition to that of Dr. Péan,[1] the deaths are announced of the following medical men:—Dr. Mesnet, the celebrated alienist who was formerly physician to the hospitals, and Dr. Pietra Santa, editor of the *Journal d'Hygiène* and formerly physician to the Emperor Napoleon III.

Jan. 28th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Students' "Demonstrations" at Bologna.

THE "mother of universities" is showing the worst of examples to her academic progeny throughout the kingdom. Her *interim* professor of anatomy, Dr. Luigi Monti, happens to be a favourite with the students, but her Faculty of Medicine for reasons of their own see fit to nominate to the chair Dr. Romeo Fusari, an anatomist with an exceptionally good record at Messina and Modena. The students in resentment at the change "demonstrated" three hundred strong on Thursday, Jan. 20th, and again on Sunday, the 23rd, breaking windows and patrolling the streets shouting, "Abbasso Murri," "Abbasso Albertoni," whose votes were cast in Professor Fusari's favour. These distinguished clinicians and consultants (the former a contributor to THE LANCET) will not, of course, reverse their decision under such intimidation and Professor Fusari will succeed to the post he is eminently qualified to fill. But is not the frequent recurrence of these "tumultuose dimostrazioni" becoming a scandal in academic Italy, demanding as summary suppression as the far more intelligible agitation of the proletariat for "pane e lavoro" (bread and work)? At nearly all the Italian seats of learning the students are taking a side in the "Dreyfus case" and telegraphing remonstrances with their young contemporaries of the Latin Quarter. This tendency to premature intervention in political discussion is a besetting weakness of the southern "Burschenschaft" which would be far better employed at such "demonstrations" as those (say) of Professor Fusari than in starting "demonstrations" of their own full of "sound and fury signifying nothing."

Professor Lustig's Anti-bubonic Serum.

In THE LANCET of Nov. 20th, 1897, some account was given of the studies in the prophylaxis of "pestis bubonica" undertaken earlier in the year at the instance of the Italian Government by Dr. Alessandro Lustig, Professor of General Pathology in the Florentine Istituto di Studi Superiori and Director of the Pathological Laboratory attached to the same seat of learning. These studies culminated in Professor Lustig's discovery of an anti-bubonic serum which, tested again and again by his three colleagues as well as by himself and checked and counter-checked by every available means of eliminating fallacy, is believed to be of decided prophylactic efficacy against the disease. Now it appears that in consequence of the recrudescence of the "pestis" in the Bombay Presidency Professor Lustig has received from the sanitary authorities there a request by telegraph to send out immediately a large quantity of his anti-bubonic serum. That request has been promptly complied with; and not only so, but Professor Lustig has arranged that one of his assistants in the Florentine laboratory, Dr. Nuton, shall have leave of absence to go out to the plague-stricken *foci*, with a view to coöperating with the Bombay physicians in the application of the serum and to framing an official report on its prophylactic virtues. This latter step on Professor Lustig's part, I think it right to add, has been taken purely in the interests of science: "senza chiedere nè per se nè per suo assistente compenso alcuno" (without stipulating for himself or his assistant any compensation).

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[1] An account of the life and work of Dr. Péan will be found in our Obituary.—ED. L.

A Bonâ-fide Centenarian.

A generation ago appeared Sir G. Cornewall Lewis's paper in which he expressed his disbelief in any man or woman having reached the age of 100 years. The controversy it evoked, while putting it beyond a doubt that the claims of Parr, Jenkins, or the Countess of Desmond to have exceeded that term by fifty-two, sixty-nine, and forty years respectively break down on examination, made it also clear that the "centenarian" as vouched for up to the date of the controversy was a rather mythical personage. Since then, however, registration, more regular and with better title to authenticity, has shown that the longevity in dispute has more than once been attained, and indeed in the week now closing a *bonâ-fide* centenarian presented himself at the Vatican to arrange for his being received in audience by the Holy Father. This is Signor Felice Pacelli, born Jan. 23rd, 1798, father of the Commendatore Pietro Pacelli, uncle of the Councillor and advocate the Commendatore Filippo, and grandfather of the Communal Councillor Ernesto Pacelli, all well-known public men. The venerable gentleman was Director-General of Customs in the Papal Government before it was superseded by the Italian in 1870; he remembers all the great crises of the century now closing, and at the birthday banquet given in his honour last Tuesday in the house of his grandson, Signor E. Pacelli, he displayed a physical robustness and a mental vivacity rare in men thirty years his junior. In fact, he replied to the toast of his own health with animation and point in a full, clear voice and perfect articulation, and concluded by drinking to the prosperity of all present, "augurando loro una longevità pari alla sua" (wishing them a longevity equal to his own). Afterwards he conversed with them singly, dwelt on the politics of the day, and indulged in many picturesque reminiscences, such as his having once acted as cup-bearer to Pope Pius VII., who succeeded to the chair of St. Peter in 1800 and died in 1823. If spared for less than two more years Signor Pacelli will have witnessed the expiry of the eighteenth century and the opening of the twentieth.

The Spread of Influenza: a Warning.

It is not here only and in the Trastevere, as already indicated,[1] that influenza is diffusing itself. With the Italian spring now within measurable distance the malady is daily numbering more cases, few indeed of great import as yet, but tending to become more serious as special "candidates" are attacked. The English-speaking visitor, now beginning to arrive in increasing force, must avoid exposure to atmospheric vicissitude especially when fatigued and in the later hours of the day unless adequately fortified with a good meal and protected with warm clothing. The risks he runs are greatest in the southern provinces, particularly in and around Naples. From the attractive neighbourhood of Benevento a medical correspondent tells me that for nearly a month influenza has been on the wing, alighting on this or that centre "to stay," until in the town of S. Bartolomeo in Galdo "intere famiglie ne sono attaccate ed in moltissime case non v'è persona immune" (whole families have been seized by it and in very many houses not a single person has escaped). These are precisely the circumstances in which the enthusiastic votary of art, of nature, or of antiquity is apt to succumb with no other aid procurable than the "medico condotto" (divisional practitioner). Therefore we may repeat, *Verbum sapienti*—if, indeed, the said enthusiast can in these matters be ever called "sapiens."

Professor Mosso on Educational Reform.

The book of the hour is "La Riforma dell' Educazione," by that indomitable nature student and laboratory worker, Dr. Angelo Mosso, Professor of Physiology in the University of Turin. Some six years ago, when The Lancet opened its columns to the fruitful theme started by Sir J. Crichton-Browne on "Sex in Education [2]" Professor Mosso's contribution to the discussion was welcomed with the cordiality due to an able and impartial observer, and now he has followed this up by a series of other papers treating on such attractive subjects as the "Causes of the Effeminacy of the Latin Races," "Physical Education in France," "Increasing Puniness and the Military Laws," the "Education of the Future," &c. But another opportunity—more favourable than the fag-end of a letter—must be reserved for a notice of this thoroughly scientific and brilliantly written book.

Jan. 31st.

NEW YORK.

(From our own Correspondent.)

Immigration Statistics in 1897.

Immigration to the United States during the fiscal year ended June 30th, 1897, shows a decrease of 112 435 from the arrivals for the preceding year, and was the smallest in volume since the subject was placed under Federal supervision by the Act of Aug. 3rd, 1882. In fact, it was the smallest of any fiscal year since 1879, during which year 177,826 were reported to have arrived. During the year now reported 230,832 persons arrived, of whom 228,952 were permitted to land and 1880 were debarred and deported in accordance with law. Of those deported 328 belonged to the class known as alien contract labourers and 1289 were returned as belonging to the classes of aliens prohibited from admission under the Act approved March 3rd, 1891. In addition 263 persons who had become public charges within one year from arrival were returned either at the expense of the steamship line by which they came or at the expense of the immigrant fund. The number of immigrants who fell into temporary distress within one year of landing was 1424. Those unfortunates were relieved and their maintenance and hospital charges paid from the immigrant fund. The heavy decrease in immigration is attributed to recent restrictive legislation. The Commissioner-General in his report shows that the annual average for the period 1884 to 1893 inclusive was 472,063. After the legislation of 1891 and 1893 became effective the annual average in the period 1894 to 1897 inclusive fell to 279,566. Some other causes are reported as reasons for decreased immigration, such as the influence on immigration which other countries are exercising by means of bounties and land grants. The amount of money brought into the country by immigrants cannot be accurately shown, owing to the fact that they are not required to disclose any sum in excess of $30. The report of the service, however, shows that during the year immigrants exhibited to the inspectors sums which aggregated $3,541,241.

Antitoxin for Hog Cholera.

The chief of the Bureau of Animal Industry, Dr. D. E. Salmon, has submitted a report on the experiments made in the treatment of hogs for hog cholera with antitoxin serum. This serum is made on the same principle as the antitoxin of diphtheria. Good serum has been obtained from horses and cattle, a horse or cow being inoculated with the hog cholera virus in small quantities at first and with larger doses after suitable intervals of time. The resistance of the animal is thus raised to the highest practicable point. The blood of such an animal when injected under the skin of swine, has been found to possess both a preventive and a curative action. This serum was first tested on small animals in the laboratory, and being found efficacious was tested on several herds of swine containing altogether 278 animals. Leaving out one herd from which definite returns as to cause of death could not be obtained only 39 died of 244 animals treated, of which 86 were sick. Consequently 82·8 per cent. of the animals in these herds were saved. Of untreated herds kept under observation during the period referred to about 85 per cent. of the animals died. It is believed that with experience a better quality of serum can be prepared which will maintain this percentage hereafter.

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[1] The Lancet, Jan. 15th, 1898, p. 189

[2] Vide The Lancet, May 7th, 14th, and 28th, 1892.

Starvation in Cuba.

The Secretary of State has made an appeal on behalf of the starving people of Cuba. Some light is thrown on the matter by an article in the *Diario de la Marina* of Havana. According to this article the population of the province of Matanzas on Dec. 31st, 1896, was 253,616 persons. The Order of Concentration compelled 99,312 persons to abandon their homes, and these were herded in the town without any resources. Up to Nov. 30th, 1897, 20,044 of these people had died from starvation and 17,456 had disappeared. It is estimated that at the present time there are over 62,000 persons—17,000 men, 20,000 women, and 25,000 children—in that province alone who are slowly dying from inanition. Taking these figures as a basis it is believed that no less than 500,000 deaths from starvation alone are directly traceable to General Weyler's edict of concentration. The Consul-General of the United States at Havana mentions the following articles as appropriate to be contributed, all of them, as he reports, being greatly needed: summer clothing for women and children, quinine, hard bread, flour, cornmeal, cereal preparations, bacon, rice, lard, potatoes, beans, peas, and salt fish; any canned goods, particularly nourishing soups; meat extracts, blankets, and especially large quantities of condensed milk.

The Bertillon System.

The Bertillon system of identification of criminals has been in operation in the prisons, penitentiaries, and reformatories in the State of New York since August, 1896, and 16,000 cards, each bearing the photograph, measurements, and descriptions of a criminal, are now indexed and classified.

Medical University Extension.

It appears that the Medical Society of the State of Pennsylvania has systematised a movement deserving of hearty support. The society issues a list of physicians, largely teachers, who are willing to lecture or to hold clinics upon given subjects before county societies in all parts of the State. The local society applies to the chairman of the State committee and pays only the travelling expenses of the visiting lecturer. The latter gives his service and his time. Many of the county physicians do not in years meet their fellow practitioners from cities and different parts of the country, but this movement gives them an opportunity to hear and become acquainted with specialists and teachers of repute and to freshen their knowledge of recent medical problems and practice.

Death of Dr. Joseph O'Dwyer.

Dr. Joseph O'Dwyer died at his home in this city on the evening of Jan. 7th, after a brief though painful illness. He had gained a world-wide reputation by his discovery of a safe and reliable method of intubation in diphtheria by which thousands of children have been saved. He was born in Ohio in October, 1841, but passed his early life in Canada. His academic course was completed at McGill University, Montreal, and his medical course in this city, where he graduated from the College of Physicians and Surgeons in the class of 1866. After graduation he served a term as interne in the City, then Charity, hospital, and afterwards as examining physician at Bellevue Hospital. He was a member of many local and national medical societies, an ex-president of the American Pediatric Society, and was attending physician to the New York Foundling Asylum and to St. Vincent's Hospital and consulting physician to the Seaton Hospital.

Jan. 19th.

PAROTITIS ON A TRAINING SHIP.—An outbreak of mumps has occurred on the *Britannia* training ship for naval cadets at Dartmouth and the patients have been removed to the hospital on shore.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the First Examination of the Board in the subjects indicated at the January quarterly meeting of the examiners:—

Chemistry and Physics:

Adamson, James Weeden Woodhams.
Baker, Harold Ramsey Popham.
Bird, Albert Edward.
Blasson, Charles John.
Brodribb, Francis Arthur.
Burges, Richard.
Connell, Harry Bertram.
Crowther, Sydney Nelson.
Davy, William Bradshaw.
De Wilton, Ernest Montefiore.
Edmonds, Frank Rowe.
Forsyth, Lennard William.
Fowler, Trevor Hayman.
Hendley, Philip Arthur.
Holford, Christopher Tredwell.
Houlbrook, William Edward.
Howell, Trevor.
Hughes, Guy.
Kenderdine, Ernest Henry.
Kennedy, Robert Pettigrew.
King, James Malcolm.
Latham, Godfrey Holland.
McCowen, William Terrance.
Marsh, James Kenneth Nevil.
Melhuish, Herbert Michael Henry.
Miller, Guy Witton.
Morgan, Lewis.
Oakeley, Arthur Eckley.
Ommanney, Francis Montague Maxwell.
Paine, Frederick.
Pearson, John Douglas.
Raymond, George.
Riley, Stanley.
Robertson, Struan Arthur.
Scatchard, Thomas.
Smith, Edward Arthur.
Storey, Alfred Cuthbert.
Timothy, John Haydn.
Turner, Arthur Hewett.
Wells, John.
Willcox, Herbert Liston.
Woods, Charles Murray.
Young, Alister Cameron.

Materia Medica:

Alabone, Marcus Anslow.
Battiscombe, Eric George.
Browning, Paul Ransome.
Clover, Martin.
Darlington, Henry Edward.
Furness, James Collins.
Hyde, Edwin.
Le Maistre, Edward Aleck.
McClure, Charles Thomas.
Mellish, John Alfred.
Palmer, Arthur Frank.
Spurgin, Percy Bertram.

Practical Pharmacy:

Austin, Alfred Chalmers.
Baker, William Lincoln.
Barrow, Harold Percy Walter.
Bent, Vincent Thomas Clare.
Bourns, Frank Grose.
Chells, George Russell Haines.
Crawford, Vincent James.
Davey, James.
Drake-Brockman, Ralph Evelyn.
Edwards, Henry Herbert Johnson.
Ellis, Francis Heygate.
Evans, Arthur John.
Foulds, Francis Henry.
Goodbody, Cecil Maurice.
Griffin, Gerald.
Halstead, William Wilfred.
Hanbury, Reginald Janson.
Harland, William Henry.
James, Frederic William.
Jefferiss, Frederick Burroughs.
Jefferiss, Jain McKinnar.
Kinsey-Morgan, Augustus.
Lamb, Ralph.
Lobb, Francis Frederick.
Nicholls, Percival Thomas.
Nicholson, William.
Paul, John Frederick.
Peake, Sidney John.
Reece, Charles Clement.
Richards, Francis Graham.
Richardson, Arthur Henry Sims.
Richardson, Irwin Browne.
Shepherd, Cyril.
Smith, Herbert James.
Spear, George Arthur Whitworth.
Stanley, Edmund Hamilton Blake.
Taplin, Julian.
Thomson, Charles Bertram.
Woodyatt, Henry Constantine.

Elementary Biology:

Adamson, Jas. Weeden Woodhams.
Barnes, Walter Biscoe.
Bazalgette, Sidney.
Bellamy, Henry Francis.
Best, John Gordon de Graves.
Bridges, David.
Bubb, Charles Henry.
Cole, Percival Pasley.
Corfield, Charles.
Cundell, Harold Juler.
Day, Charles Frederick.
De Wilton, Ernest Montefiore.
Edwards, Kenelym Cobham.
Ellis, Edgar Severn.
Emerson, Herbert.
Geraty, Lawrence Unthank.
Gerrard, Francis Tyrer.
Gibson, Thomas.
Goldstein, John Leopold.
Halsall, Cuthbert Murray.
Harrison, Edward Montague.
Higgins, James Gilkison.
Hulsberg, Emil Castern.
Hunt, Lawrence Charles.
Ind, Charles Uncles.
Jacques, Harold.
Keir, John Duncan.
Kennedy, Robert Pettigrew.
Landmann, Alfred Emil.
Lee, Crichton Stirling.
Lewis, Ivor.
Lewis, Richard.
Lovell, William.
Lowsley, Owen Leonard.
Morris, Charles Harry.
Moyle, Reginald.
Mummery, Norman Howard.
Naggiar, Edward Elie.
Nettell, John Patten.
Paine, Frederick.
Pearson, John Douglas.
Richard, George Herbert.
Richardson, Arthur Henry Sims.
Sadler, Vyvyan Kendall.
Smith, Herbert James.
Soper, Hugh Thomas Burell.
Story, Alfred Cuthbert.
Timothy, John Haydn.
Turner, Arthur Hewett.
Walker, Henry James Davey.
Weekes, Harold Ernest.
Whitmore, Fielding Charles.
Wilbraham, Reginald Francis Bootle.
Willcox, Hubert Liston.

UNIVERSITY OF CAMBRIDGE.—On Jan. 27th the following degrees in Medicine and Surgery were conferred:—

B.C.—E. S. St. B. Sladen, B.A., Caius.
M.B.—B. H. Slater, B.A., Trinity.
M.B. and B.C.—N. B. Harman, B.A., St. John's; C. S. Myers, B.A., Caius; and A. E. Jeaffreson, B.A., Christ's.
M.D.—R. Coombe, M.A., Caius.

UNIVERSITY OF EDINBURGH.—The following degrees were conferred at a special graduation held on Jan. 29th :—

M.B., C.M.—John Tarratt Titterton, England.
M.B., Ch.B.—William Stanforth Eaton, England.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle*: Dr. Corning and Dr. Jaquet have been appointed Extraordinary Professors of Topographical Anatomy and Pharmacology with Therapeutics respectively.—*Budapest*: Dr. Sàrbo has been recognised as *privat-docent* of Neurology.—*Greifswald*: Dr. Leick and Dr. Geroulanos have been recognised as *privat-docenten* of Medicine and Surgery respectively.—*Groningen*: Dr. Nijhoff, of Amsterdam, has been appointed to the chair of Midwifery and Gynæcology.—*Heidelberg*: Dr. S. Bettmann has been recognised as *privat-docent* of Internal Medicine.—*Kieff*: Dr. Conrad Wagner, of St. Petersburg, has been appointed Extraordinary Professor of Medical Diagnosis.—*Lemberg*: Dr. Gabryszewski has been recognised as *privat-docent* of Surgery.—*Modena*: Dr. Ruggi has been promoted to the professorship of Clinical Surgery.—*Moscow*: Dr. Shervinski, Extraordinary Professor of Internal Medicine, has been promoted to be Ordinary Professor.—*Munich*: Dr. W. Herzog has been appointed Extraordinary Professor of Surgery.—*Naples*: Dr. Boeri, Dr. Sorrentino, Dr. di Luzenberger, and Dr. Grimaldi have been recognised as *privat-docenten* of Medical Pathology, Surgical Pathology, Neurology, and Psychiatry respectively.—*Padua*: Dr. E. Tricomi has been appointed Professor of Surgical Pathology.—*Rome*: Dr. Ghilarducci has been recognised as *privat-docent* of Neurology and Dr. Margarucci as *privat-docent* of Surgery.—*Rostock*: The Landtag has voted £10,000 for the erection of an ear clinic.—*Tübingen*: Dr. Oesterlen has been promoted to an honorary Ordinary Professorship of Hygiene and Forensic Medicine.—*Turin*: Dr. Nicolai and Dr. Bordoni-Uffreduzzi have been recognised as *privat-docenten* of Laryngology and Hygiene respectively. —*Vienna*: Dr. Karl Ewald, Dr. Fronz, and Dr. von Töpley have been recognised as *privat-docenten* of Surgery, Pædiatry, and the History of Medicine respectively.—*Würzburg*: Dr. Seifert has been appointed Extraordinary Professor of Laryngology.

PRESENTATIONS TO MEDICAL MEN.—Mr. D. Macartney, M.D. Glasg., D.P.H. Camb., of Glasgow, at the closing meeting of the lecture class, held on the 23rd ult., under the auspices of the St. Enoch Ambulance Corps, was the recipient of a silver tray from the class.—Mr. J. McPhail Dougall, M.D. Glasg., of the Grange, Welburn, was presented on the 24th ult. with a travelling clock by the male and female members of the ambulance classes recently held at Welburn, York, under the auspices of the St. John Ambulance Association.

CHILDREN'S HOSPITAL, BRADFORD.—The annual general meeting of the Bradford Children's Hospital was held at the Town Hall on Jan. 28th, the mayor presiding. The report mentioned that £1750 had been paid to the hospital by the committee appointed to collect subscriptions in commemoration of the Queen's Diamond Jubilee. The financial statement showed receipts on current account amounting to £1556 and an expenditure of £2028. The income for 1897 had fallen short of that for 1896 by upwards of £400 and a sum of £1385 was owing to the bankers. The medical statistics were as follows: in hospital Jan. 1st, 1897, 48; admitted, 460; discharged, 427; died, 34; in hospital Dec. 31st, 1897, 47. There were also 2116 new out-patients treated during the year.

WEST KENT GENERAL HOSPITAL.—The annual general meeting of the West Kent General Hospital, Maidstone, was held at the hospital on Jan. 21st, Mr. F. S. W. Cornwallis presiding. The report showed that there were 426 in-patients during 1897 as compared with 398 during 1896, the daily number resident for 1897 averaging between 38 and 39. The total attendances of out-patients, casualties, and dental patients were 19,157. The expenditure for the year was £3569. A sum of £100 was received from the Mayor's Fund on account of the extra expense occasioned by the typhoid fever epidemic. During the epidemic sixty-eight beds were occupied by typhoid fever cases, including three nurses engaged in the town, and it was necessary to engage an additional house surgeon and extra nurses. The Diamond Jubilee buildings will probably be ready for use in a few weeks.

LITERARY INTELLIGENCE.—The Rebman Publishing Company's new books include a new "Pocket Formulary for the Treatment of Disease in Children," by Dr. L. Freyberger, of the Great Northern Central Hospital, London; and a work on "Surgical Diagnosis and Treatment," by J. W. Macdonald, M.D. Edin. They also announce the completion of their "Pictorial Analysis of Skin Diseases" (St. Louis Hospital Museum, Paris), edited by J. J. Pringle, M.B. Edin., F.R.C.P. Lond.

GLOUCESTER INFIRMARY.—At a meeting of the Gloucester Infirmary Committee held on Jan. 27th it was resolved, on the motion of the Earl of Ducie, seconded by the Bishop of Gloucester, to name one of the wards the "Ancrum Ward" in recognition of the services of Dr. W. R. Ancrum, who recently retired from the chairmanship of the governors. The committee received with great regret the resignation of Mr. R. Mount Cole, for twenty-nine years surgeon to the institution.

A NEW COUNTY ASYLUM.—At the quarterly meeting of the Radnorshire County Council held on Jan. 24th the Visiting Committee of the Radnor and Brecon Joint Counties Asylum reported that the plans of the new asylum would be ready by September, when building would be commenced. The committee suggested that they should be authorised to continue the boarding-out arrangement at Abergavenny pending the erection of the new asylum. The report was adopted. Mr. R. Harding, in moving it, mentioned that £120,000 would be required before the new asylum was finished.

THE BRITISH OPHTHALMIC HOSPITAL, JERUSALEM.—We have received from the honorary secretary of the Order of the Hospital of St. John of Jerusalem in England a synopsis of the surgical statistics of the British Ophthalmic Hospital at Jerusalem for the year ending Sept. 30th, 1897. From this it appears that there were 1124 applications received at the hospital for admission and 569 in-patients were admitted. There were 4640 new out-patients seen and the aggregate attendance at the out-patient department numbered 12,881. There were 1277 operations performed, of which 656 required the administration of an anæsthetic.

TIVERTON INFIRMARY.—The annual meeting of the Tiverton Infirmary was held on Jan. 26th under the presidency of the mayor. The report showed that the committee had expended £142 more than they had received. The medical report stated that a total of 1798 cases had been treated, being a decrease of 272 from 1896. The committee request subscribers to inquire into the circumstances of each case before granting a recommendation. £730 have been received for the erection of a new wing for the reception of paying in-patients; a further £270 at least will however be required, towards which Sir Heathcoat Amory has promised £50 on condition that the balance be raised within a limited time.

LIVERPOOL ROYAL INFIRMARY.—The resignation of Dr. John Wallace, surgeon to the Thornton Wards of the Liverpool Royal Infirmary, to which he was appointed in 1878, was announced at the annual meeting held on the 31st ult. Dr. Wallace has been elected consulting gynæcological surgeon. The candidates for the vacancy are Mr. Henry Briggs and Dr. T. B. Grimsdale, acting surgeons to the Hospital for Women, Shaw-street; and Dr. Francis B. Imlach, who, we understand, was largely instrumental in promoting the foundation of the Shaw-street Hospital. The appointment lies with an election committee which comprises about ninety-five trustees of the Liverpool Royal Infirmary.

READINGS BY SIR SQUIRE BANCROFT.—Sir Squire Bancroft gave a reading of Dickens's "Christmas Carol" in aid of the funds of the Torbay Hospital at the Bath Saloon, Torquay, on Jan. 25th, Mr. Mattock presiding. The institution will benefit to the extent of about £100 from the reading.—Sir Squire Bancroft read the "Christmas Carol" at Plymouth on Jan. 26th in aid of the funds of the South Devon and East Cornwall Hospital. The entertainment was a great success. The Earl of Morley presided.—The same piece was also recently read by Sir Squire Bancroft at the Assembly Rooms, Bath, for the benefit of the Royal United Hospital. The mayor presided.

Infectious Diseases Hospital in Cheshire.—The Mayor of Chester on the 25th ult. laid the foundation-stone of an infectious diseases hospital to be erected at Sealand, about a mile from the city, at a total estimated cost of about £20,000. In Mid-Cheshire a controversy has been going on for some months between the county council and the local authorities as to the provisions of isolation hospitals, but nothing has yet been done. The need for action is sufficiently pressing, for on Dec. 22nd the chairman of the Northwich Urban Council mentioned an outbreak of scarlet fever in which there were nine patients in one house out of a family of eleven.

Fatal Accident to a Medical Man.—Dr. Druce John Slater, of Courtfield-road, South Kensington, lost his life under very sad circumstances while shooting near Temsworth, Bedfordshire, on Jan. 29th. He stumbled while crossing a stile, the consequence being that the charge of the gun which he was carrying was lodged in his body and he died in a few minutes. An inquest was held on Jan. 31st and a verdict of "accidental death" was returned. Dr. Slater received his medical education at St. Bartholomew's Hospital and became qualified as L.S.A. in 1882; in 1888 he graduated as M.D. Lond.

Worcestershire Medical Society. — The annual meeting of this society was held on Jan. 11th. Dr. Stanley Haynes, of Malvern, was elected President for the ensuing year and Dr. G. W. Crowe, of Worcester, Vice-president. The secretary presented a report showing that there were fifty members of the society and a balance in hand of £1 1*s.* 8*d.*—Dr. Crowe read notes of a case of severe Post-diphtheritic Paralysis.—Mr. Coombs showed a patient with Osteitis Deformans and gave a short description of the disease.—Mr. Bubb pointed out the advantages of using a solution of formalin for preserving pathological specimens and exhibited examples.—Mr. Gostling showed a man from whom he had removed the whole of one semilunar cartilage for recurring synovitis of the knee.—Mr. Bates exhibited several interesting cases under his treatment in the infirmary. The members afterwards dined together at the Star Hotel. Dr. Cooke, Dr. Read, Mr. Wilding, and Mr. Bubb contributed some excellent songs and a very pleasant evening was spent.

Wigan Medical Society.—An ordinary meeting of this society was held on Dec. 31st, 1897, Mr. C. R. Graham presiding in the absence of the President.—Mr. Graham's paper on Cholecystotomy was postponed till the next meeting.—The following cases were exhibited: Mr. Hugh E. Jones showed the following interesting cases: (1) Paralysis of the External Rectus Muscle with Intracranial Aneurysm; (2) Proptosis of the Eyeball; (3) Traumatic Ptosis; (4) Wounds of the Cornea, Iris, and Lens; (5) Interstitial Keratitis; and (6) Convergent Strabismus.—Mr. Graham showed specimens of (1) Gall-stone and (2) Ovarian Dermoid Cyst.—Dr. White showed a specimen of an Unilocular Ovarian Cyst and the following cases: (1) Eczema Erythematosum Papulosum and (2) Dermatitis Herpetiformis.—An extraordinary meeting was held on Thursday evening, Jan. 20th, the President, Mr. C. T. Street, presiding. The following office-bearers for 1898 were elected: President, Mr. W. Berry. Committee: The President; Mr. C. T. Street, ex-president; Mr. C. R. Graham, Mr. W. Mitchell Roocroft, Mr. E. H. Monks, Mr. C. M. Brady, Mr. R. H. Cowan, Dr. M. Benson, Dr. R. P. White, and Mr. L. Cooke. Honorary treasurer: Mr. E. H. Monks. Honorary secretary: Mr. C. F. France. The following papers were read: 1. On Cholecystotomy, by Mr. C. R. Graham. The paper was an interesting and practical one and the following members took part in the discussion: Dr. Rees, Mr. Brady, and Dr. White. Mr. C. R. Graham now took the chair in the President's absence, he having been called away. 2. A paper, illustrated by lantern slides, on Harelip and Cleft Palate, by Mr. R. W. Murray, Surgeon to the Children's Infirmary, Liverpool. The paper was a highly instructive one and much appreciated by the members present. A discussion followed in which the following members took part: Mr. Graham, Mr. Monks, Dr. White, Mr. Cooke, Dr. Rees, and Dr. Jones. A cordial vote of thanks was passed to Mr. Graham and Mr. Murray for their papers, to which both replied, and a vote of thanks to Mr. Graham for presiding concluded the meeting.

South Wales Sanitary Inspectors' Association.—The first annual meeting of this association was held on Jan. 25th at Newport, under the presidency of Dr. Walford. Mr. S. Jones read an interesting paper on Meat Inspection, in which he mentioned that in Newport 4379 lb. of meat had been condemned during the past twelve months. Dr. Walford said he believed that veterinary surgeons ought to be appointed as meat inspectors. Dr. Williams afterwards entertained the members.

A Statue to a Bolton Physician.—It is so rarely that statues are raised in memory of those whose mission is to save life and not to destroy it that attention may be called to the unveiling of a memorial statue of the late Dr. James Dorrian in the neighbouring town of Bolton on the 29th ult. The ceremony was performed by Mr. Alderman Nicholson, who referred to Dr. Dorrian's lifework of charity and usefulness in the town. The statue is of Portland stone and bears the inscription—"James Dorrian, M.D., 1826–1895. Erected by public subscription to commemorate a life of usefulness."

Glasgow Southern Medical Society.—This society met on Jan. 20th, Mr. Stuart Nairne, former president, being in the chair. The proceedings took the form of a "hat night," an experimental innovation which proved interesting. Among other questions the following were discussed. 1. Methods of controlling the present abuse as regards the Sale of Patent Medicines. The German plan of having a correct formula on each label was approved. 2. Differential Diagnosis of the Rash of Scarlet Fever from other conditions resembling it. 3. Treatment of Tuberculous Meningitis. 4. Antipyrin in the Treatment of Pneumonia. In small doses of from three to four grains with tincture of digitalis in Mr. Nairne's practice it had been found of great service. 5. Appendicitis: when to operate? Mr. Parry thought the American rule a good guide in practice. If after the third day the pulse and temperature keep up operate.

Manchester Therapeutical Society.—A meeting of this society was held on Jan. 26th, Professor Leech, the President, being in the chair.—Dr. Eugene S. Yonge read a paper on the Local Treatment of Painful Ulcerations by Orthoform with special reference to the Upper Air-passages. Professor Leech mentioned his experience of the use of orthoform and several other members also spoke on the subject.—Professor Leech showed specimens of Eucaine A, Eucaine B, and Holocaine and opened a discussion on Local Anæsthetics. He showed the chemical relationship of eucaines to cocaine and of holocaine to phenacetin. The eucaines had proved to be less poisonous than cocaine, eucaine B being less toxic than eucaine A. Both had been used successfully in ophthalmic practice. Holocaine had been very highly spoken of by Mr. Brudenell Carter, but it was not so free from toxic properties as eucaine B. Professor Leech also referred to "anesin," a solution of trichlor-pseudo-butyl alcohol which has been recently introduced as a local anæsthetic and employed in laryngeal cases, in dentistry, and for injection to prevent the pain of incisions.—In the discussion which followed members spoke of the use of cocaine, ethyl chloride, pyoktanin, antipyrin, and Schleich's infiltration method for the production of local anæsthesia.—Dr. R. T. Williamson exhibited some "Diabetic" Foods entirely free from carbohydrates and described the method of preparing them from aleuronat and cocoanut.

Prizes of the Paris Academy of Sciences.—The *Revue Scientifique* of Jan. 29th publishes a list of fifty prizes varying in value from 200 francs to 100,000 francs (from £8 to £4000) which are offered for award by the Paris Academy of Sciences during 1898. The prizes in medical subjects are as follow: Prix Montyon (three)—(1) medicine and surgery; (2) experimental physiology; and (3) methods of rendering unwholesome occupations less dangerous to health. Prix Bréant (100,000 francs): the prevention or cure of cholera. Prix Godard: the anatomy, physiology, and pathology of the genito-urinary organs. Prix Barbier: discoveries in surgery, medicine, pharmacy, or botany capable of application in the treatment of patients. Prix Lallemand: work on the nervous system. Prix du Baron Larrey: military, or naval medicine, surgery, or hygiene. Prix Bellion: works or discoveries conducive to a higher standard of public health or to the improvement of the human race. Prix Mège: completion of an essay on the history of medicine. Prix Pourat: motor nervous system of the stomach. Prix Philipeaux: experimental physiology. Prix Leconte (50,000 francs): new and important discoveries in mathematics, physics, chemistry, natural history, and medical sciences. There are also shorter lists of prizes for the years 1899, 1900, and 1901, in which the following appear: Prix Serres: embryology. Prix Chaussier (10,000 francs): the best book or memoir on legal or practical medicine. Prix La Caze (10,000 francs): physiology. Prix Da Gama-Machado: the colouration of the tegumentary system of animals and the fertilising substance of living beings. Prix Parkin—(1) the curative effects of carbon, especially in the gaseous form, in cholera, fevers, &c.; and (2) the effects of volcanic action in the production of animal epidemics, vegetable epidemics, and atmospheric disturbances. Prix Dusgate: the diagnostic signs of death and the prevention of premature interment. Prix Martin-Damourette: therapeutic physiology.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Belcher, H. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the West Bridgford Sanitary District of the Basford Union.

Birmingham, W. P., M.B., Ch.B. Dubl., has been appointed a Member of the Board of Management for the Public Hospital, Fremantle, West Australia.

Buchanan, James, M.B., M.Ch., B.Ch. Irel., has been appointed Medical Officer for the Watford Sanitary District of the Watford Union.

Carroll, Joseph, M.B., C.M. Glasg., D.P.H. Camb., has been appointed Lecturer on Public Health and Hygiene at the Anderson's College Medical School, Glasgow, vice J. P. Munro.

Challands, F., M.B., Ch.M. Syd., has been appointed a Medical Officer at Childers, Queensland, vice R. Hancock.

Daish, W. C., M.D. Melb., has been appointed a Public Vaccinator at South Melbourne, Victoria, Australia.

Donaldson, H., M.R.C.S., has been appointed a Public Vaccinator for the District of Gore, New Zealand.

Eadie, J. McIntyre, M.B., Ch.M. Glasg., has been appointed a Public Vaccinator at Bendigo, Victoria, Australia.

Elkins, Frank A., M.D., has been appointed Medical Superintendent of the Metropolitan Asylum at Leavesden, Herts.

Falwasser, A. T., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the Ramsgate Seamens' Infirmary and General Hospital, and Visiting Surgeon to the Ramsgate and St. Lawrence Royal Dispensary, vice John Moses.

Goldsmid, J. A., M.B. Syd., has been appointed a Government Medical Officer and Vaccinator for the District of Murwillumbah, Tweed River, New South Wales.

Greaves, Frank, M.R.C.S., has been appointed Assistant House Surgeon to the Derbyshire Royal Infirmary, vice R. G. Knox.

Hall, A. J., M.B., B.C. Camb., M.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Physician to the Sheffield Royal Hospital.

Hallsworth, F. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Bodenham Sanitary District, Leominster Union.

Hanwell, G. L., M.R.C.S., L.R.C.P., has been appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women, Fulham-road, S.W.

Harding, William, M.D. Edin., M.R.C.P., has been appointed Medical Superintendent to the Northampton County Asylum, Berrywood, vice Richard Greene.

Hope, J. W., F.R.C.P. Edin., has been appointed a member of the Board of Management for the Public Hospital, Fremantle, West Australia.

Horrocks, H., B.Sc. Lond., M.D., D.P.H., has been appointed an Assistant Pathologist and Bacteriologist for the Public Hospital, Perth, West Australia.

Hudson, G., M.B., C.M. Edin., has been appointed Medical Officer for the Workhouse and the Worlington Sanitary District of Mildenhall Union.

Jameson, A., M.B., Ch.M. Edin., has been appointed Pathologist and Bacteriologist for the Public Hospital, Perth, West Australia.

Jones, Richard, L.K.Q.C.P., L.R.C.S. Irel., has been appointed Officer of Health and Public Vaccinator for the Phillip Island Shire, Victoria, Australia, vice S. Wilson.

Lockwood, W., M.D. Edin., has been appointed Honorary Surgeon to the Royal Halifax Infirmary.

Lord, John R., M.B., C.M. Edin., has been appointed an Assistant Medical Officer to the London County Asylum, Hanwell.

Lowe, Percy Rycroft, B.A., B.C. Camb., has been appointed House Surgeon to the Derbyshire Royal Infirmary, vice Richard S. Olver.

Malcolmson, J. F., L.F.P.S. Glasg., has been appointed acting Officer of Health for the Town of Port Melbourne, Victoria, Australia.

Maxwell, K., M.B., Ch.M. Edin., has been appointed acting Public Vaccinator at Castlemaine, Victoria, Australia.

McAllister, J. F., M.D. Melb., has been appointed Lecturer in Clinical Surgery for the University of Sydney, New South Wales.

Milnes, J. G., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Gislingham Sanitary District of the Hartismere Union.

Morison, Albert E., M.B., C.M., F.R.C.S. Edin., has been appointed Honorary Surgeon to the Hartlepool Hospital.

Noonan, P., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Officer of Health for Hamilton, Tasmania.

Scott, Eric N., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for Clermont, Queensland.

Sellers, W. N. Irvin, M.B., C.M. Edin., M.R.C.S., has been appointed Honorary Surgeon to the Preston and County of Lancaster Royal Infirmary.

Shields, A., M.D. Edin., has been appointed an Inspector of Schools of Anatomy in Victoria, Australia, vice R. Youl.

Smyth, Thomas Edward, B.A., M.D., C.Ch. (Trinity College, Dublin), has been re-appointed Medical Officer for the Milton Abbot District of the Tavistock Union.

Stewart, John, L.K.Q.C.P., L.R.C.S. Irel., has been appointed a Public Vaccinator at Walhalla, Victoria, Australia.

Tickell, Henry Morris, M.A., M.D., B.C. Camb., M.R.C.S., has been appointed House Physician to the Derbyshire Royal Infirmary, vice W. E. L. Horner.

Webster, W. F., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third (A) Sanitary District of the Hailsham Union.

Wheeler, L., M.B., B.S. Irel., has been appointed a member of the Board of Management for the Public Hospital, Fremantle, West Australia.

White, A. T., L.R.C.P., L.R.C.S. Edin., has been appointed a Member of the Board of Management for the Public Hospital, Fremantle, West Australia.

Woolliscroft, William Winfred, M.R.C.S., L.R.C.P., has been appointed a House Physician to Charing-cross Hospital, vice W. Curling Hayward.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Charing-cross Hospital, London.—Resident Medical Officer. Salary £100 a year, with board and residence.

Flintshire Dispensary.—Resident House Surgeon. Salary £120 a year, with furnished house, rent and taxes free, also coal, light-water, and cleaning, or in lieu thereof £20 per annum. Applications to the Secretary, Board-room, Bagillt-street, Holywell, North Wales.

Frome Union.—Medical Officer for the Coleford Medical District. Salary £30. Midwifery, 10s. per case. Certifying lunatics, 10s. per case. Applications to the Clerk, Public Offices, Frome.

General Infirmary at Gloucester and the Gloucestershire Eye Institution, Gloucester.—Surgeon.

Great Northern Central Hospital, Holloway-road, N.—Anæsthetist.

Hull Royal Infirmary.—Honorary Assistant Surgeon for the Out-patient Department for five years.

Huntingdon County Hospital, Huntingdon.—House Surgeon for one year. Salary £50, with board, rooms, and washing.

Joint Counties Asylum, Carmarthen.—Resident Clinical Assistant. Board, &c., and honorarium.

Leicester Infirmary.—Assistant House Surgeon for twelve months. Honorarium £42, and board, residence at the infirmary, and washing provided.

Lincoln County Hospital, Lincoln.—Assistant House Surgeon for six months. Honorarium £10, and board, residence, and washing provided.

London Temperance Hospital, Hampstead-road, N.W.—Assistant Resident Medical Officer for six months. Residence in the hospital, board, and washing provided, and an honorarium given conditionally.

Manchester Children's Hospital, Pendlebury.—Junior Resident Medical Officer for one year. Salary £80 per annum, with board and lodging. Also Medical Officer for the Dispensary. Salary £130 per annum.

Metropolitan Asylums Board.—Assistant Medical Officer at the North-Western Fever Hospital, Haverstock-hill, N.W., unmarried. Salary first year, £160, £180 the second year, and £200 the third and subsequent years of service, with board, lodging, attendance and washing (subject to certain statutory deduction). Applications to the Clerk to the Board, Norfolk-street, Strand, W.C.

Metropolitan Asylums Board.—Assistant Medical Officer for the South-Eastern Fever Hospital, Hatfield-street, New-cross-road, S.E., unmarried. Salary £160 the first year, £180 the second year, and £200 the third and subsequent years of service, with board, lodging, attendance, and washing (subject to statutory deduction). Applica- to the Clerk to the Board, Norfolk House, Norfolk-street, Strand, W.C.

Poplar Hospital for Accidents, East India-road, Poplar, E.—Assistant House Surgeon. Salary £65 a year, with board and residence.

Royal Infirmary, Sheffield.—Junior Assistant House Surgeon for three years. Salary £50 per annum, with board, lodging, and washing. Also, House Surgeon, salary £120; House Physician, £80; and Senior Assistant House Surgeon, £60 per annum.

Royal Lancaster Infirmary.—House Surgeon, unmarried. Salary £80 a year, with residence, board, attendance, and washing.

Seamen's Hospital Society (Dreadnought), Greenwich.—House Surgeon for Branch Hospital, Royal Victoria and Albert Docks, E. Salary £75 per annum, with board and residence and an additional £25 per annum if certain clinical work is performed satisfactorily.

Southport Infirmary.—Resident Junior House and Visiting Surgeon for six months. Honorarium at the rate of £30 per annum. Residence, board, and washing provided.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY, Stamford.—House Surgeon for two years, unmarried. Salary, £100 per annum, with board, lodging, and washing.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstrator of Anatomy. Salary £70.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary £2 per mensem, with residence, board, and washing.

SUNDERLAND BOROUGH ASYLUM.—Medical Superintendent. Salary £350 a year, with furnished house, board for self and wife (if married), washing, coals, light, two servants, and use of garden. Applications to the Clerk to the Visiting Committee, Town Hall, Sunderland.

SUSSEX COUNTY HOSPITAL, Brighton.—Fourth Resident Medical Officer, unmarried. Salary £50 per annum, with board, washing, and residence in the hospital.

TEWKESBURY UNION.—Medical Officer or Officers for the Workhouse, Tewkesbury District and the Tirley District. Salaries for the Workhouse £60, the Tewkesbury District £82, and the Tirley District £33, with the usual extras and vaccination fees. Applications to the Clerk to the Guardians, Tewkesbury.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's-road, Chelsea, S.W.—House Physician for twelve months. Honorarium £50, with board and lodging in the hospital.

WEST RIDING ASYLUM, Wadsley, near Sheffield.—Fifth Assistant Medical Officer. Salary £100 per annum, rising £10 a year up to £150, with board, &c.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM, Powick.—Head Medical Superintendent. Salary commencing at £800 per annum, with partly furnished house, coals, gas, washing, garden produce, &c. Applications to the Clerk to the Committee, 40, Foregate-street, Worcester.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—On Jan. 30th, at Faversham, Kent, Maud, the wife of Charles Macdonell Anderson, M.D., of a son.

CREE.—On Jan. 27th, at Park Villa, Cheltenham, the wife of Surgeon-Major Gerald Cree, Army Medical Staff, of a son.

DODD.—On Jan. 31st, at 14, Goldstone-villas, West Brighton, the wife of Arthur Herbert Dodd, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., of a son.

DU CANE.—On Jan. 28th, at Darwen, Lancs., the wife of Herbert Du Cane, M.B., of a daughter.

HEARNDEN.—On Jan. 28th, at Sutton, Surrey, the wife of Ernest Morgan Hearnden, M.R.C S. Eng., L.R.C.P., L.S.A., of a daughter.

ROBINSON.—On Jan. 25th, at Killieser-avenue, Streatham-hill, the wife of Louis Robinson, M.D., of a daughter.

SKIPWORTH.—On Jan. 28th, at The Terrace, Gravesend, the wife of P. L. G. Skipworth, M.R.C.S. Eng., of a son.

MARRIAGES.

ATKINSON—RUSSELL.—On Feb. 1st, at the Cathedral, Plymouth, George Louis Atkinson, M.R.C.S., L.R.C.P. Lond., of Elmhurst, Hampton Hill, to Florence, daughter of the late George Russell, M.D., of Aberdare, South Wales.

DAUNT—GOULD.—On Jan. 27th, at St. Pancras Church, William Daunt, L.R.C.P. Edin., son of Francis Daunt, of Dublin, to Jeannie, daughter of Charles Gould, of Forest-hill, Kent.

HUMPHRIS—HESKETH.—On Jan. 20th, at the Church of the Resurrection, Brussels, F. Howard Humphris, M.D., M.R.C.P., &c., eldest son of F. H. Humphris, J.P., of Grove Mount, Ilkley, Yorkshire, to Ethel Marion, eldest daughter of Colonel Hesketh, late I.S.C., Brussels.

THORNTON—CORDNER.—On Jan. 25th, at St. Peter's Church, Cranley-gardens, George Lestock Thornton, B.A. Camb., M.R C.S., L.R.C.P., second son of the Rev. J. Thornton, M.A., Vicar of Ewell, Surrey, to Leta, only daughter of R. A. Cordner, M.I.C.E., Indian Public Works Department.

DEATHS.

CARMALT JONES.—On Feb. 2nd, T. W. Carmalt Jones, F.R.C.S., of 6, Westbourne-street, Hyde Park-gardens, in his 51st year. No flowers.

DICKSON.—On Jan. 27th, at Somborne Cottage, Sandgate, Henry Arthur Dickson, F.R.C.S., L.R.C.P., of the Indian Medical Staff, aged 27 years.

FISHER.—On Dec. 11th, at Pahi, Auckland, New Zealand, Alder Fisher, M.R.C.S., L.S.A., formerly of John-street, Bedford-row, aged 91 years.

MOSES.—On Jan. 20th, at Stafford, Frederick Henry Moses, M.R.C.S. Eng., L.R.C.P. Edin., eldest surviving son of the late J. W. Moses, M.D., and grandson of J. Moses, Captain and Paymaster of the Royal Westmoreland Militia, aged 55 years. Interred in West Derby Cemetery, Liverpool, on the 26th.

ORD-MACKENZIE.—On Jan. 26th, Deputy-Surgeon-General William Ord-Mackenzie, M.D., late 3rd Hussars, of Belsize-park-gardens, N.W.

SLATER.—On Jan. 29th, at Tempsford, Druce John Slater, M.D. Lond., of Courtfield-road, South Kensington, aged 41 years.

SOMERVILLE.—On Jan. 29th, at the residence of O. A. Wickham, Westbourne-road, Barnsbury, N., Richard Somerville, L.R.C.P., L.R.C.S. Irel., aged 25 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (12th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (7th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. J. H. Morgan: The Affections of the Urinary Apparatus of Children. (Lettsomian Lecture.)

TUESDAY (8th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—Adjourned Discussion on Mr. A. Marmaduke Sheild's paper on Immunity and Latency after Operations for Reputed Cancer of the Breast. Opened by Sir Thomas Smith.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Paper:—Mr. L. Atkinson: Bacteriology for Pharmacists (illustrated by photo-micrographs and demonstrations of methods of cultivation and staining).

WEDNESDAY (9th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8 P.M. Annual General Meeting. 8.30 P.M. Dr. P. Horrocks: The Structure of the Placenta with especial reference to the Maternal and Fœtal Circulations and their bearing on Heredity. (Hunterian Oration.)

MEDICAL SOCIETY OF UNIVERSITY COLLEGE (London).—8.30 P.M. Mr. Victor Horsley: The General Medical Council.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Exhibition of Clinical Cases. Special Meeting in the evening. Discussion: Dermatitis Herpetiformis. Opening paper by Dr. A. Jamieson (Edinburgh).

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. Patterson, Dr. L. Lack, Dr. D. Newman, Dr. S. Spicer, Dr. Tilley, Dr. Waggett, Dr. Hill, Mr. C. Symonds, and others.

THURSDAY (10th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Specimens will be shown by Mr. Bowreman Jessett. Dr. Macnaughton-Jones (President): Inaugural Address. 10 P.M. Conversazione.

FRIDAY (11th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers: Mr. D. Newman: Cases of Malformation of the Kidney and Displacement without Mobility.—Mr. H. B. Robinson: Hydronephrosis with Stone in the Left Ureter, Successful Retro-peritoneal Uretero-lithotomy.—Dr. W. Ewart: On Latent and Ephemeral Pericardial Effusion.—Dr. S. West: Case of Serous Pleural Effusion of Fifteen Months' Standing treated by Incision.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

TUESDAY (8th).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4.30 P.M. Mr. E. Cotterell: On the Surgical Treatment of Paralytic Deformities, with cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Buzzard: Lecture.

ROYAL INSTITUTION.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

WEDNESDAY (9th).—THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Discussion on the Purification of Water for Barracks, Prisons, and other Institutions. Opened by Prof. J. Lane Notter.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Abraham: Cases of Skin Disease.

THURSDAY (10th).—CHARING-CROSS HOSPITAL.—4 P.M. Dr. Abercrombie: Demonstration of Medical Cases in the Wards. (Post-graduate Class.)

FRIDAY (11th).—ROYAL INSTITUTION.—9 P.M. Mr. J. H. Gladstone: The Metals Used by Great Nations of Antiquity.

EAST LONDON HOSPITAL FOR CHILDREN (Shadwell, E.).—4 P.M. Dr. Coutts: Scurvy in Infants.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 3rd, 1898.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan.	28	30·60	W.	...	48	46	41	40	43	Overcast
,,	29	30·64	W.	...	53	53	41	39	41	Overcast
,,	30	30·43	W.	0·02	58	56	40	51	53	Raining
,,	31	30·34	N.W.	0·08	71	54	50	46	50	Fine
,,	1	30·20	W.	0·03	63	58	47	52	53	Cloudy
,,	2	29·78	N.W.	...	77	50	47	42	47	Cloudy
,,	3	30·02	N.W.	...	51	45	40	38	40	Cloudy

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume, were given in THE LANCET of Jan. 1st.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

VEGETARIANISM AND QUEEN ELIZABETH.

WE have been favoured with a letter from a lady who uses "Stella" as a pseudonym and who denounces us as blood-thirsty and indecent because we do not, on the one hand, espouse the cause of vegetarianism, while on the other we neglect to insist upon the employment of women only to attend upon sick women. Our correspondent is terribly in earnest, but in her anxiety to get in her telling blows she leaves herself a little unguarded. Can we deny, she asks, that tuberculous meat is a source of danger? No, we cannot; but can "Stella" deny that milk is also a vehicle of tuberculous infection? and milk, we fancy, is an important constituent of the vegetarian diet. Can we contradict her, she asks, when she states that women are competent to wait on suffering women; and if not, why do we not put aside our intolerance and denounce "the gross impropriety of male ministration"? To this we would remark—regretfully—that it requires a nasty mind to see the impropriety that is so gross in "Stella's" opinion; and that to insist upon every woman having a woman to attend upon her would be a very intolerant proceeding, for some of "Stella's" suffering sisters might prefer the services of the opposite sex. Finally, "Stella" asks us to "look at Queen Elizabeth!" Despite its abruptness this may not be an inconsequent request, though we cannot see its bearing. We make no claim to a perfect knowledge of historical matters, but if "Stella" is meaning to adduce Queen Elizabeth as a proof that a woman can make a good ruler we think a better example could be found in times that are nearer to us. And if "Stella" means to imply that Queen Elizabeth was a successful monarch because she was a vegetarian we escape all discussion of the deduction by denying the premise. Putting aside the particular case of Queen Elizabeth, imagination staggers in the attempt to realise the reign of a queen whose policy should be swayed by her vegetarianism. We recommend the theme to Mr. W. S. Gilbert.

WANTED A HOME.

To the Editors of THE LANCET.

SIRS,—Will any brother practitioner kindly say in the columns of THE LANCET where a lad about five years old—idiotia simplex—could be located with hope of cure? The parents are not well off but would pay about 5s. per week.

I am, Sirs, yours faithfully,

Feb. 1st, 1898. J. J. H.

PUFFS FROM UNEXPECTED QUARTERS.

PAGE 6 of the supplement to the *Weekly Telegraph*, dated Jan. 29th, 1898, has been sent to us by a correspondent at Sheffield, who draws our attention to the following printed testimonials to the efficacy of a preparation entitled Woodward's Gripe Water for All Disorders of Infants and Young Children:—

"East Finchley, London, N., April 9, 1897.

"Dear Sir,—'WOODWARD'S GRIPE WATER' is a Pharmacological preparation of great value. Knowing its exact composition and having witnessed the happiest results from its administration, I can with confidence recommend it not only as a Safe but an Efficient Remedy. Spasmodic colic in infants IT RELIEVES WITH SURPRISING RAPIDITY.

"Yours truly, J. DYSART McCAW, M.D."

"Kirkintilloch, July 9, 1896.

"Dear Sir,—During the last fifteen years I have been a prescriber of 'Gripe Water.'—Yours faithfully,

"WM. WHITELAW, M.D., Medical Officer of Health."

"Cleveland House, Derby, Aug. 8, 1895

"Dear Sir,—I have prescribed 'Gripe Water' for upwards of twenty years, and consider it a safe and effectual remedy.

"Yours truly, W. H. WRIGHT, L.R.C.P., &c.,
"Medical Officer of Health."

"Westfield, N.J., U.S.A., July 30, 1895.

"Dear Sir,—Woodward's 'Gripe Water' challenges my admiration and confidence as a scientific and notably honest remedy.

"Yours truly, W. H. MORSE, M.D.,
"Consulting Therapeutist."

From ANDREW WILSON, Esq., M.D., F.R.S., &c., &c.

"It is an excellent Family Remedy, and no Nursery should be without it."

We cannot trace in the Medical Directory the M.D., F.R.S., whose sapient opinion it is that no nursery should be without this remedy for "all disorders of infants and young children," so possibly there is no such person; nor do we think it a matter of importance to our readers that gripe water should challenge the admiration of a consulting therapeutist in New Jersey. But we are strongly of opinion that the other three gentlemen should at once and vigorously repudiate the responsibility that has been thrust upon them of recommending this nostrum to the public.

"THE TREATMENT OF CHRONIC PROSTATITIS."

To the Editors of THE LANCET.

SIRS,—In answer to your correspondent "Medicus," who in THE LANCET of Jan. 22nd asks for a reliable method of treating a case of chronic prostatitis, I would beg to suggest the following which is on the lines adopted in Vienna at Professor Finger's Klinik with very satisfactory results. The treatment consists in the alternate massage of the prostate gland and the local application of astringent and antiseptic lotions. The index finger of the right hand may be used in the ordinary way for massaging the prostate, but the process is more efficiently and conveniently carried out with the aid of an instrument devised for the purpose by Professor Finger. It consists of a bulbous rectal sound about twelve inches long and slightly bent upon itself in the middle, so that one half forms a handle or lever by which the bulbous end can be manipulated. At the first sitting it is advisable to wash out the urethra with a backward flow catheter and get the patient, who should be bending forward over the back of a chair during the massage process, to hold a glass slide up to the meatus urinarius. The fluid thus pressed out of the prostate oozes out on to the slide and should be stained and examined under the microscope, when a rough indication of the state of the gland is got by observing the quantity of pus and epithelial débris present in the specimen. By comparing this with the results of subsequent examinations a fair idea of the progress of the case is obtained. On these occasions care must be taken to avoid pressing upon the seminal vesicles, otherwise the prostatic exudation will be largely diluted with spermatic fluid. For the local application of lotions an Ultzmann's syringe (*Injectionscapillarröhre nach Ultzmann*) is needed. It is merely an arrangement like an ordinary hypodermic syringe to which in the place of a needle a curved metal catheter is screwed on. Begin the treatment by a careful massage of the prostate either with the forefinger or more conveniently with the Finger's sound, which should be greased with vaseline. This being done fill the Ultzmann's syringe with 5 to 10 c.c. of a 0·5 per cent. solution of silver nitrate, lubricate the catheter end with glycerine in preference to oil and introduce it into the urethral canal up to the prostatic portion which can be localised by any of the ordinary methods; then gently press the piston of the syringe so that the lotion is directly applied to the diseased gland and carefully withdraw the instrument. Both operations should be repeated on alternate days, the strength of the lotion being gradually increased. For example, at about the fifth or sixth sitting a 1 per cent. solution of silver nitrate may be used, and after three or four such applications, if the urethra is not much inflamed, a 5 per cent. solution of copper sulphate should be substituted for the silver nitrate. Use this two or three times and then return to the 1 per cent. solution of silver nitrate, alternating it this time with a 10 per cent. solution of copper sulphate. Proceed on these lines until a 2 per cent. solution of silver nitrate is alternated with 15 per cent. of copper sulphate. Test the progress of the case from time to time by examining microscopically the fluid squeezed out of the prostate and note also the greater ease with which the patient bears the massaging. In ordinary cases the cure is complete in about six weeks or less from the commencement of the treatment. Should matters remain stationary, however, or without much improvement after the period indicated a good plan is to suddenly increase the strength of the silver nitrate solution to 5 per cent. This application is followed by a sharp inflammatory reaction and treatment must be suspended for four or five days, after which the use of the 2 per cent. lotion is to be resumed and alternated with the copper as before. Where, as frequently happens, the case is complicated with stricture or with an anterior or posterior urethritis or both it is well to alternate the massaging with the passage of a urethral sound varying in size according to circumstances and also at every sitting, after the local application to the prostate, to reserve part of the lotion in the syringe to be pressed out drop by drop along the urethra as the instrument is being withdrawn. Finger's sound and Ultzmann's syringe may be had by post at a moderate price from H. Reiner, Franzen Ring 22, Vienna.

I am, Sirs, yours faithfully,

Lauriston-place, Edinburgh. GEORGE H. MASSON, M.D. Edin.

"MR. HALL HAINS'S DEFENCE FUND."

To the Editors of THE LANCET.

SIRS,—I have received the following additional subscriptions to the above Fund. The list is now closed and a cheque for the amount will be presented to Mr. Hall Hains on Friday evening, the 4th inst., at the house of the chairman of the committee, 15, Bath-road, Bedford-park. Thanking you for your courtesy in inserting the appeal and the lists of subscriptions, I am, Sirs, yours faithfully,

HERBERT CARRE-SMITH,
Hon. Secretary and Treasurer.

3, Turnham-green-terrace, Chiswick, W., Feb. 1st, 1898.

	£	s.	d.
Amounts previously acknowledged	100	3	6
Mr. Edmund H. Gonin, M.B., C.M. Edin. ...	2	2	0
Mr. B. Osborn Fountain, M.D. Brux.	1	1	0
Surgeon-Major Russell Cree	10	0	0
Total	£113	6	6

"A PROLIFIC MOTHER."

To the Editors of THE LANCET.

SIRS,—The instance of hyperfertility communicated by "M. B." in THE LANCET of Jan. 29th induces me to quote an even more remarkable case occurring within my own experience. In March, 1896, I delivered a woman of her twenty-fifth child—a robust male. The mother was exactly forty years of age, and having been married at fifteen she had thus produced on an average one child per annum for twenty-five years. In addition to these she had had, as she expressed it, "*at least* three miscarriages." On two occasions (or it may have been three, I forget at this moment) there were twin births. She was a very stout, healthy Irishwoman. I am, Sirs, yours faithfully,

Jan. 31st, 1898. C. M.

"A NEW CYCLE BRAKE AND COASTER."

To the Editors of THE LANCET.

SIRS,—As I see in THE LANCET of Jan. 29th an account of a cycle fitted with coaster mechanism and rear-wheel, pedal-actuated rim brake, some of your readers may be interested to know that there is another machine on the market which has, in addition to the two devices above mentioned, a four-speed variable gear. This is the Whippet cycle, fitted with Protean gear. The gear mechanism consists of a front chain-wheel made in two pieces which expand and contract in response to back-pedalling. The slack chain necessitated by the changes in the size of the chain-wheel is kept taut by a small wheel at the end of a lever. Two ranges of gear are fitted, one from 56 in. to 65 in., the other from 63 in. to 73½ in. Each has two intermediate gears. I recently rode one of these machines to Redhill and back and, having previously gone over the same road on a Safety fitted with fixed gear, can testify to the great advantage derived from the variable gear on even a moderately hilly road. The makers are the Whippet Cycle Syndicate, Limited, 281, Oxford-street, and anyone calling there will meet with a most courteous reception and find every facility afforded for trying the machine.—I am, Sirs, yours faithfully,

F. HYDE MABERLY, M.D. Dub.

Eardley-crescent, Earl's-court, Jan. 30th, 1898.

WANTED A QUALIFIED MEDICAL MAN.

AN enterprising advertiser thus expresses his wants in the *Yorkshire Post*:—

> WANTED, a qualified Medical Man, for two hours a day, to assist a patent medicine vendor.—Address "Medicus," c/o Smith's Advertising Agency, 61, Lord Street, Liverpool.

We hope "Medicus" attaches no vital importance to obtaining what he wants, because, firstly, it is unlikely that he will find a qualified medical man ready to degrade himself and, secondly, the General Medical Council would remove such a person from the Medical Register immediately.

A QUESTION IN SURGERY.

F.R.C.S. wishes to know if there are any recorded cases of recovery after simultaneous ligature of the popliteal artery and vein for arterio-venous aneurysm without loss of limb.

◆

K. W.—We consider that under the circumstances detailed our correspondent has been treated badly by his fellow practitioner, but we do not think he can take any steps that would put matters right.

Public Health.—It is, unfortunately, impossible to "give a decided opinion" or to say how our correspondent "stands exactly," for we cannot forecast the view which any particular sanitary authority might take. We consider the diploma of L.R.C.P. Lond. earned before the conjoint scheme to be tantamount to a double qualification, as the document is headed "Qualification to practise Medicine, Surgery, and Midwifery," and in the body occur the words, "Licence ...... to practise Physic, including therein the practice of Medicine, Surgery, and Midwifery." We think that any sanitary authority who desired to obtain our correspondent's services would be likely to take this view.

ERRATUM.—In our issue last week, under the heading of "Books, &c., Received," Adlard and Son, Bartholomew-close, should read, "The New Sydenham Society," London, Vol. clxii., Second Series.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Teignmouth Gazette, Cheltenham Examiner, Berkshire Chronicle, Chester Courant, Northampton Herald, Fife Herald, Hastings Chronicle, Kentish Observer, Doncaster Chronicle, Times of India, Pioneer Mail, Elgin Courant, Glasgow Herald, Peterborough Advertiser, Builder, Hinckley Times, West Sussex Gazette, Boston Advertiser, Liverpool Daily Post, Lynn Advertiser, Architect, Preston Herald, Loughborough Monitor, Kendal Mercury, South Durham Mercury, Wolverhampton Chronicle, Halifax Guardian, Hornsea Gazette, Bury Guardian, Bristol Mercury, Keighley News, Lowestoft Standard, Scotsman, Yorkshire Post, Birmingham Gazette, Rochdale Observer, Manchester Guardian, Brighton Herald, Leeds Mercury, Montreal Gazette, Newbury Daily News, Banbury Guardian, Grimsby News, Norwich Mercury, Cambrian, Cromer Post, Devon Weekly Times, Worcester Chronicle, Eastbourne Gazette, Essex Telegraph, Eastern Morning News, Somerset County Herald, Isle of Wight Chronicle, Cambridge Express, Norfolk Chronicle, Oban Times, Royal Cornwall Gazette, Brighton Gazette, Evening Times, Glasgow, Local Government Chronicle, Mining Journal, City Press, Hertfordshire Mercury, Reading Mercury, Local Government Journal, Chelsea Mail, Weekly Free Press and Aberdeen Herald, Australasian Medical Gazette, Surrey Advertiser, Leamington Courier, South Wales Daily Argus, West Middlesex Herald, Public Health, Stroud Journal, Woodford Times, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Mr. R. Ackrill, Harrogate; Anderson's College Medical School, Glasgow, Secretary of; Dr. J. G. Allen, Armagh.

B.—Miss Boulkbee, Lond.; Bournemouth Hydro, Medical Superintendent of; Messrs Brady and Martin, Newcastle-on-Tyne; Byrne's Advertising Agency, Lond.; Messrs. Blondeau et Cie, Lond.; Messrs. Burgoyne, Burbidges, and Co., Lond.; Mr. W. G. Burcombe, Lincoln; Mr. W. A. Batchelor, Bristol; Messrs. Baillière, Tindall, and Cox, Lond.; Mr. W. H. Bennett, Lond.; Messrs. W. H. Bailey and Son, Lond.; Dr. Lucas Benham, Lond.

C.—Dr. F. J. H. Coutts, Manchester; Dr. H. Campbell, Lond.; Cortland Wagon Co., Lond.; Messrs. W. Currie and Co., Edinburgh; Dr. S. Conner, H.M.S. *Albacore*, Queenstown; Messrs. H. and W. Cox, Leicester; Dr. C. Childs, Lond.; Messrs. Cassell and Co., Lond.; Dr. W. H. Coates, Holderness; Messrs. Cordingley and Co., Dr. W. B. Cheadle, Lond.; County Borough of Cardiff, Medical Officer of Health of; Cornwall County Asylum, Bodmin, Clerk of; Messrs. J. A. Carveth and Co., Toronto.

D.—Mr. A. Davies, Lond.; Surgeon-Major A. Duncan; Mr. F. Davidson, Lond.; Deus, Lond.; Messrs. Dawbarn and Ward, Lond.; Messrs. Dargue, Griffiths, and Co., Lond.; *Daily Contract Recorder*, Lond.

E.—Dr. F. A. Elkins, Ryhope; Messrs. Elliott, Son, and Boyton, Lond.; Erwoods Advertising Offices, Lond.; Établissement Thermal d'Uriage, France, Director of.

F.—Dr. G. C. S. Fulton, Middlesborough-on-Tees; Mr. R. Forbes, Lond.; Falona Food and Cereal Co., Lond.

G.—Mr. J. Gibson, Ecclefechan; Mr. A. Gore, Chester; Glasgow Royal Infirmary, Superintendent of; Gloucester General Infirmary, Secretary of; Dr. T. Grainger, Consett; G. W. K. C., Lond.

H.—Mr. J. Heywood, Manchester; Mr. J. Halton, Lond.; Messrs. Hazell, Watson, Viney, and Co., Lond.; Mr. G. B. Hudson, Hertford; Mr. W. Hubbard, Partick; Hastings Corporation, Town Clerk of; H. J., Lond.; Dr. Hodgson, Lond.; Mr. G. L. Hayes, Sheffield; Huntingdon County Hospital, Hon. Secretary of.

I.—International Health Exposition, New York, U.S.A., Secretary of.

J.—Mr. H. M. Jordan, Lond.; Mr. N. P. Jasper, Lond.; Mr. J. C. Jones, Sheffield.

K.—Dr. D. B. Keefe, Springfield, Mass., U.S.A.; Mr. F. W. Kendle, South Molton; Messrs. C. Kinlock and Co., Lond.

L.—Mr. S. H. Long, Norwich; Dr. J. F. Little, Lond.; Mr. W. E. Langton, Lond.; Messrs. H. K. Lewis, Lond.; Mons. H. Le Soudier, Paris; Messrs. Lee and Martin, Birmingham.

M.—Mr. F. J. Manor, Lond.; Dr. G. H. Masson, Edinburgh; Manchester Children's Hospital, Pendlebury, Secretary of; Mr. F. V. Milward, Lond.; Medicus, Bournemouth; Messrs. Mackey, Mackey, and Co., Lond.; Messrs. J. Menzies and Co., Edinburgh; Professor E. Morelli, Rome; Messrs. J. F. Macfarlan and Co., Lond.; Mutual Life Insurance Co. of New York, Lond., Manager of; Dr. J. Irvine Menzies, Lond.; Dr. Macintosh, Chesterfield; Messrs. S. Maw, Son, and Thompson, Lond.; M.D., Woking; Mr. J. G. Mabey, Chudleigh; Mr. J. Y. W. MacAlister, Lond.; Dr. H. Mackenzie, Edinburgh; Medical Officer of Health, Huddersfield.

N.—Mr. G. P. Newbolt, Lond.; Dr. A. Newsholme, Brighton; National Telephone Co., Lond.; Newport and Monmouthshire Hospital, Secretary of.

O.—Dr. E. T. Osbaldeston, Lond.; Messrs. P. de Otaduy and Co., Lond.; Omicron, Lond.

P.—Mr. Y. J. Pentland, Edinburgh; Price's Patent Candle Co., Lond., Manager of; Press Association, Lond., Manager of; Messrs. J. B. Petter and Sons, Lond.; Mr. B. Pitts, Lond.; Mr. F. J. Paynton, Lond.

R.—Dr. N. Raw, Liverpool; Royal Lancaster Infirmary, Hon. Secretary of; R. A. O., Lond.; Mr. C. Ricker, St. Petersburg; Messrs. W. A. Ross and Sons, Belfast; Ross, Ltd., Lond.; Mr. J. H. Ray, Manchester; Dr. H. B. Robinson, Lond.; Dr. Roussoirtel, Lond.; Professor W. K. Roth, Moscow; Royal Alexandra Hospital for Sick Children, Brighton, Secretary of; R. M. O., Lond.

S.—Dr. S. Sutherland, Lond.; Mr. W. B. Saunders, Philadelphia, U.S.A.; Mr. T. Smith, Lond.; F. Saunders, Peterborough; Mr. T. G. Sumpter, Brussels; Messrs. Spiers and Pond, Lond.; Messrs. Sparks, Treharne, and Son, Lond.; South Devon and East Cornwall Hospital, Plymouth, Steward of; Messrs. Scott and Bowne, Lond.; Sunderland Borough Asylum, Clerk of; Messrs. Street and Co., Lond.; Mr. T. Savage, Birmingham; Mr. H. Sell, Lond.; Messrs. W. H. Smith and Son, Lond.; Mr. T. P. Salt, Birmingham; Society of Arts, Lond., Secretary of; Dr. Simpson, Basingstoke; Mr. Stanyon, Leicester; Mr. P. P. Sale, Birmingham.

T.—Dr. C. F. Turner, Lond.; Dr. H. Tylecote, Stone; Tewkesbury Union, Clerk of.

V.—Dr. F. C. Van Someren, South Hampstead; Victoria Hospital for Sick Children, Lond., Secretary of.

W.—Dr. Woodwood, Worcester; Dr. E. Walford, Cardiff; Mr. F. Wilson, Lond.; Mr. E. H. Woods, Lond.; Lieutenant-Colonel J. B. Walker, Woking; Dr. D. Walsh, Lond.; Mr. A. V. Wagner, Lond.; Mr. H. Whewell, Bolton.

Y.—Mr. C. A. Young, Hertford; Messrs. Charles Yarrow and Co., Lond.

Z.—Messrs. Zimmer and Co., Frankfort-on-Main.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. J. Althaus, Lond.; Dr. F. H. Alderson, Lond.; Dr. E. Allen, Hawes; Mrs. A. Anderson, Galway; Anglo-Swiss Condensed Milk Co., Lond.; D. A. Anklesaria, Sadra, India; Ashwood House, Kingswinford, Proprietor of; Acbor, Colwyn Bay; Mr. J. W. Arrowsmith, Bristol; Mrs. M. Aitken, Sale; A. B C, Gravesend; Messrs. Allen and Hanburys, Lond.

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The Lettsomian Lectures
ON
THE AFFECTIONS OF THE URINARY APPARATUS IN CHILDREN.

Delivered before the Medical Society of London.

By JOHN H. MORGAN, M.A. Oxon.,
F.R C.S. Eng.,

SURGEON TO CHARING-CROSS HOSPITAL; LECTURER ON SURGICAL PATHOLOGY AND PRACTICAL SURGERY, AND SPECIAL CLINICAL TEACHER OF SURGERY, CHARING-CROSS HOSPITAL MEDICAL SCHOOL; SURGEON TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

LECTURE I.[1]

Delivered on Feb. 7th, 1897.

Introduction.

Mr. President and Gentlemen,—It is no small honour to be chosen by the council of this society to follow in the steps of such distinguished men as are numbered in the roll of former Lettsomian lecturers, and in thanking the society for the distinction so kindly proffered I trust that the selection of my subject may not prove unworthy of the traditions handed down by my predecessors. I was guided by the fact that whilst many have chosen the diseases of childhood as the subject of these lectures, many also have given valuable researches into the treatment of diseases of the urinary organs. I was confirmed in my choice by finding to how small an extent was any special reference made to the diseases of the urinary tract in children and yet how much scattered observation and record there existed on the subject. It will be my earnest effort in these lectures to collect and review much of this wayside literature and to present it to you with such observations of my own as an experience of more than twenty years may seem to warrant.

Abnormalities of Kidneys.

Like other organs of the body the kidneys are not exempt from certain eccentricities of development, but as the majority of instances have been found in the bodies of adult persons who have died from causes unconnected with such conditions it is seldom that these abnormalities have to be reckoned with in early life. A writer (Dr. Englisch) in the *Wiener Medicinische Zeitung* states that a fœtus may attain the age of from seven to eight months with the kidneys wanting or rudimentary, the ureters obliterated, and the bladder undeveloped. In some forty cases he had found atresia of the urethra or absence or defects of the ureters, the fœtus reaching from eight to nine months, and Rayer and others have recorded the absence of kidneys in the fœtus. But notwithstanding some cases which have been published it may at once be said that the subjects of such deficiencies are not viable.

A recognised variation from the normal is found when the two organs are united, either by renal tissue or by a fibrous band, constituting the horse-shoe kidney, the convexity of which always faces downwards, and which lies transversely over the lumbar spine, generally rather lower than the level of the normally placed gland. There are usually two ureters, which pass in front, but sometimes behind, the organ, and the vascular supply is also double. Of this condition there are occasional variations, but so far as regards our present subject the horse-shoe kidney is of interest only as an abnormality, since I have not met with an instance where in the case of a child it has been in itself the source of disease or of difficulty in the diagnosis of other affections. The rarity of its occurrence may be judged by the figures of Mr. Morris, who found only nine instances in 14,318 post-mortem examinations, or about 1 in every 1600. From the records of the post-mortem books of the Hospital for Sick Children, Great Ormond-street, extending over twenty years (1878–1897), which have been searched by Mr. Templeton, the surgical registrar, for this purpose, out of 2594 necropsies only three instances of horse-shoe kidney are noted. In one the left ureter was dilated and one was complicated by imperforate anus.

The kidney may retain more or less its lobulated fœtal form into adult life without any impairment of efficiency.

Absence of Kidney.

The absence of one kidney and a corresponding hypertrophy of the other is a possibility that may have to be reckoned with. The left is by far the most frequently found to be defective. Mr. Morris has been at much pains to estimate the proportion of individuals in which this congenital atrophy of one gland occurs and from a large number of figures he reckons it as happening in one out of rather more than 3500. Quoting again from the hospital statistics there are five instances of aborted kidney in the post-mortem books of the Hospital for Sick Children, Great Ormond-street. Two were on the left side, two on the right, and in one the side is not noted. Two were complicated with imperforate anus and one had the foramen ovale patent; in another the suprarenal capsule was absent and there was also hypospadias. In a girl aged ten years who died after operation for cleft palate the left kidney was atrophied and the left ureter dilated. One instance occurred in which the right kidney was small and consisted of three lobes and the left kidney was a bag of pus, the child dying from uræmia. When the kidney is absent the corresponding suprarenal capsule is also wanting in one out of every ten. In Virchow's *Archiv*, 1838, Brenner collected records of forty-eight cases of congenital absence of one kidney, but in all these except five the suprarenals were present. He found also that in one-third of his series there was some malformation or arrest of development in one or other of the genital organs. Out of forty-six cases of single kidney quoted by Rayer and analysed by Mr. Morris four were in young persons between four and fifteen years old, two were in fœtuses, and one in a fœtal monster. In a boy aged five years and four months who died in the Hospital for Sick Children, Great Ormond street, the left kidney alone was present. It weighed 4¾ oz., which is about the weight of the two normal kidneys of a child of the age of five and a half years. The pelvis and ureters were proportionately large. The organ appeared to be quite healthy. There was no trace of a right kidney or ureter and no indication whatever of a ureteral orifice on the right side of the bladder. A case of extreme congenital atrophy of one kidney occurred in a new-born male with imperforate rectum who lived only five days. The right kidney measured one inch and its pelvis was much dilated; the left kidney measured only one-third of an inch and was smaller than a haricot bean.

Abnormal Position.

In Mr. Morris's work and in the volumes of the Transactions of the Pathological Society will be found many instances of abnormal position of a single kidney, but although the possibility of such an occurrence may be borne in mind in the diagnosis of obscure tumours they are exceedingly rarely met with and need only be suspected when there also exists some one or other congenital malformation such as was found to occur in the two cases mentioned.

Roberts states that in twenty-one cases of congenital malposition of the kidney which he had been able to collect and to compare the abnormality was in every instance confined to one kidney, and the left was much more commonly affected than the right (the left in fifteen cases and the right in six).

The most frequent of these deviations was to find the kidney lying obliquely on the sacro-iliac synchondrosis. In some of the cases the organ was fixed beside the uterus or transversely between the rectum and bladder or across the prominence of the sacrum. Such abnormalities have led to mistakes in diagnosis and even of treatment in the case of adults and in women to trouble in parturition. Only two instances are to be found in our tables. In a boy aged four years, who died from diphtheria, the right kidney lay on the brim of the pelvis and in a girl of the same age the kidneys were fused and lay over the sacral prominence. There were two ureters and the vascular supply was abnormal, but in children it is so easily possible when the muscles are relaxed by an anæsthetic to examine the abdomen, that the absence of a kidney from its normal position or its presence in an unusual one would hardly fail of detection if once suggested. It is of the greatest importance in considering this question that the condition of the organs of generation should be carefully examined, since they frequently exhibit concomitant variations where the kidneys are abnormal. Dr. Guttman[2] quotes the case of a boy, aged fifteen years, with right kidney and ureter wanting as well as the right vesicula seminalis and vas deferens; and in a female, aged twenty years, in whom the right kidney and ureter were absent, the external and internal organs of generation were very defectively developed.

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[1] Lectures II. and III. will be delivered on Feb. 21st and March 7th respectively.

Although instances of complication from this condition are very rare it is one that it is important to bear in mind when dealing with cases of sudden and complete suppression of urine, since in such cases it is possible that one kidney is congenitally absent and the remaining ureter obstructed. Of this Mr. Jonathan Hutchinson has related two instances[3] and another is described by Mr. Pick. Especially is it important both in adults and in children when the question of nephrectomy has to be entertained that all indications of the absence or atrophy of one kidney should be carefully regarded. Although some cases of moveable kidney have been reported as occurring in children where the gland is suspended in a peritoneal fold of its own, the meso-nephron, and where the vessels are of undue length the condition so rarely gives rise to symptoms as to require no discussion.

ABNORMALITIES OF URETERS.

The ureters show frequent aberrations from the normal type. Dr. Ewart has described a case where each organ had two separate ureters which began in distinct pelves and terminated independently in the bladder. All four were pervious. Sometimes two ureters leaving the pelvis of the kidney unite before entering the bladder at the usual situation. This may be seen in a specimen from a child in Charing-cross Hospital museum. The left kidney has a second ureter which arises from the pelvis a good deal higher than the other, which commences at the usual situation. This second ureter runs almost a straight course downwards and joins the proper duct at a right angle about half an inch before its entrance to the bladder. In five instances of double ureter noted in the books of the Hospital for Sick Children, Great Ormond-street, four were on the right side and one on the left. In no case were they the source of disease. Mr. Shattock[4] regards doubling or trebling of the ureter as a reversion to a lower type. In amphibia there are as many ureters as there are segments of the mesonephric kidney. It may be assumed that the portion of the kidney in connexion with the superior of the ureters represents a persistent segment of the mesonephros with its appertaining duct, which has remained functional and supplementary of the metanephros or permanent kidney with which it retains its primitive continuity.

But it is with regard to their causative relations to congenital hydronephrosis that the abnormalities of the ureters are of special interest. In the case of cystic kydney removed by abdominal section and presented by Dr. Day to the Hunterian Museum the ureter was represented by a fibrous cord which was traced down to the bladder and it seemed probable that the impervious ureter was a congenital defect and the cause of the dilated condition of the kidney. Another case in which cystic degeneration of the left kidney took place during intra-uterine life is found in the Transactions of the Pathological Society of London, vol. xxxi., p. 187, where the condition is ascribed to a valvular fold of mucous membrane of the ureter. On the right side the ureter was doubled to within half an inch of its lower end. The anus was imperforate and the bowel transposed. In another instance the left kidney was converted into a cyst in which a few small patches of secreting structure were left and lay in the angle between the diverging common iliac arteries, the ureter was short, narrow, and patent, but its orifice was no larger than a pin's hole and placed inferiorly. In twenty out of fifty-two cases of hydronephrosis Sir W. Roberts found a congenital malformation; in four the ureter was imperforate; in three it entered too obliquely into the pelvis of the kidney; and in two a supernumerary renal artery crossed and compressed the ureter near its origin. Four of these cases lived for periods varying from five years and a half to twenty years and Dr. Hare's patient, where both ureters were coiled on themselves near their origins and adherent to the lower part of the dilated pelvis, thus forming a valve-like obstruction, survived to the age of thirty-eight years. The remainder died at a very early age.

HYDRONEPHROSIS.

Among the necropsies at the Hospital for Sick Children, Great Ormond-street, there were twelve cases of dilated pelves or hydronephrosis. Two of these were complicated by imperforate anus, one by harelip, and another by cleft palate. To account for the gradual occurrence of hydronephrosis Roberts assumes that the impediment was at first incomplete though the malformation was congenital, and that its effects were not fully developed until a subsequent period and then probably with extreme slowness. As put by Mr. Greig Smith, "complete obstruction to the urinary flow leads to atrophy rather than dilatation; stricture varying in narrowness predisposes to dilatation." It is probably due to this that in many cases, especially when unilateral, the tumour is small and gives rise to no symptoms, whilst in intermitting cases the swelling will often attain enormous proportions.

In several of the London hospital museums are specimens of hydronephrosis in young persons due to phimosis, and Mr. Morris and Dr. Alexander James have both pointed out that dilatation of the ureters and pelves may be the result of increased frequency of micturition which, by exciting frequent contraction of the walls of the bladder and frequent closure of the vesical orifices of the ureters owing to the anatomical arrangement whereby the ureters traverse the parietes of the bladder, thus occasion frequent resistance to the outflow of urine from the ureters. The same explanation may account for the dilated and tortuous condition of the ureters which is generally found to exist in cases of ectopia vesicæ when, as can be seen, the discharge from the orifices of the ducts is constant.

Newman describes a specimen from the body of a stillborn child in which a cyst of about the size of a walnut completely occluded the right ureter and caused enormous distension of the renal pelves, and a similar case occurred at the Hospital for Sick Children, Great Ormond-street, where both kidneys and ureters, which were double on the right side, were dilated in consequence of a small cyst which was found in the bladder, and a few specimens are recorded as resulting from an imperforate urethra. Sutton has recently described four cases of congenital hydronephrosis, in two of which the dilatation of the pelvis was due to the minuteness of the opening of an inadequate ureter; in a third, which was obtained from an infant, the right kidney only was present, the infundibula, pelvis, and ureter were widely dilated, and at the point where the ureter opened into the bladder there was a small circular diaphragm-like valve, which, though offering no obstruction to the flow of fluid from the ureter into the bladder after death, probably acted as a mechanical obstacle during life. He further suggests that compression of the penis between the thighs, or between the thigh and pelvis when the legs are flexed on the trunk during fœtal life, might explain the retention which gives rise to prenatal hydronephrosis.

These being the main congenital causes of hydronephrosis it is important to notice the frequency with which both kidneys are affected. Out of twenty cases collected by Sir William Roberts in thirteen the condition was bilateral—a statement which must be borne in mind in considering the question of nephrectomy. Two of these perished stillborn, one lived six hours, one thirty, and one forty-six, hours, while one died twenty days, and another between three and four months, after birth. In other cases where life was prolonged "we must assume," says Sir William Roberts, "that the impediment to the urinary flow was at first incomplete, though the malformation was congenital, and that its effects were not fully developed until a subsequent period and then probably with extreme slowness."

It is unnecessary to describe here the well-known appearance of kidneys affected by this condition. Generally they present a mere fibrous skeleton of the gland with the pelvis and calyces enormously dilated and the secreting structure to a great extent and sometimes entirely absorbed. The surface shows numerous rounded elevations bounded by fibrous septa and corresponding to the lobules of which the fœtal kidney is composed. The fluid which is contained in such a sac is of a low specific gravity and contains little urea or uric acid.

As already indicated in the foregoing enumeration of causes the effects may be immediate or remote. If the condition affects both kidneys death usually occurs at a very early period. If, on the other hand, it be unilateral and due to permanent obstruction of the ureter there may be no symptoms and life may be prolonged to its natural term. When, however, the cause is intermittent, as in many instances that have been given, a tumour is produced which requires to be differentiated from other similar swellings. In the absence of any history of severe crush or blow it will not be confused with a perirenal hæmatoma or perinephritic abscess. Notably it may need to be distinguished from ascites, especially if both kidneys are involved, which can, however, hardly ever be the case, and where the one kidney only is affected the permanent dulness on the affected side in all positions, and the uneven surface of the tumour as contrasted with the even surface of the abdomen, with the shifting of the fluid and the accompanying anasarca, will probably make the distinction an easy matter. From the rare cases of ovarian cysts in children the tumour would be distinguishable by the presence of the colon in front and by the dulness in the lumbar region of the side affected. Hydatids of the kidney are very rare in children and their presence could only be surmised by the detection of the hydatid fremitus and by the passage of cysts with the urine. One is described by Mr. Bruce Clarke as having been found in the kidney of a boy who died from rupture of the stomach and one was found post mortem in a child who died at the Hospital for Sick Children, Great Ormond-street. The presence of pus in the urine and the accompanying pyrexia would indicate the condition of pyonephrosis whether engrafted upon the cystic condition or arising in consequence of a calculus in any part of the tract or due to tuberculous disease. The region of the kidney is occasionally the site of tumours of the character of cystic hygroma and such a one is described by Sir T. Smith and was exhibited by him at the Pathological Society of London. The tumour weighed 14 lb. and was removed from a child seventeen months old whose weight was more than half made up by the disease. It was first noticed at the age of three months when it appeared to be of the size of an orange. Although from the first the disease made very rapid progress it was not accompanied by any special cachexia and, until by its size and weight the tumour interrupted the functions of the abdominal viscera, the child's health was unaffected. When this, however, took place the child rapidly emaciated and died from inanition. After death the tumour was found to be behind the parietal layer of the peritoneum which was tightly stretched over its anterior surface. It was covered by a distinct capsule and had formed no connexion either by adhesion or infiltration with surrounding parts. It originated in the substance of the left kidney, the remains of which, unaltered in structure, were found spread out in a thin layer over its posterior surface. The ureter was healthy, there was no affection of the lymphatic glands and the remaining viscera were unaffected. On dissection the tumour was found to contain numerous cysts embedded in a coarse fibrous or reticulated structure. The cysts were of various sizes; the larger ones contained others of smaller dimensions springing from their inner surface. On microscopic examination the solid parts were found to be of a fibro-cellular structure, the cellular elements predominating over the fibrous. The cysts contained a clear serous fluid.

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[2] The Lancet, May 19th, 1883, p. 875, quoted from Virchow's Archiv.
[3] The Lancet, July 4th, 1874, p. 1.
[4] Transactions of the Pathological Society, vol. xxxvii., p. 289.

In the eighteenth volume of the Transactions of the Royal Medical and Chirurgical Society Mr. Cæsar Hawkins described a cyst which filled the entire right side of the abdomen in a boy aged six years. In the walls of the cyst was a small third kidney which had no excretory duct. The cyst was punctured during life and five pints of aqueous fluid, free from albumin and urinary salts, were found in it after death.

Although not arising in, or directly connected with, the kidney other congenital cysts are found to occur in the neighbourhood which might be confused with those with which we are now concerned. Such are the various forms of mesenteric cysts described by Mr. Treves in his work on surgery, and others related by Mr. Moynihan,[5] one of which occurred in a girl, aged six years, and was multilocular, and two others are described in the *Annals of Surgery*, June, 1897, one of which occurred in a child, aged four years, and another in a boy, aged eight years, which attained enormous size. It was twice tapped and finally removed, when it was found to be multilocular and attached to the great omentum by its entire width below the margin of the transverse colon, within the folds of which the cyst had developed. Two interesting cases in which the cysts were removed have recently been related by Mr. Eve in a paper read before the Royal Medical and Chirurgical Society.

In a congenital hydronephrosis there is one sign which only occasionally is given but which is definitely reliable as indicating the nature of these tumours—viz., the sudden subsidence of the swelling followed by an increase in the flow of urine. If the dilatation becomes sufficient to form a tumour, which it may do at any time between the third and eleventh year or even later, the necessity for surgical interference will arise, partly as a means of diagnosing the exact nature of the swelling and partly to relieve the patient of the inconvenience and sometimes even of the pain and the effects of pressure upon the intestines which occasionally result. A trial may first be made of systematic rubbing, which was successful in the case of a girl, aged eight years, under the care of Sir William Roberts, who suddenly passed a large quantity of urine, when the swelling subsided and did not return. The same treatment was temporarily successful in a child, aged three months, under the care of Sir William Broadbent and in a third case under the care of Mr. Thurnam in a boy aged four months. But where this treatment is not available either on account of the pain caused or the risk of rupturing the cyst the fluid must be withdrawn by the aspirator or trocar. In the absence of any very distinctly fluctuating area Mr. Morris directs that in the case of the left kidney the puncture should be made just anterior to the last intercostal space, whilst on the right side, to avoid all risk of injuring the liver, it should be half-way between the last rib and the crest of the ilium between two inches and two and a half inches behind the anterior superior spine of the ilium.

The fluid thus released often amounts to a very large quantity and is of a brownish colour and contains urates and urea. As a rule it reaccumulates very rapidly and fresh tappings are required. The most notable instance of recovery by this means is in the case related by Dr. Hillier of a boy, aged four years, who was repeatedly tapped and after one of the tappings a quantity of fluid was passed from the bladder exactly similar to that from the cyst, a temporary communication thus obviously being established between the cyst and the bladder. This continued to occur. It was presumed that a congenital malformation of the right ureter existed which rendered it liable to occlusion but admitted under some circumstances of the passage of fluid. The boy died four years later from cerebral symptoms and the right kidney was found to be converted into an enormous cyst. The right ureter was abnormally constricted, especially at its vesical end, so that fluid did not escape into the bladder until a fine probe had been passed.

Although this proceeding is occasionally successful and the insertion and retention of a drainage tube has been followed by temporary relief the operation that is most satisfactory is nephrotomy, followed by tapping of the cyst, and attachment of the margins of the incision in the tumour to the edges of the wound in the loin. Through the indiarubber drainage-tube which is inserted all discharges can readily pass and be caught in a suitable appliance. Mr. Newman quotes four cases in children under twelve years of age all of which were successful. In three the lumbar incision was used and in one the cyst was reached from the abdominal surface. Mr. Symonds and Dr. Tuckwell relate[6] the case of a boy, aged eleven years, with a large hydronephrosis. Nothing had been noticed until fifteen months before admission. The swelling was aspirated and from three to four pints of turbid dark-brown fluid, containing altered blood, albumin and urea were withdrawn. The cyst rapidly refilled and was incised and similar fluid evacuated. The opening became obstructed and the sac became larger than ever. A fresh tube was inserted and drainage continued for six months when all healed. In this case normal urine showed a healthy state of the opposite kidney.

Should the sac suppurate and the discharge become a source of exhaustion and should there be evidence that the renal tissue is incapable of performing its function lumbar nephrectomy may be called for. Mr. Newman's tables give eight cases in children under twelve years of age where the kidney was removed for hydronephrosis; six recovered and two died. In four of the cases the abdominal incision was resorted to, in the other four the lumbar incision, one death occurring in the case of each. To those may be added a case of a girl, aged thirteen years, from whom a large hydronephrotic kidney was successfully removed by my colleague Mr. Owen.[7] The abdomen was opened in the middle line and the tumour consisted of one large cyst about the size of a fœtal head, occupying the position of the pelvis; the kidney tissue was stretched, and involving the upper infundibula was another dilatation which opened freely into the larger cavity. A considerable amount of healthy renal tissue remained at the lower part and presented congenital lobulation. The patient made an excellent recovery.

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[5] Annals of Surgery, July, 1897.

[6] See The Lancet, July 29th, 1882, p. 141.

[7] The Lancet, Dec. 4th, 1897, p. 1453.

The possibility of involvement of the opposite kidney must always be borne in mind in operating upon these cases. Only recently a child who had for some months been in the medical wards of the Hospital for Sick Children at Great Ormond-street suffering from symptoms of intestinal obstruction was transferred to the surgeons on account of a tumour which developed on the right side of the abdomen. The urine had for some time been purulent. The child was aged four years and was otherwise well-formed. Mr. Pitts opened the abdomen by Langenbuch's incision and felt what he took to be a healthy kidney on the left side. The tumour, which proved to be an intensely dilated kidney with most of the secreting structure destroyed, was then removed. No urine was subsequently passed and the child died at the end of three days. At the necropsy it was found that the left kidney was almost non-existent and quite incapable of function. A ureter of the natural size and patent opened into the bladder at the normal site and the suprarenal capsule was normal in size and position. The right ureter was greatly dilated and its orifice was exceedingly small.

CONGENITAL CYSTIC KIDNEY.

In the Hunterian and a few other London museums are to be found specimens of kidneys taken from fœtuses or newly-born children where the whole gland is converted into a congeries of cysts. Quite recently Dr. Still has described a specimen which was removed from the body of a girl aged three weeks. The child was born prematurely at the eighth month. Both kidneys were affected and together weighed 1b oz. The capsule stripped easily and the surface presented a translucent appearance which was seen to be due to innumerable closely packed cysts, none of which projected on the surface. On section the whole kidney had a honeycomb appearance due to numerous small, more or less tubular, cavities separated from one another only by fine septa; these cavities seem to be more developed in the cortex than in the pyramids. The pelves and ureters were normal. The liver in this case, as in many others that have been described, also showed on section numerous small cavities. This condition is bilateral and is ascribed by Virchow to intra-uterine nephritis or to impaction of the straight tubules with uric acid, both of which lead to atrophy of the papillæ and obliteration of the pelvis of the kidney. Koster considers it to be due to a malformation of the lower urinary tract. Mr. Shattock regarding this condition from the developmental point of view argues that it results from a want of differentiation of the metanephric blastema, out of which the permanent kidney is developed, from that of the meso-nephron or Wolffian body. The proper tissue of the kidney grows into that of the Wolffian body, while the remnants of the latter become the seats of the cysts scattered through the proper renal tissue. The enlargement of the cysts may by irritative tension upon the intertubular tissue produce an excess of this tissue and cause the origin of the urinary retention cysts and the presence of these cysts would certainly produce secondary pressure on the proper renal tubules and thus lead to the formation of true renal retention cysts. Dr. Still, whose interesting paper will be found in the next volume of the Transactions of the Pathological Society of London, adopts this view, and putting aside the theory of intra-uterine inflammation believes that the same cystic condition which is found in adults from fifty to seventy years of age is due to the presence of glomeruli and tubules which for a long period retain a healthy condition. These states are rare and are of more interest to the pathologist than the surgeon.

Children, and particularly boys, are liable to injuries from crushes or from the passage of wheels over the abdomen which produce lesions of the kidney or ureter or the tissues which envelop them. In the latter case there may be nothing but a circumscribed collection of effused blood, which may be absorbed or may become surrounded by lymph in which it is encapsuled and from changes of the constituents a cyst is formed which is variously styled perirenal or paranephric. Or again the effusion may break down and forming an abscess give rise to all the constitutional effects of suppuration and ultimately point in the ilio-costal region. But this perirenal extravasation is often followed at a period of from two weeks to two months by a swelling containing more or less clear fluid with some of the constituents of the urine. These have been shown by Mr. Barker to vary inversely to the amount of pressure within the sac which forms around the extravasation. These effusions are liable to suppurate or to rupture into the peritoneum. The most notable instance of the last occurrence is related by Mr. Taylor, where as a result of injury in a girl, aged fifteen years, an accumulation formed which burst into the peritoneum giving rise to symptoms of profound shock. An opening was made in the median line, the peritoneum was sponged out and the wall of the cyst stitched to the edges of the incision. This opening closed and a second had to be made on the outer side of the rectus. The patient recovered and a glass tube was worn in the fistula through which the urine passed.

Previously to this Mr. Stanley had described the case of a boy, aged nine years, in whom a circumscribed swelling appeared six weeks after injury. This was punctured on six different occasions and the boy was discharged though a swelling remained. Several other cases are recorded. One where a boy, aged seven years, who had been knocked down by a van eleven months previously, came a second time under the care of Mr. Godlee, who had attended him soon after the accident but had discharged him as convalescent. There existed a large tumour occupying the whole of the epigastric region. This was cut down upon and 43 oz. of turbid, whitish-yellow fluid were drawn off, the margins of the opening into the cyst were stitched to the edges of the abdominal wound and a drainage-tube inserted. In a case related by Mr. J. Marshall a girl, aged thirteen years, was run over across the loins and apparently recovered, but nine months later was found to have a fluctuating tumour over the left side of the abdomen. This was first aspirated but afterwards drained antiseptically with a successful result.

In Mr. Barker's case again the child, aged three years and eight months, was run over in August and passed some urine containing blood clots. She did well at first but was readmitted three weeks after the accident with a fluctuating swelling of the character of a hydronephrosis and there was no evidence that any urine from the affected side was entering the bladder. As the constitutional symptoms became serious the tumour was first aspirated, then drained and finally removed on Nov. 19th, the patient making a good recovery.

Lastly, in Mr. Croft's case, a boy, aged twelve years, met with a fall which injured his left side and loin. There followed pain and hæmaturia. He was admitted to hospital but discharged as convalescent. On the forty-ninth day after the accident he was readmitted with a swelling in the left lumbar and hypochondriac regions, but without any blood in the urine. 79 oz. of urine-coloured fluid were withdrawn by the aspirator. Altogether the tapping was performed eight times and after the last occasion no swelling recurred.

From this brief relation of the more important of several recorded cases the course and symptoms of this accident can be gathered. After the first symptoms of shock, followed generally by vomiting, there is more or less hæmaturia lasting for two or three days. If the ureter becomes blocked with clots there is considerable pain which is referred to the loins and runs down to the testes. These symptoms may be induced by a simple bruise of the kidney, but if there be rupture of the ureter or pelvis or laceration of the gland structure in the course of time a tumour will appear which may attain a very large size and form what has been termed a spurious hydronephrosis. In a case under the care of Mr. Pitts, of a girl, aged nine years, who had been run over by a hansom cab six weeks previously 41 oz. of clear fluid were removed by tapping and the swelling was reduced by massage.

Unless it becomes necessary to cut down upon the kidney or to remove it the actual lesion can only be guessed. The ureter may be blocked with clots which when passed will allow the passage of urine and the patient shows no further sign of the injury. Or the amount of blood may be such as to excite an acute cystitis as in the case that is described by Dr. Rawdon of a boy, aged twelve years, who injured the right kidney by a fall. The hæmaturia was followed by cystitis and to avoid further hæmorrhage the kidney was removed by a lumbar incision and was found to be torn completely across. Four days later lateral cystotomy was performed and a free drain established. The patient died on the fortieth day from pyelitis and circumscribed suppuration of the left kidney.

The treatment of these injuries therefore is in the first instance to check further hæmorrhage and to subdue pain, then to watch carefully for any changes indicating suppuration in the effusion or the formation of swelling by the secretion of the kidney. Aspiration may be tried and supplemented by gentle massage, but if the swelling increase or if there be any signs of suppuration a lumbar incision must be made and the state of the kidney investigated. If this be ruptured it must be removed, but if not a drainage-tube must be inserted and the cavity washed out with antiseptic solution until it closes. In removal of the kidney under these circumstances the surgeon may count upon the healthy state of the opposite organ unless there is reason to fear that it also has been damaged by the accident, although one case is recorded where rupture took place of a single hypertrophied kidney.

Apart from traumatic causes perinephritis and perirenal abscess are very rare in children. The post-mortem books of the Hospital for Sick Children, Great Ormond-street, record but very few instances and the majority of these are due to pyæmia. Calculus in the kidney, though producing pyelitis, seldom gives rise to inflammation in the surrounding tissue. Dr. Gibney reports twenty-eight cases of primary perinephritis in children, the majority occurring between the ages of three and six years. Most of the cases had been diagnosed as disease of the hip-joint or of the spine. Resolution followed in twelve and sixteen ended in suppuration. Personally I have met with few, but one case that was sent to me was that of a boy, aged eight years, who presented many of the features of hip-joint disease. A large abscess soon presented itself in the iliac region which was not due to spinal caries and was not apparently perityphlitic. There was a history of a kick upon the loin some time previously. A large abscess was opened and drained through the lumbar region. All the hip symptoms passed away and he is now strong and healthy. Exploration showed the abscess to surround the kidney.

SYMPTOMATOLOGY OF HÆMATURIA.

Before passing to other diseases of the kidney it may be well to review the causes of the presence of blood in the urine. Hæmaturia may indicate a local or a general disease and the detection of its origin must always be of primary importance. It may arise from any part of the tract and may be so minute as to escape all but the most careful search by the microscope or by tests. It may be constant and slight or profuse and intermittent. Apart from poisoning by such drugs as chlorate of potash, cantharides, turpentine, carbolic acid, and rhubarb small quantities of blood are found in the urine of young infants as the result of irritation of the tissue of the kidney by uric acid and other crystals; when more abundant it occurs in connexion with the other evidences of scurvy rickets, of which it is sometimes the earliest symptom. In purpura the hæmorrhage from the kidney is often profuse with intervals of intermittence and in hæmophilia it is also common. Dr. J. Abercrombie has recorded a case of Raynaud's disease in which a little boy passed bloody urine day after day for six weeks together in the colder seasons, which ceased when the child was kept warm before the fire. In vol. xv. of the Transactions of this society will be found a very interesting account of a case of Raynaud's disease with paroxysmal hæmoglobinuria by Dr. Haig in which he says that his previous researches led him to believe that both the Raynaud's disease and the hæmoglobinuria in this case (that of a girl aged six years) were due to an excess of uric acid in the blood (uricacidæmia), and this theory affords a most simple explanation of their evident connexion. Blood in smaller quantities occurs in Bright's disease, in hæmorrhagic measles, in scarlet fever, diphtheria, and small-pox. What has been named Winckel's disease, in which cyanosis, jaundice, and hæmoglobinuria attack new-born children on or about the fourth day and cause death in forty-eight hours, has not been observed in this country; but paroxysmal hæmaturia or hæmoglobinuria, where no blood corpuscles can be detected, but the urine is nevertheless stained with blood pigment, has been fairly often detected. Dr. Herringham has described the cases of two sisters aged three and a half years and four and a half years who were hereditarily syphilitic, and Dr. Voelcker, who has noted several others, finds a syphilitic taint in all of them. I have, however, seen a typical case in private where no such suspicion could have existed. But it is as a symptom of local affections that hæmaturia is of diagnostic value to the surgeon and of these I shall have to speak later. As a general rule hæmorrhage from the kidney is more profuse than from the bladder and is seldom accompanied by pain unless it gives rise to the formation of clots in the ureter, when the pain may be referred to the loin, the testes, or the thigh, but ceases as soon as the clot is washed onwards to the bladder. The origin of the hæmorrhage from the kidney is generally confirmed by the presence of casts and epithelium. In examining cases of supposed hæmaturia it is well to keep one's eyes open to the possibility of deception, as instanced by the case narrated in the Transactions of the Clinical Society of London, vol. xxiv., by my late colleague, Mr. Leopold Hudson, of a boy, aged eleven years, who gave a history of suffering from the usual symptoms of stone and brought a specimen of his urine with a red stain which was afterwards found to have been produced by steeping in his urine a piece of rag stained with Turkey red dye.

TUBERCULOSIS OF THE KIDNEY.

The acute miliary form of tuberculosis which affects the kidney is only a local manifestation of a general disease and is very commonly in children associated with tuberculous phthisis or meningitis. Dr. Dickinson found that in nearly a sixth of all children dying thus affected tubercle was present in the kidneys and states that renal tubercle is nearly three times more frequent under than over the age of twelve years. Of twenty-eight children under twelve years of age both kidneys were affected in nineteen, one only in nine, and the sexes were attacked impartially. Out of twenty-four children dying under the age of twelve years with the kidneys involved thirteen died under five years of age and eleven between the ages of five and twelve years. This corresponds with the estimate of Rilliet and Barthez, who found that in 315 tuberculous children tubercle of the kidney was present in 49 or 15 per cent., and that therefore the kidney was three times more liable to tuberculous deposits in children than in adults. The invasion of this organ is seldom marked by any distinct symptoms and the affection of the kidney is disguised by the more evident signs of disease which are manifested in the lungs or the brain. Such conditions, therefore, admit of no surgical treatment. When the disease originates in the urinary organs the infection may be conveyed by three sources. The principal and commonest is by the blood. Secondly, it may ascend by the ureters or lymphatics from the bladder; or, thirdly, it may extend from the surroundings of the gland. I shall have to speak of the second of these sources when dealing with tuberculosis of the bladder.

Chronic localised tuberculosis or strumous disease of the kidney is by no means frequent in children. Out of fifteen cases collected by Mr. Morris there was not one instance in a child younger than eleven years. The pathological history of the affection is the same as that of the disease in other organs. The bacilli conveyed in the blood-stream to the glomeruli for elimination must of necessity cause great risk of infection and consequently the principal seats of the early deposits are the apices of the papillæ, the calyces, or the pelvis of the gland. First are deposited the miliary nodules and these coalesce to form caseous masses. As these break down fresh nodules are deposited in other parts and the caseous necrosis that ensues lays bare an ulcerating surface in the pelvis, whilst in the periphery they form irregular cavities. As more and more renal substance becomes involved these cavities coalesce and the secreting structure may be entirely destroyed. Generally the pelvis of the kidney and the ureter become thickened, the mucous membrane ulcerates and its lumen is occluded. If the ureter remains pervious the débris may be washed away and in its course will almost surely involve the parts below and thence the disease may ascend to the opposite organ. If, however, the ureter becomes blocked the whole organ may be converted into a large abscess cavity or series of cavities with caseous débris—tuberculous pyonephrosis. Sometimes the obliteration of the ureter causes the whole organ to be converted into a shrunken putty-like mass, or large abscesses may result by reason of the access of pyogenic organisms.

In view of the rarity of this affection in childhood it might seem hardly worth while to linger over its symptoms or its diagnostic difficulties, yet there has been a sufficient number of cases in which operation has been satisfactory to encourage the hope that a larger number of successes might follow an earlier recognition of the affection. This is, however, a matter of peculiar difficulty at all ages and especially in young patients, since the symptoms in the earlier stages are little marked and local signs are absent, whilst, on the other hand, when evidence is more pronounced, when the urine becomes constantly purulent, and vesical irritation is a marked characteristic, the disease has so far involved other portions of the tract that only palliative treatment can relieve.

It becomes, then, of the utmost importance to examine closely all signs which may indicate an early invasion of the gland. The symptom so common to many other affections, thamuria, or frequency of micturition, is here also that which directs attention to the possibility of some morbid condition in the kidney, and when all other causes can be eliminated the region of the kidneys should be carefully palpated and the question of tenderness investigated and any history of pain in the loin or in the testes examined. Any increase of size in either gland can best be appreciated with the aid of an anæsthetic. The urine offers few indications in the earlier stages except that its quantity is often increased and the specific gravity is frequently low. At a later period it becomes purulent and, as distinguished from calculous pyelitis, where the amount of pus is intermittent, in scrofulous disease it is always continuous unless the ureter becomes blocked. Even with large quantities of pus the urine in the early stages is generally acid. Examination for the tubercle bacillus should never be omitted and must be most carefully carried out, but no reliance can be placed upon its absence. I have frequently been disappointed in searching for it even in marked cases of tuberculosis of the bladder and other parts of the tract. Blood is only to be found at intervals and seldom in large amount. It is, especially in the earlier periods, a matter of the utmost difficulty to differentiate between the pyelitis of tubercle and that of calculus, but in the latter the inflammation of the pelvis does not spread to the ureter or bladder and there is therefore no dysuria such as forms a very distressing symptom in the later stages of the former. Whenever, then, these early stages have been observed the constitutional symptoms must be carefully watched for, the evening pyrexia, the night sweats, pallor and emaciation, which ordinarily accompany the invasion of tubercle in other parts. Even if catheterisation of the ureters were possible in the case of children the plan is not advisable for fear of spreading disease in the healthy ureter and the use of the endoscope is prohibited except in a few cases so that there is no aid from such sources for detecting whether pus comes from one or both ureters.

If then from such evidences there arises a strong suspicion that one kidney is affected by scrofulous disease the question has to be decided whether surgical interference is justified. Speaking of the disease generally Dr. Dickinson states that both kidneys are affected as often as one alone and only one case in seven occurs in which the disease does not affect other organs. Aldibert has collected thirteen cases of children in which nephrectomy was performed. Of these nine recovered and four died, two of the deaths not being traceable to the operation or to the original disease. No recurrence had taken place in one at the end of eight years and none in another after three. Professor Gross's tables give twenty instances of removal of the kidney at all ages for scrofulous disease, twelve recovered and eight or 40 per cent. died. Tubercle was limited to one kidney in only 65 per cent. In eight cases of preliminary nephrotomy relief was not afforded, so that this proceeding is not recommended.

Mr. Morris on the contrary recommends that nephrotomy should first be tried in cases that are not advanced in the hope that it may check progress by opening and draining the abscess cavity. Nephrectomy may be performed later if strength improves or if lardaceous disease threatens. He adds: "It is in the scrofulous kidney especially that we so much need the means of ascertaining the working capacity of the other kidney and it is in these cases also that the difficulty of doing so is almost insuperable." Professor Gross, from this point of view, recommends the operation in an early stage by means of a ventral incision by which both kidneys can be examined, and of which he states the mortality to be 14·28 per cent. against 53·84 per cent. by the lumbar method. Mr. Newman's tables published in 1888 record two cases of nephrotomy for this condition in childhood, both of which ultimately recovered, though one (that of Mr. Morrant Baker) subsequently had the kidney successfully removed, and five cases of nephrectomy, four of which recovered. To these may be added a case by Mr. Wright in which at intervals nephrotomy, cystotomy, and nephrectomy were performed, the child dying with much ulceration of the bladder, and a case by Mr. Eve where in a child, aged three years and nine months, nephrotomy was first performed and seventeen days later the kidney was removed through a prolonged incision. The child recovered and was in perfect health seven months later.

In the light of these results it would seem that where the abscess is large, nephrotomy and drainage should first be tried and later nephrectomy, but where suspicion of an early state of disease is tolerably certain the two kidneys should be examined by means of a ventral incision and if one be found healthy and the other extensively diseased the one affected should be at once removed.

A CASE OF "WORD" WITHOUT "LETTER" BLINDNESS.[1]

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IN former papers of mine "word-blindness" was defined as "a condition in which with normal vision and therefore seeing the letters and words distinctly an individual is no longer able to interpret written or printed language." It was there pointed out that there are different forms which ought to be clearly distinguished from one another. In my first paper[2] a case of "letter-blindness" of singular purity was recorded, the patient having completely lost the power of recognising all the written and printed characters with which he was previously familiar with the exception of Arabic numerals. In a second paper[3] a peculiar disorder was described in which the patient's power of interpreting written and printed language was rapidly exhausted and to which the name "dyslexia" has been given by Berlin. I have recently met with a third variety of "word-blindness," where the patient, still able to recognise the individual letters of the alphabet, is yet wholly unable to recognise or interpret the words composed of combinations of these letters. As an excellent example of this distinct variety of "word-blindness" the following case is, I think, worthy of careful record and consideration.

CASE 1.—A man, aged fifty-three years, on Sept. 7th, 1897, came home from his business about 2 o'clock in the afternoon saying that he did not feel well and had to give up work in the morning as he could not see to read or write. Shortly thereafter, whilst sitting on a chair, he became giddy, fell to the ground, and was unconscious, but only for a moment. He soon felt all right again and in the afternoon went out for a walk. In the evening about seven o'clock without warning he had a severe "epileptiform" fit with general convulsive movements and complete unconsciousness for about an hour thereafter. He remained in a dazed condition for about two days, but gradually recovered and since then had been able to go about. On the advice of his medical adviser he had kept away from business. Even since the fit he had been unable to read and his medical attendant, Dr. Charles Whish, of Pollokshaws, brought him to me on Oct. 11th, 1897, to ascertain the precise nature of the visual defect which prevented him from reading. On examining him with the ophthalmoscope the only abnormal appearances to be found in his eyes were slight radiate lenticular opacities. These, however, were slight and situated at the periphery of the lens, so that they could not interfere to any great extent with the visual acuity. On testing him with the distance types composed of separate letters he could read the letters quite fluently, although his visual acuity was not quite up to the normal, being $\frac{6}{9}$. On testing him with the reading test types composed of words and sentences I found he could not read when made to rely upon vision alone. If allowed to spell out aloud each word letter by letter he could read the words slowly and laboriously, just as a child spells them out when learning to read. When prevented from doing this he could not read words at all. The only exceptions were in the case of a few short familiar words such as "the," "of," "to," &c. These he sometimes picked out with a certain amount of pride. On asking him not to attempt any longer to read the words but to read the letters only he read them off fluently line after line. His difficulties in reading words were precisely the same with the largest as with the smallest test types. On the other hand, he read the letters of the smallest test types, Jaeger No. 1, without difficulty with suitable glasses. He had precisely the same difficulty in reading written as in reading printed words. On testing him with figures he could read them rapidly and fluently, not only the individual figures, but when combined into complicated groups of thousands, hundreds of thousands and millions, and even in the form of very complex fractions. He could write to dictation and copy correctly although he could not read what he had written. The visual fields for white and colours were normal. I conversed with him on three different occasions for about an hour each time and there was not the slightest evidence of verbal aphasia or amnesia or of any speech difficulty whatever. His wife, however, informed me that since the fit he had occasionally forgotten the names of old friends and customers. He had also shown a disinclination to exert himself mentally, being disinclined to talk much even with his intimate friends. He was a man of the most regular habits, but before his fit he had considerable mental worry. His vessels were atheromatous. On the most careful examination no other symptoms were discoverable. The patient was seen by me on three different occasions. On the day preceding my last interview with the patient there was a history of a transient attack of tingling and paresis of the right arm during a meal, so that he had for a short time to use his left instead of his right hand. This rapidly passed off and when seen on the following day there was no trace of it. I gave it as my opinion that the inability to read was not due to any ocular defect but to a lesion in the visual word-memory centre situated in the angular and supra-marginal gyri on the left side of the brain and supplied by a branch of the Sylvian artery, that the lesion was a small hæmorrhage or more probably thrombosis occluding that branch of the Sylvian artery supplying the centre. Whether the lesion would remain stationary or extend it was impossible to say. The patient was strongly urged to abstain entirely from business so as to secure absolute cerebral rest and iodide of potassium was recommended on the ground that there might be some specific affection of the cerebral vessels, although there was no history or traces of past specific disease.

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[1] A paper read at a meeting of the Glasgow Medico-Chirurgical Society on Jan. 14th, 1898.

[2] THE LANCET, Dec. 21st, 1895.

[3] THE LANCET, Nov. 21st, 1896.

For the after-history of the patient, which will be given very briefly, I am indebted to the kindness and courtesy of his medical attendant. About a week after consulting me slight paresis of the right arm and leg and slight paraphasia began to manifest themselves. These symptoms rapidly developed and within another week there was considerable aphasia and well-marked right-sided paralysis, the face being now involved as well as the arm and leg. He complained greatly of pain on the left side of the head. When the aphasia was complete he was given block letters in order to see if he could not express his wants by means of these. He gave them to understand by signs that he recognised the letters, but could not combine them into words. The aphasia and right-sided paralysis became complete before his death, which occurred on Dec. 8th, 1897, about nine weeks after I saw him. There was no post-mortem examination.

The feature of the case to which I wish to draw special attention is the inability to read, which when I saw the patient was the only symptom present, but which enabled us to give a positive diagnosis that he was suffering from organic disease of a special area of the brain. The diagnosis of the true nature of the patient's inability to read was not difficult. In the ordinary routine he was first examined with the distance test types composed of individual letters and these he read without difficulty, showing that visual acuity for distance was nearly normal. When he was given the test types for near vision composed of words and sentences he was unable to read them. This inability to read was altogether independent of the size of the types, being the same with the largest as the smallest. For a moment this was somewhat puzzling. His ability to read the distance types composed of individual letters suggested the request that he should no longer attempt to read the words but simply to name each letter successively. This he did with fluency, running through line after line of the test types, beginning with the very smallest, Jaeger No. 1. It was then clearly evident that the inability to read printed or written words was not due to any ocular defect, but was a cerebral disorder of vision. This defect forms a very interesting contrast to the first case reported by me, where the patient, having completely lost the power of recognising printed and written characters, was in the position of a child who has not yet learned the letters of the alphabet. The present patient, recognising the individual letters, but not being able to combine these into words, was in the position of a child who has learned the letters of the alphabet, but has made no further progress. His inability was with words alone and hence the case has been described as "word" without "letter" blindness. The patient was able to read if he was allowed to spell out aloud each word letter by letter. The explanation of this is simple. He could recognise by sight only the individual letters, but by spelling them out aloud he appealed to his auditory word memory in the temporo-sphenoidal lobe, which enabled him to combine them into the corresponding word. An analogous condition was presented by my letter-blind patient, who, unable by sight to recognise a single letter, could frequently do so if allowed to trace it out with his finger on the table. He was thus able to recognise the letter by reviving the graphic-motor images of the letters, which are probably stored in a special centre in the neighbourhood of Broca's convolution.

In many of the recorded cases of word-blindness the precise nature of the defect is not stated, the reporter contenting himself with the statement that the patient was unable to read. In others the inability to read is complicated with word-deafness, motor-aphasia, or verbal amnesia, and from the proximity of all the cerebral centres concerned in the expression or interpretation of language it is easily understood how these complications occur so frequently. In such cases the problem is obscured by the simultaneous involvement of a number of cerebral centres, so that the precise significance of the ability to read is not clearly seen. This peculiar form of word-blindness, however, does occur altogether apart from any other defects. In the present case the patient when seen by me presented on the most careful examination no other symptoms of any interference with his powers of expression or interpretation of language. On looking over the recorded cases of this variety of word-blindness I have met with two cases of singular purity which will be briefly quoted as affording further typical and uncomplicated examples of word-without letter-blindness. Swan Burnett, of Washington,[4] records the following case in a very graphic manner and with considerable detail.

CASE 2.—The patient was a clergyman, eighty-two years of age. Three weeks before he was seen by Burnett the patient had an attack of giddiness followed by three general "epileptiform" seizures within two days. During the intervals of these attacks he remained in a condition of stupor, but at the end of the third day became fully conscious and felt quite well with the exception of weakness. He found, however, that he could no longer read and therefore consulted Swan Burnett. On examination it was found that there was no ocular defect. It was also found that whilst he could read all the individual letters with ease he was wholly unable by means of visual impressions alone to interpret written or printed words. Numerals were read correctly and with ease. Burnett observed that he read at once the amount of a cheque but could not tell to whom it was drawn or by whom. He could write either spontaneously or to dictation but was unable to read what he had written. His mental faculties generally and memory in other respects were unimpaired. There were no other difficulties in the expression or interpretation of language. All other retinal impressions were correctly interpreted. The patient died from an attack of pneumonia about a year after he was seen by Burnett. In the interval no essential change had taken place in his condition. His general mental faculties and bodily health remained good until his fatal attack of pneumonia. His reading faculty, however, was never regained. There was no post-mortem examination. Burnett remarks: "This case seems to be one of alexia pure and simple. No other faculty, so far as the closest scrutiny and the most careful examination could determine, was affected except that of reading. This fact would seem to demonstrate quite conclusively the existence of a 'reading centre' separate and distinct from any and all other centres."

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[4] Knapp's Archives of Ophthalmology, New York, 1890, vol. xix., p. 56.

Mierzejewski[5] communicated in 1890, at the September meeting of the St. Petersburg Psychiatric Society the following case of word-blindness.

Case 3.—A physician, aged fifty-six years, of delicate constitution, infected with syphilis in his youth, suffered for a long time from chronic nephritis. In January œdema appeared and he had an uræmic comatose attack which lasted four or five days. Two similar attacks, but of shorter duration, appeared thereafter. Some time after the third attack the patient observed that he had lost the power of reading, although he could easily recognise the letters. Mierzejewski on examination found that he could easily recognise every individual letter but could not unite these into syllables or words. He wrote to dictation fluently and correctly, but could not read what he had written. He wrote prescriptions correctly but could not read them again. He copied writing without mistakes, although he did not understand the meaning of the words he copied. He recognised and read figures even when they were combined in a complicated fashion. His visual acuity was normal and there were no abnormal appearances in the eye. There were no disturbances of speech whatever and his general intelligence was unaffected. No sensory or motor disturbances or any abnormality of the reflexes could be discovered.

Mierzejewski claimed after a perusal of the literature of word-blindness that his case was unique and that no case of word-blindness had been previously described in which the patient's power of recognising individual letters was preserved intact. He proposed to call this new form of word-blindness "cæcitas syllabaris et verbalis sed non litteralis." This form had been described, however, fourteen years before Mierzejewski's paper. Schweigger[6] in 1876 recorded the following case.

Case 4.—A man, aged seventy-four years, had a slight apoplectic attack with loss of consciousness and clonic spasms in the right arm but no paralysis. Shortly thereafter the patient lost the power of reading. Schweigger found he could recognise the individual letters but could not read the words composed of these letters. He read numbers with greater success but here also he made occasional mistakes. There were no speech disturbances. Fundus appearances were normal. There was right homonymous hemianopsia. A few days after Schweigger's interview the patient succumbed to a fresh apoplectic attack. There was no post-mortem examination. Schweigger remarks that he had previously seen a precisely similar defect in another patient.

These cases, then, afford typical examples of a special form of word-blindness which may sometimes appear as an isolated cerebral symptom uncomplicated by any other disorder in the expression or interpretation of language. On analysing their salient features it will be found that all present a striking agreement: (1) they could read fluently the individual letters, printed and written, but could not interpret words composed of these letters; (2) they could read figures both individually and when combined in the most complex manner; and (3) they could write spontaneously and to dictation, but could not interpret the words which they themselves had written, although they could read the individual letters. How are these symptoms to be explained? This question will be answered most clearly by discussing in succession each of these groups of symptoms. In my first paper on word-blindness[7] it was pointed out that clinical observation and pathology prove the existence of two higher visual centres in the cortex of the brain, having distinct but closely allied functions. There is in the occipital lobe, especially in the neighbourhood of the cuneus and calcarine fissure, the centre for primary visual impressions, the perceptive centre, the function of which is to bring into the sphere of consciousness a mental picture of the retinal impressions and through which we become conscious of objects as occupying certain positions in the visual field. Lesions of this centre are shown by defects in the visual fields. But there is in the angular convolution and its neighbourhood another centre, where these sensory impressions are received, retained, and accumulated, the visual memory centre. The intelligent recognition of any object can only be accomplished by a comparison of the retinal impressions in the percipient centre with the visual memories of past impressions stored in the visual memory centre. Lesions of this centre are therefore evidenced by mind-blindness in its various forms, that is the individual though seeing the object distinctly is no longer able to recognise it, having no visual memory or image with which to compare it. In my other papers the different varieties of mind-blindness were discussed and it was shown that word-blindness is simply a special form of mind-blindness. In right-handed people the visual memories of letters, words and figures seem to be stored in the left visual memory centre only. The lesions of this left centre are evidenced by disturbances affecting only these highly specialised visual memories or images, leaving in most cases quite unaffected the more general visual memories of form and colour, objects and places. The inability to read in the cases under consideration can only be intelligently explained by a lesion affecting this visual memory centre for words and letters. We are apt to forget that the power to read rapidly at sight has been acquired only by long and laborious effort. The complex cerebral processes involved in reading by prolonged practice are carried on with such ease and rapidity as to be removed from the sphere of consciousness and transferred to the mysterious region of unconscious cerebration. When disease disturbs the perfect adjustment of the elaborate cerebral mechanism we may sometimes get a glimpse of the complex processes which are constantly at work in the great laboratory of the brain.

Let us analyse a little more precisely the cerebral visual processes concerned in the act of reading. A clearer conception of the processes involved will only be attained if we consider the manner in which an individual learns to read. The first stage is to store up in the visual memory the individual letters of the alphabet and to learn to associate these with their particular speech equivalent. When this has been attained there is no difficulty in attaching to any letter its particular speech equivalent as we have now stored in our memory centre a visual image of each letter which serves as a constant standard of comparison and recognition. This power is acquired with comparative rapidity, there being only twenty-six letters in our alphabet, or taking capital and small letters fifty-two visual images in all to be acquired. The next stage is to learn to interpret by sight words made up of different combinations of these letters and to associate them with their corresponding speech equivalents. This can only be accomplished by gradually storing up in the visual memory centre the visual images of the different words. This is a more formidable task and requires for its accomplishment a prolonged period of time. At first the child reads by spelling out each word aloud letter by letter, and thus by appealing to his auditory memory gets the proper word; or he may simply be seen to move his lips, spelling silently each letter and thus appealing to his memory of speech movements or glosso-kinæsthetic memory, as it has been called by Bastian. He has not yet acquired the visual images of words and therefore cannot yet interpret written or printed words by sight alone. But by prolonged and persistent practice he gradually comes to interpret printed and written words simply by looking at them, or, to put it in another way, he has now accumulated in the storehouse of his visual memory the visual images of words. When he now looks at a printed or written word he can instantly interpret it by comparison with the word-image in his visual memory without having recourse to his auditory or glosso-kinæsthetic memory. In short, he has now learned to read by sight.

Now if by disease the visual word-centre is completely destroyed or if it is completely cut off from the primary perceptive centres in the occipital lobes, then the patient is both word and letter blind. But if the destruction is only partial and that part of the centre in which are stored the visual memories of letters remains intact, then the patient, though still able to recognise the individual letters by sight, will no longer be able to recognise and interpret words because he has lost the visual memories of words which he had acquired by years of laborious effort. He will be, so far as vision is concerned, in the same position as a child who has only mastered the letters of the alphabet but has not yet attempted to read words. He will be able to read only by spelling out aloud each letter of the word and thus appealing to his auditory memory. This was precisely the condition of the patients in the cases under consideration and this view of the condition renders intelligible the phenomena observed

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[5] Neurologisches Centralblatt, Berlin, December, 1890, No. 24, p. 750.

[6] Graefe's Archiv für Ophthalmologie, Berlin, 1876, vol. xxii., Abtheilung 3, p. 297.

[7] Loc. cit.

This idea of the grouping together of definite classes of visual images within the visual word-memory centre may at the first glance seem somewhat fantastic, but certainly the study of clinical facts points strongly to this conclusion. How else is the fact to be explained that all the patients referred to could read figures fluently not only individually but when combined in the most complicated fashion? In my first paper a strong body of evidence was brought forward to prove the complete functional independence of the visual memories of letters and figures, for it was clearly shown by clinical facts that the visual memory for letters may be entirely lost whilst that for figures is preserved intact. The case at present under consideration with the others quoted affords further proofs. How can such complete functional independence be explained unless on the ground of anatomical independence? The visual memories of figures must be preserved in a different area of the cerebral cortex from the visual memories of words and letters. Both classes of visual memories, however, are lost simultaneously with such frequency as to make it highly probable that they are deposited in adjacent areas of the cerebral cortex. Similarly, since clinical facts clearly show that the visual memories of words may be entirely lost whilst the visual memories of letters remain intact we are driven to the conclusion that these are deposited in different areas of the cerebral cortex, but from the great frequency with which both are simultaneously lost it is evident that these areas are adjacent.

This view of the complexity of the visual word-centre and of the arrangement within its area of distinct groups of visual images not only explains such cases as we have been considering but renders intelligible those peculiar cases recorded from time to time which, according to this view, would be regarded as cases of partial destruction of the centre. As examples of the curious partial forms of word-blindness sometimes observed the following are interesting. Bruns and Stolting[8] have recorded a case in which the patient's inability to read printed letters and words was complete, but only incomplete for written characters and for figures. Berkham[9] had a case in which the patient was word-blind but not completely letter-blind, being able to recognise some letters. Weissenburgh[10] had a case in which the patient was word-blind with the exception of a few words. Michel[11] quotes a case where the patient could read the Gothic but not the Latin characters. Charcot[12] had a case where the patient knowing French, German, Spanish, Latin, and Greek lost the visual memory of a few of the Greek and German characters only. In Burnett's case, in Mierzejewski's, and in my own the patients could write spontaneously to dictation and copy although they could not read the words they had written. In their recent investigations Dejerne and Serieux[13] have shown that when the visual word-centre is destroyed the patient can neither read nor write. He is agraphic because he can no longer call up in his mind the visual memories of letters which are necessary to stimulate the graphic motor centre. In these three cases there was only partial destruction of the visual word-centre, and the visual memory of letters was still preserved intact. Hence these patients could all write. I observed in my patient, however, that he wrote very slowly and spelt out each word as he wrote it. He could revive only the visual image of each letter and not the visual image of the whole word. Hence his slowness in writing and his necessity for spelling it out letter by letter.

With regard to the position of the visual word-centre, this has been discussed in a previous paper.[14] It was there stated that although its boundaries have not been finally laid down, still a constantly increasing pathological experience tends to prove that the centre in which are stored the visual memories of letters and words includes the supra-marginal and angular convolutions both of which belong to the inferior part of the parietal lobe. The visual word-centre like the speech-centre is unilateral and in right-handed people is situated on the left side of the brain. This view is confirmed by a valuable collection of cases at the end of an article by Starr on the pathology of sensory aphasia.[15] In twenty cases where the patients were completely unable to read, the angular or supra-marginal gyri were found to be affected in fifteen and in the others the lesions were in the neighbourhood of this area and therefore isolated the centre.

There can be little doubt that this was the situation of the lesion causing the inability to read in the case which form the subject of this paper. The history of the case is one o gradually extending thrombosis of the left Sylvian artery with consequent softening of the brain, and this was the opinion of the consulting physician who saw the patient after the appearance of the right hemiplegia and aphasia. The branch of the Sylvian artery supplying the visual word-centre is distinct from that supplying Broca's convolution and the motor areas for face, arm, and leg. At the outset there probably was a partial blocking of the main trunk of the left Sylvian artery, and hence the preliminary symptoms. But the thrombosis had first blocked completely that branch of the artery supplying the angular gyrus and its neighbourhood, and hence the purity of the symptoms when the case was seen by me. Shortly afterwards the thrombosis extended to the branches of the vessel supplying Broca's convolution and the motor areas, and hence the aphasia and right hemiplegia. If part of this visual word-centre received its blood from a different source that part would escape destruction and this is probably what has happened in the case under consideration. Nor is this supposition improbable, as the posterior cerebral artery supplies a large part of the cortical area of the occipital and temporo-sphenoidal lobes which are in the immediate neighbourhood of the word-centre. It will be observed that in Burnett's case, in Mierzejewski's, and in my own case the visual fields were normal. This is strongly in favour of the lesion being a cortical one. In subcortical lesions where the word-centre is simply cut off from the percipient centres in the occipital lobes, the word-blindness is nearly always accompanied by right homonymous hemianopsia. This is due to the fact that a subcortical lesion in the white matter of the left occipital lobe, so situated as to cut across the fibres passing from both occipital lobes to the left angular gyrus, must also involve the optic radiations passing to the left occipital cortex, and the patient will then be not only letter-blind but also exhibit right homonymous hemianopsia. This is clearly exemplified and fully discussed in my first case,[16] where the patient was completely letter-blind and had right homonymous hemianopsia. The complete absence in the present case of any defect in the visual fields is thus in favour of the lesion being a cortical one, an affection of the centre itself, as I have regarded it.

Although there was no post-mortem examination in the present case I think the careful analysis of the visual symptoms is of considerable clinical value. When first seen by me the cerebral disorder of vision was the only cerebral symptom present, and it is from a study of these pure cases that we can hope to attain a more precise view of the nature of the different disorders embraced in the term "word-blindness." Pathology can teach us little apart from careful, thorough, and correct clinical observation. In a large proportion of the hitherto recorded cases of word-blindness with pathological examination the nature of the visual defect is recorded so vaguely that the pathological examination loses much of its value. An increased and more widely diffused knowledge of the nature and varieties of the cerebral disorders of vision would lead to a more precise, rigorous, and comprehensive examination of the symptoms during life, and consequently would give any subsequent pathological examination a greatly increased value.

Glasgow.

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[8] Neurologisches Centralblatt, Berlin, Sept. 15th, 1889.

[9] Archiv für Psychiatrie und Nervenkrankheiten, Berlin, vol. xxiii.

[10] Archives de Neurologie, Paris, July, 1894.

[11] Berger: Les Maladies des Yeux dans leurs rapports avec la Pathologie générale, Paris, 1892.

[12] Clinical Lectures in Diseases of the Nervous System, vol. iii., New Sydenham Society's Series.

[13] Comptes-Rendus des Séances de la Société de Biologie, Paris, 1891-92.

[14] The Lancet, Dec. 21st, 1895.

[15] Brain, vol. xii., London, 1890.

[16] The Lancet, Dec. 21st, 1895.

Health of Bristol.—Dr. D. S. Davies, the medical officer of health, reports that in 1897 the birth-rate in the city of Bristol was at the rate of 27·7 per 1000 living as against 27·6 in 1896. The death-rate was 17·2 as compared with 16·9 in 1896. 959 infants died under one year of age and were in the proportion of 149 per 1000 births registered as against 142 per 1000 during 1896. The zymotic death-rate was 1·8 per 1000; the deaths referred to these diseases numbered 425, including 1 from small-pox, 57 from measles, 18 from scarlet fever, 35 from diphtheria, 116 from whooping-cough, 47 from "fever," and 151 from diarrhœa.

SOME REMARKS ON RECTAL SURGERY.[1]

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(Continued from p. 288.)

Perforating Ulcers of the Rectum.

That a simple ulcer may start in the rectum and perforate its walls and so give rise to a fæcal ischio-rectal abscess is a well-recognised fact, but I am not so sure that the profession as a body recognise the occurrence of a simple ulcer of the rectum perforating its walls at some higher or lower level and giving rise to fæcal extravasation with as a result septic cellulitis of the perineum, abdominal parietes, gluteal region, and scrotum in the male and external genital organs of the female. I should like also to add to those possibilities a perforation of the bladder in the male and of the vagina in the female subject. I have seen and had under my care examples of all these conditions and have a few rough notes of some of them to which I wish to draw attention.

Case 1.—The first case of the kind I saw was in 1858 when acting as surgical registrar to Guy's Hospital and the patient was one under the care of the late Mr. Hilton. The man, aged sixty years, was admitted into the hospital in May, 1858, with œdema and inflammatory infiltration of the perineum, scrotum, and abdominal parietes as high as the thorax and all these parts were emphysematous. This condition had commenced in the perineum and scrotum two days previously without any known cause. He had not had any difficulty in micturition and his urine was clear and urethra healthy, nor so far as he knew was there any bowel trouble. Free incisions were made in every quarter that was involved, when fæcal air escaped and fæcal fluid was washed away. Rapid failure of power, however, set in and the man died on the fifth day. A necropsy revealed that the urinary passages and organs were healthy and intact, but an ulcer was found in the anterior wall of the rectum half an inch above the anus which had perforated its walls and allowed the contents of the bowel to escape into the cellular tissue of the perineum and give rise to the condition described.

Case 2.—In 1875 I was called to see a married woman, aged about forty-five years, who when in apparent good health was suddenly seized with pain of a burning nature in her perineum which was rapidly followed by swelling of the external genital organs and within twenty-four hours of the right gluteal region. I saw her on the second day and found all those parts swollen and emphysematous and she was in a high state of fever. Free incisions into these swollen tissues gave vent to fœtid fæcal air and dead tissue and on making a rectal examination a large opening was found in the rectum on its right and anterior wall. By free irrigation of the tissues, the use of antiseptic lotions in the form of iodine water, and the removal of sloughs a good recovery was brought about.

Case 3.—In October, 1875, I was asked to see a married woman, aged thirty years, who was pregnant four months, for a sudden swelling of the external genitals and vagina, of the right thigh and lower part of the abdomen as high as the umbilicus. It had existed about twenty-four hours and had come on when she appeared to be in good health. I found all these parts inflamed and swollen and of a dusky hue, also crepitating to the touch, and the patient was very ill. By free incisions however into all these œdematous and emphysematous tissues and the free use of iodine water by irrigation and constitutional treatment a convalescence was brought about and she subsequently gave birth to a healthy child. In her case I found high up in the rectum a perforating ulcer which had made its way into the sacral cavity and hence the trouble.

Case 4.—In 1874 a man, aged fifty-three years, was admitted into Guy's Hospital under my care who for three years had been passing flatus and later fæces with his urine and for some months flatus and fæces without urine through his urethra. Some urine at the same time used to pass per anum. A rectal examination revealed an ulcer on its anterior wall at the base of the prostate and as this was supposed to be sufficient to explain his symptoms I made a perineal incision and laid the bladder open into the rectum as in the old operation of recto-vesical lithotomy. This measure gave relief, but the patient gradually sank from kidney disease and some localised pelvic peritonitis. At the necropsy a simple ulcer of the rectum was found which had opened through the prostate into the base of the bladder and which had been attacked by the operation; but one inch behind this and to the left of the median line was a second ulcer in the rectum of the same simple character which had perforated its walls and so on to and through the bladder. The local peritonitis was caused by this latter ulcer. There was no sign of new growth in either the rectum or bladder The kidneys were much diseased.

The case above briefly quoted is an example of what I am convinced is by no means a rare condition and to which I drew attention in 1872 when I read before the Clinical Society of London the notes of two cases of recto-vesical fistula due to simple rectal ulceration treated successfully by left lumbar colotomy. One of these cases was in a man, aged sixty-four years when he underwent the operation, and who lived in comfort for six years after it and died from a ruptured heart at the age of seventy years. After death evidence of cicatricial repair of old ulceration was present in the rectum, with a very small fistulous opening between the bladder and rectum, which was still patent and through which a very little urine during life had passed at times into the rectum, but this had never been a source of trouble. The second case was of a man, aged forty-nine years, who had been passing fæces and flatus with his urine for three and a half years before I operated in 1870 and who made a good recovery. One year after operation he wrote: "No wind or fæces have passed into the bladder since the operation, although a little urine still passes into the rectum." In 1884 he wrote: "The operation has been quite successful as it has added fourteen years to my life. I am quite free from pain and I feel as strong as if nothing was the matter with me. The contents of the bowel all pass through the opening in the loin; nothing passes into the lower bowel except a little water from the bladder." Since these cases occurred I have had others to support the view they illustrate; for example, in 1882 I had a patient, aged sixty-five years, who died from pleurisy and œdema of the lung who twelve years before had passed flatus with his urine without any known cause or any other symptom. This he continued to do for some months when he got well. At the post-mortem examination the evidence of old ulceration of the rectum and of the former recto-vesical fistula was very clear, and there was a complete absence of any local organic disease.

These cases are full of interest and entirely support the observations I made in 1872, when I reported the two cases of colotomy for recto-vesical fistula, "that ulcerated openings sometimes take place between the bladder and either the large or small intestines, many of which have no connexion with stricture of the bowel and even less with cancer."

On Fissure or Painful Ulcer of the Anus.

It might have been thought since the symptoms of this affection are so characteristic that either a mistake in its diagnosis or a chance of its being overlooked were most improbable events, and yet it is true that from some cause or other such cases are too often passed over and allowed to drift. They are either regarded as piles by the patient and so treated on the patient's diagnosis by the practitioner, or the diagnosis is supposed to be confirmed if, after a superficial external examination, anything like a prolapsed internal or a swollen external pile is seen, or even a small prolapse of the mucous membrane of the bowel, or possibly a papilla-like fold of anal integument situated at either the dorsal or perineal extremity of the anus which is mistaken for a pile. Whereas to detect an ulcer a more careful examination of the part is absolutely essential, together with a greater appreciation of the value of the papilla-like fold of anal integument as a guide to an ulcer, for this fold of anal skin or papilla is one of the most constant and valuable indications of this kind of ulcer, whether associated or not with hæmorrhoidal trouble. To determine the fact of the existence of this ulcer no painful examination is either necessary or justifiable, for a painless external examination if rightly made can at once determine the question. In the drawings which are here copied from my lost friend's original the method is well seen and needs no lengthy description (Figs. 4, 4 A, 5, and 5 A). With the patient on his side and the thighs well flexed the buttocks are separated and the surgeon with the thumb and index finger of one hand laterally draws aside the two sides of the anus and with the finger or thumb of the other hand raises or pulls down the characteristic fold of skin or papilla beneath which the presence of an ulcer is suspected, when if it be present the extremity of the ulcer or the whole ulcer will at once be seen, even if the ulcer exists alone, or is found to coexist with external or internal piles or even with a polypus, for it cannot be too well recognised that cases of piles, prolapse of the rectum and polypi when the seat of severe pain are mostly so from their being complicated with the painful ulcer; indeed, it is often owing to the grafting of this acute trouble upon an old one that the patient is induced to seek professional advice for his chronic affection. Should the ulcer be associated with piles or rectal prolapse the patient will often tell you that since he has had the severe local pains neither the piles nor prolapsed bowel have come down so much as they did formerly and that he has been able, therefore, to sit down with greater comfort, having been led by these apparent improvements to think that his piles or prolapse had taken a favourable turn; whereas the intelligent surgeon should in this report of his patient be led to a different conclusion and find an explanation of the facts which he may accept from his patient that the protrusion of the rectal trouble has lessened because the anus has become less patulous from the spasmodic contraction of its sphincter muscle which is always associated with this anal ulcer and as a consequence lessens or forbids the prolapse which formerly occurred. Indeed, whenever a patient complains of sudden accession of anal pain in the act of defecation, and the persistence of a burning, cutting pain for a few or many minutes, or even for hours after the act; whenever a patient who has been known to have piles or prolapse suddenly becomes the victim of this intense local pain and, as a consequence, seeks for relief, the presence of this trouble should be suspected and no treatment ought to be suggested before such a careful local examination as I have described has been carried out. When this trouble is grafted on to others and piles, polypus, or prolapsus co-exist the treatment of the recent affection should be included in the treatment of the older trouble and a cure of both should be secured.

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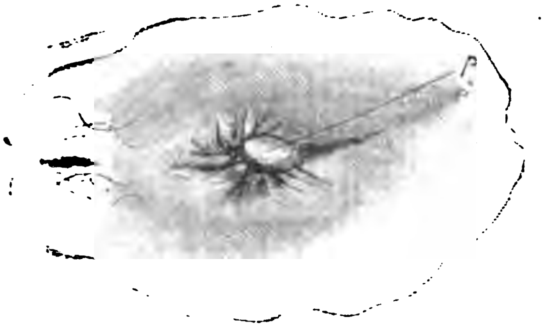
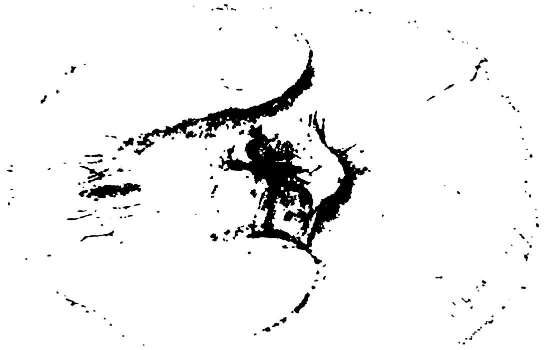
[1] A paper read before the Medical Society of London, Jan. 24th, 1898.

FIG. 4.



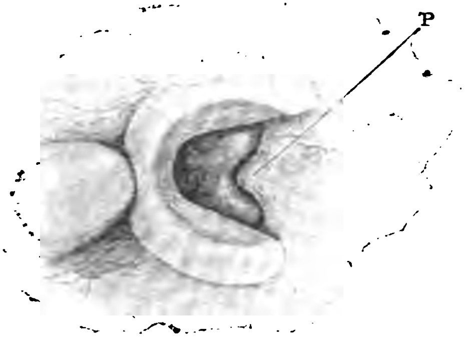
Fissure of the anus as seen without the speculum, the characteristic papilla (P) concealing anal ulcer.

FIG. 4 A.



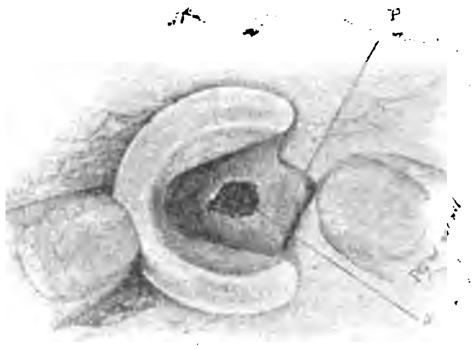
A fissure (*f*) exposed without the use of the speculum.

FIG. 5.



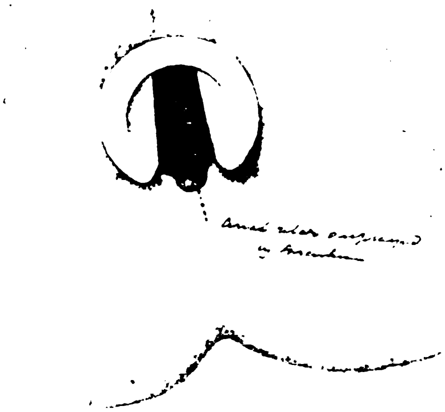
Anal ulcer as seen with the speculum. P marks the papilla covering the ulcer.

FIG. 5 A.



Anal ulcer as seen with the speculum. The papilla (P) has been drawn aside to expose the ulcer (U).

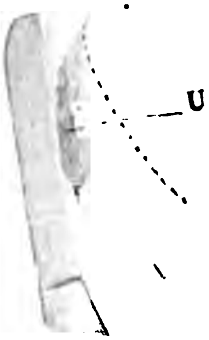
FIG. 6.



A typical anal ulcer as displayed by the speculum.

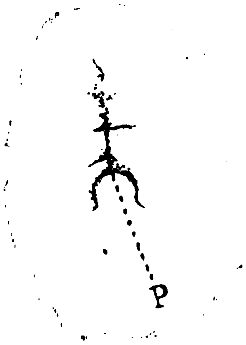
In Mr. Gowlland's drawings are to be seen many examples of anal ulcer associated with piles, prolapse, and polypus. The patient may refuse an examination with the natural dread of serious pain being excited or increased by the introduction of a finger, for he knows too well what torture the passage of a hard motion causes and that a liquid one is often as bad; but the practitioner can with confidence promise him that no pain shall be caused, for by careful manipulation such as has been described (Figs. 4, 4 A, 5, and 5 A) no pain need be or should be occasioned.

Fig. 6 A.



The division of the ulcer. U marks the seat of the ulcer.

Fig. 6 B.

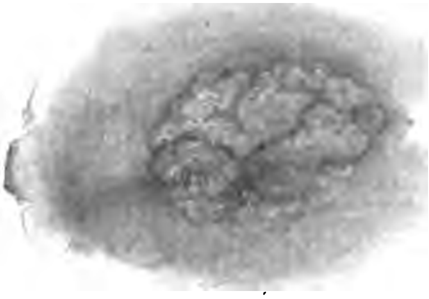


P marks the papilla which covered the ulcer in case illustrated by Figs. 6 and 6 A.

When the ulcer is once recognised its cure is soon brought about if it be uncomplicated by a forcible dilatation of the anus followed by a well-made incision through the whole length of the centre of the ulcer together with half an inch of the healthy tissue above and below its border (Figs. 6 and 6 A), the incision being made to penetrate only through some of the superficial fibres of the sphincter muscle, whereas in slighter cases the forcible dilatation of the sphincter will suffice by itself. If the ulcer has been of long standing a deeper incision may be necessary than when it is of recent origin, but I have never seen an uncomplicated case of anal ulcer in which the division of the whole sphincter of the anus was required. Figs. 7, 8, 8 A, 8 B, and 9 illustrate other anal ulcers and growths which must be recognised.

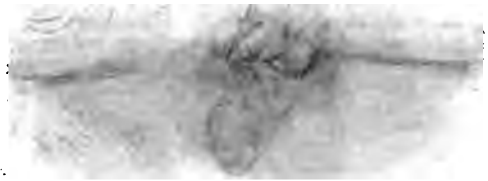
Grosvenor-street, W.

Fig. 7



A typical anal wart.

Fig. 8.

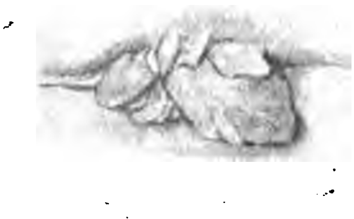


Typical anal condylomata. The patient was a woman aged twenty-one years.

Fig. 8 A.

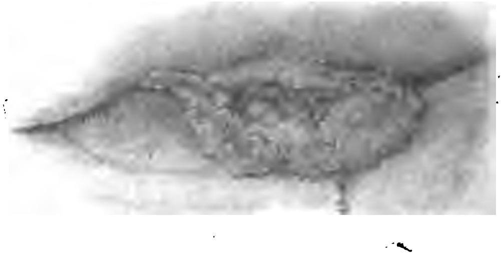
Typical anal condylomata. The patient was a woman aged twenty years.

Fig. 8 B.



Typical anal condylomata in a male patient.

Fig. 9



A malignant ulcer of the anus.

A NEW METHOD OF VENTRO-FIXATION, BEING A MODIFICATION OF ALEXANDER'S OPERATION FOR RETROVERSION AND PROLAPSE.

BY C. J. BOND, F.R.C.S. ENG.

IT will, I think, be admitted by all that the operation of ventro-fixation of the uterus as usually practised is accompanied with disadvantages and in some cases ends in failure. First, there is the presence of buried sutures connecting the uterine fundus with the abdominal wall. Secondly, the injurious effects which these sutures and the accompanying adhesions exercise on the normal progress of any subsequent pregnancy. Though these effects may not be so serious as in the case of vaginal fixation, yet trouble has arisen in several recorded cases. Finally, the operation in a certain number of cases fails to cure the disease. The failure seems to be due in some cases to actual elongation of the uterus itself by the forcible drag of vaginal walls and bladder; these are protruded and pull on the lower uterine segment at the point of reflection or attachment and eventually carry this point below the vulva, even though the adhesion of the fundus to the abdominal wall remains unbroken. In one case of my own this occurred and was only cured by hysterectomy. In other cases the adhesions themselves seem either to have stretched or given way, allowing a re-prolapse of the organ as a whole. It would seem therefore desirable that any method which might obviate some of these troubles should be tried.

In the last three cases of complete prolapse in which I have operated I have proceeded as follows. The abdomen is opened in the usual way. The round ligament on one side is then identified as it passes from the fundus to the pelvic brim; the ligament, with its investing fold of peritoneum constituting the free edge of the broad ligament, is pinched up between the finger and thumb at a point a finger's breadth distant from the uterus. The peritoneum is in this way made tight over the ligament. A small incision is made through the peritoneum just over the ligament and the loosely connected fibres of the ligament isolated, and the exposed portion freed and turned out of its investing membrane, by means of the finger and thumb nails, blunt dissector, or hook. When well isolated it can be pulled upon and made tense peripherally, and when thus tightened, it is divided with a snip of the scissors as it stands up covered with peritoneum near the brim of the pelvis or at any spot which gives enough length of tendon to work with. This should not be less than three inches. Now, by sliding back the peritoneum with the finger and thumb of one hand and at the same time making traction on the ligament in a peripheral direction with the other, the ligament can be pulled out of the peritoneum along its entire course up to the point at which it has been divided like a finger out of a glove, leaving it of course still attached to the fundus. The same process is repeated on the other side. It is important in doing this to see that the whole thickness of the ligament is included and liberated in the first instance, in order to avoid drawing out a few only of the frayed-out fibres. It should come out as a whitish cord as thick as a No. 8 or No. 12 catheter, or in some cases larger. If any small vessel be divided in the peritoneum either in the first incision or in the cut with the scissors, pressure with a Wells forceps for a few minutes will be sufficient.

We have now the uterine fundus with the two ligaments or animal ligatures attached, and it remains to describe the way in which they may be used to fasten the uterus in its new position. Up to the present I have proceeded as follows. Sliding the skin on one side, I pass a pair of sinus forceps through the whole thickness of the abdominal wall on one side of the incision, not, however, including the peritoneum. The end of the ligament is seized with the forceps and drawn through and the same process repeated on the other side; the uterus is now steadied against the abdominal wall and the sides of the incision approximated. In some cases I have then tied the two ligaments in a knot over the abdominal incision in front beneath the skin; in others I have stitched the ends together or stitched each one down, folded on itself, to the abdominal wall; the rest of the incision is closed in two or more layers and the skin sutured over in the ordinary way. It is important to raise and fasten the fundus to the abdominal wall at a sufficiently high point above the pubes, as I feel sure that in many cases the uterus is fastened too low down and the stretched vaginal walls are not pulled fully up.

The advantages which this method of fixing the uterus offers over those in which sutures are used are, firstly, that all dead ligatures are avoided within the peritoneum secondly, that no suture is passed into the uterus itself; and, thirdly, that in the case of subsequent pregnancy the suspending round ligaments would by undergoing hypertrophy and lengthening allow the fundus to rise in the abdomen.

As to the permanency of the results. I have inquired into the conditions of three patients, all multiparæ above middle age, and all bad cases, in which pessaries had been tried and failed, operated on eight months, seven months, and four months ago respectively with the following results. In the case of the patient operated on eight months ago she now gets about and can walk two miles in comfort, though there is still some prolapse of the posterior vaginal wall, yet the os can be felt in the standing posture well up behind the pubes. In the second case the patient is travelling about with a barrel organ, but I have not been able to make an examination. In the third case the medical man under whose care the patient is writes that the operation has been a success as regards the prolapse. But it is not only in prolapse that the method of utilising the round ligaments within the abdomen may be practised. In cases of retroflexion which cannot be satisfactorily treated by pessaries—for the class of cases, in fact, in which Alexander's operation would be appropriate—I find that good results can be obtained. The method is as follows. The abdomen is opened in the usual way; this at the onset secures the great advantage, absent in Alexander's method, of finding out exactly the condition of the uterus and its appendages and the presence or absence of adhesions or inflammatory disease. If it be now decided to treat the retroflexion by shortening the round ligaments from within the abdomen we proceed thus: The round ligament is identified and raised in its investing fold of peritoneum on one side at a point between the fundus and the brim of the pelvis, an incision is made over it and the ligament isolated as in the case of the operation for prolapse; then, partly by traction and partly by pushing back the peritoneum, a loop of the ligament is drawn out of sufficient length to cause the necessary amount of forward traction on the uterus; and the loop thus isolated is ligatured at its base with silk, the part of the loop beyond the ligature being cut away and the ligatured portion allowed to drop back within the broad ligament. The same operation is then repeated on the other side. In the case of a young unmarried girl, aged twenty-five years, in whom I performed this operation two months ago I have heard lately that she is now able to carry out the duties of a domestic servant. I was led to try this simple plan of finding and shortening the round ligaments partly because I had myself failed in one instance after careful search to find sufficient of the ligament in the inguinal canal to successfully carry out Alexander's operation and partly because other surgeons have also failed in the same way.

Leicester.

THE BACTERIOLOGICAL DIAGNOSIS OF CERTAIN INFECTIOUS DISEASES IN CONNEXION WITH PUBLIC HEALTH WORK.[1]

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PROCTER PROFESSOR OF PATHOLOGY, OWENS COLLEGE, VICTORIA UNIVERSITY.

(Continued from p. 348.)

III. DIPHTHERIA.

So much is already known of the methods in use for the bacteriological diagnosis of diphtheria that I shall simply describe the way in which the work is carried out in my laboratory, and though we cannot claim in Manchester to have been the first to apply this method of diagnosis in public health work we have by careful consideration of the difficulties to be overcome obtained an encouraging measure of success.

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[1] A paper read at the Conference of Medical Officers of Health at the Sixteenth Congress of the Sanitary Institute, Leeds, on Sept. 15th, 1897

The bacteriological diagnosis of diphtheria is based on the fact that the bacillus discovered by Löffler, the bacillus of diphtheria, is present in inflammatory products covering mucous membranes and in inflamed membranes affected with diphtheria. This bacillus is not alone present but is usually accompanied by other organisms, mostly staphylococci and streptococci. If the surface of a solid medium specially suitable for the growth of the diphtheria bacillus, such as ox or horse serum, or better still the mixture of alkaline glucose, bouillon and serum introduced by Löffler, be inoculated with a very thin layer of the inflammatory products and incubated at a temperature of from 35° to 37° C. the bacillus of diphtheria will generally grow more rapidly than, or at any rate as rapidly as, any of the other micro-organisms present, so that if from twelve to twenty hours after inoculation the surface of the inoculated serum be examined it is found to be covered with colonies of various kinds, among which those of the diphtheria bacillus will be present. As some other organism may simulate in mode of growth the diphtheria bacillus all the suspicious colonies are examined microscopically in the usual way—i.e., thin films are prepared, stained with diluted carbol fuchsin, and examined with a $\frac{1}{12}$th oil immersion objective. The bacillus is easily recognised from other organisms by its size, its mode of grouping, its unequal staining, and the tendency which the extremities of some have to swell, giving to the rod a club-shaped appearance. There are a thick, short variety and a long variety of the organism and there are intermediate shapes between the two. If tested by inoculation some of the bacilli, after pure cultivations have been obtained, show great virulence; they are mostly those of the long type, others, generally short, show little virulence. I have found it impracticable to test all the bacilli by inoculation and I have made it a rule to report diphtheria bacilli as present whether the long or the short form was found whenever they were quite typical. Occasionally it is difficult to be absolutely certain about the exact nature of certain short bacilli and in all such cases a doubtful report is issued. The routine followed will best be explained by reading the forms which Dr. Niven issued after we had considered the matter together when the work was started officially in Manchester.

The first circular was to explain to the medical men of the district what had been arranged. This circular will show clearly that the aim in placing bacteriological examination at the disposal of medical men was not to check the diagnosis of cases absolutely clear, but to give facilities for the early or late diagnosis of any case with regard to which the possibility of diphtheria was suspected. From an administrative point of view it is, however, most desirable that all cases should be examined bacteriologically.

Public Health Office, Town Hall, Manchester,
Feb. 3rd, 1896.

DEAR SIR,—At a meeting held on Jan. 29th the Sanitary Committee of this city confirmed a resolution passed by the hospitals sub-committee that facilities be afforded to medical men in the diagnosis of cases of diphtheria. It is matter of common experience that many cases of diphtheria, especially those of a small degree of severity, are difficult to recognise. At the same time if unrecognised they are liable to spread the disease. On the other hand, if such slight cases are reported it is not easy to get the patients to believe that they have suffered from so formidable a disease as diphtheria or to induce them to have the requisite measures of isolation and disinfection carried out. In the same way grave difficulties arise as regards the removal of such cases to hospital.

In order to obviate these difficulties and to assist both the practitioner and the Health Office the Sanitary Committee have arranged with the council of Owens College and Professor Delépine to receive from him a diagnosis of the nature of material obtained from cases suspected to be suffering from diphtheria.

A number of tubes are kept at the Health Office in the town-hall, each containing materials by means of which a practitioner can obtain from a suspected case matter for transmission to the pathological laboratory at Owens College. These tubes are enclosed in a wooden case on the outside of which are printed instructions for taking the matter for examination.

Medical men are requested to be careful to fill in the particulars asked for as no bacteriological examination will be made in the absence of sufficient information.

Should the bacteriological examination show that the case is not one of diphtheria the fee of 2*s*. 6*d*. for notification will be paid just as if no bacteriological examination had been made.

On the other hand, if no bacteriological examination is requested, this will be regarded as a proof that the case reported admits of no doubt. Applications for tubes must be made to the Health Office. The tubes may afterwards be forwarded direct to the College. The diagnosis, again, can only be obtained from the Health Office.

It is, however, the aim of the Sanitary Committee to shorten as much as possible the period between the first report of the case and the receipt by the medical attendant of the bacteriological diagnosis.

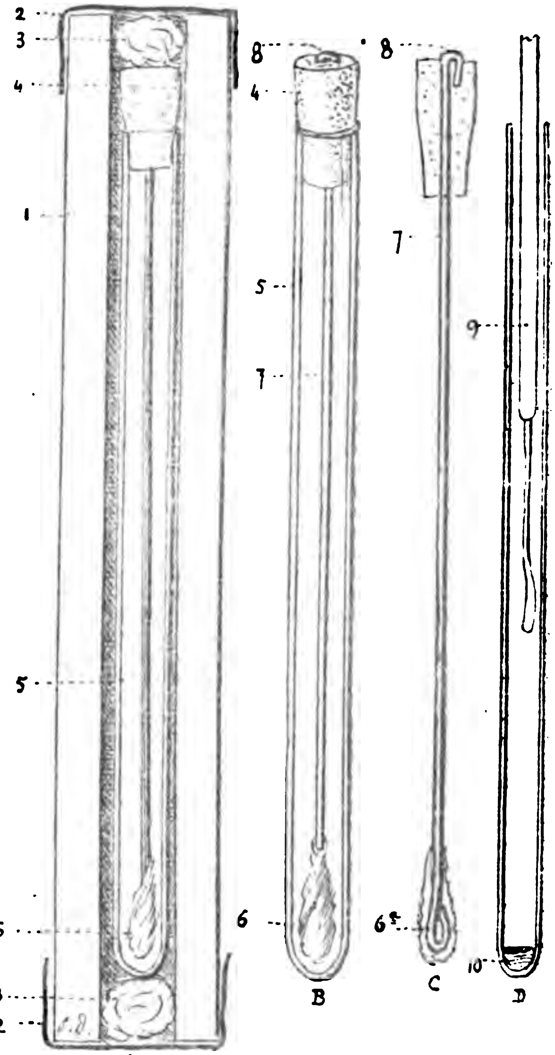
If the medical attendant will telephone to the Health Office from the nearest police-station a request for a tube this will be at once sent by messenger to his residence or to the address of the patient, as the medical attendant may desire. If he is prepared at once to take a specimen for diagnosis the messenger will wait to receive the tube from him charged with the matter to be examined and will convey it forthwith to the College. The diagnosis will be given to the medical attendant only on the following day. It will be necessary, however, that the tube reach the laboratory by 3 P.M.[2] on any one of the days Monday to Friday, and on Saturday by 1 P.M., otherwise the diagnosis will be delayed by one day. No diagnosis will be given on Sunday.

The expense of the bacteriological examination will be defrayed by the Corporation and it is hoped that full advantage will be taken of the opportunities thus afforded.

In order that medical men may familiarise themselves beforehand with the procedure which they will require to adopt a copy of the instructions printed on the outside of the wooden case is enclosed.

JAMES NIVEN, Medical Officer of Health.

FIG. 1.



So-called "Diphtheria Outfit" for collecting diphtheritic products and transmitting them to the Owens College Laboratory. A, Section of case (1); 2, 2, Antiseptic adhesive plaster; 3, 3, Pads of cotton-wool to prevent damage to test-tube (5). B shows position of swab (6) attached to iron wire (7) fixed in cork (4). C, Section of swab and cork showing the ends of the wire (6*a* and 8). D, Swab-tube for preparation of emulsion; 9, Platinum spatula; 10, Bouillon or peptone water.

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[2] The wording of the circular has been slightly altered in a few places. The time limits given in these forms were rendered necessary by the conditions under which a large amount of work had to be done at first as I could only give a limited part of my time to it. With my present staff of assistants such limits are now less necessary. I am not sure, however, that there is very great advantage in receiving tubes at all times of the day unless some arrangement be made to do part of the examinations at night. An interval of at least twelve to seventeen hours must be allowed between inoculation of the tubes and the examination of the colonies.

The tubes which I have devised for collecting samples present certain advantages which render work easier and the following description explains the way in which the apparatus is constructed and the manner in which it is used. In Fig. 1 is shown a section through the wooden case (A); this case is square externally, and on the outside of it is pasted the label on which all the particulars are entered. It has a cylindrical perforation, extending from end to end, into which the swab tube (5) is placed for transmission by post to and from the laboratory or sanitary office. The wood of this case is prepared by soaking in a 5 per cent. alcoholic solution of perchloride of mercury. The two ends of the case (1) are closed with antiseptic adhesive plaster (2), and the ends of the glass tube (5) are protected by two pads of cotton wadding (3). The swab tube (B) is a narrow test-tube (5), closed by a long cork (4) through which is passed a firm galvanised iron wire very nearly as long as the glass tube. Round the free extremity of this wire absorbent cotton-wool is twisted so as to form a soft swab which should not be too bulky. These tubes are thoroughly sterilised in the autoclave, the cork lying loosely in their mouth. After sterilisation they are removed from the autoclave, dried in the hot-air oven, and whilst quite hot the cork is firmly pushed in so as to completely close the tube. The swab tube is then introduced into a sterilised case. The swab-holder (C) shows how the wire is fixed in the cork and how the swab end (6*a*) is bent so as to prevent the possibility of the wire hurting the mucous membrane on which it has to be rubbed firmly. The cork is used to hold the swab; the length of the wire is such that products can be collected from the pharynx and false vocal cords without the operator's fingers touching the lips of the patient. The swab tube (D) is used to prepare the emulsion with which the Löffler's serum is inoculated. A small quantity of alkaline bouillon or peptone water (10) is introduced into the tube, the swab is well rubbed in it until the fluid is quite turbid, then the platinum spatula (9) is dipped into the fluid and rubbed successively on the slanting surface of the solidified serum contained in three different tubes.

The following label is prepared in such a way that all the particulars wanted for identification and investigation can be entered with very little loss of time by writing a number or crossing out a "yes" or a "no."

Name of Doctor *Lab. D. No.*
Address
Name of Patient *Age* *M.—F.*
Address
Date of Collection of Specimen *hour* { A.M. / P.M. | *Date of onset of illness*
Previous attacks of sore-throat frequent? Yes—No. *Diphtheritic?* Yes—No.

Place X over parts much inflamed. O over parts covered with false membranes. Underline parts over which swab has been rubbed.	*R. Tonsil* — *L. Tonsil.*	*Highest temp. recorded* *When?*
	Soft Palate — *Pharynx.*	*Submaxillary glands enlarged?* Yes—No. *Tender?* Yes—No.
		Albuminuria? Yes—No.
	Nose — *Larynx.*	*Chief complications.*

N.B.—Simply scratch out "yes" or "no" when a positive answer can be given; if in doubt leave them as they are.

Directions.—1. Enter all particulars on this label. 2. Open case by lifting red plaster—withdraw tube. 3. Draw out swab by means of cork holder. 4. After placing patient in good light depress the tongue well with clean depressor. 5. Rub swab *firmly* over most affected part; when a thick false membrane can be removed this may be placed in the tube, but the swab must nevertheless be rubbed on inflamed mucous membrane also. 6. Replace swab without soiling mouth of tube, cork tightly. 7. Replace tube in wooden case. 8. Close case by fastening the plaster lid. 9. Enclose case in securely fastened envelope addressed—BACTERIOLOGICAL LABORATORY, OWENS COLLEGE.

Important.—The specimen should not be taken immediately after the application of any antiseptic to the throat. In every case it will be well to make, if possible, the patient drink a little boiled water or milk or beef-tea before the specimen is taken.

Local treatment used *Has serum treatment been used?*

The clinical details asked are not used as guides at all in the bacteriological work, they are wanted only for use afterwards to find out any relations which might exist between certain types of cases and the bacteriological results obtained. The details obtained in this way are communicated to the medical officer of health as they might prove of use to him in tracing certain epidemic types. Dr. Niven on his side gives me all the information which he can obtain regarding the course followed by the illness on which reports have been sent from the laboratory. In this way documents are accumulated which make it possible to test the value of our work and to carry out certain investigations.

The total number of cases of suspected diphtheria reported upon from the end of August, 1896, to the end of August, 1897, has been 394, of which 311 were Manchester cases and 83 from Stockport, Salford, Eccles, Withington, Moss Side, Stretford, and Crewe.[3] In 119 cases diphtheria bacilli were detected. In 271 no diphtheria bacilli were found. In 4 cases doubtful results were obtained and were reported as such. So that in 390 cases out of 394—i.e., in very nearly 99 per cent. of the cases—definite results, either positive or negative, were obtained.

Regarding the amount of agreement observed between the laboratory results and the further clinical study of the cases I have been able through Dr. Niven's kindness to obtain the following information concerning the Manchester cases. 311 specimens taken from Manchester patients were examined; in 89 of these diphtheria bacilli were found and as the bacteriological diagnosis was invariably accepted nothing need be said about these cases. In 218 no diphtheria bacilli were found. Our negative report was not accepted by the medical attendant in 20 cases. In about half of the remaining cases the medical men wrote in answer to inquiries that they accepted our diagnosis. Regarding the other half we could get no information, but we had good reason to believe that if fault had been found with our report this would have been freely expressed, for the medical men were earnestly asked to do so without restraint.

Excluding the four doubtful ones there remain 307 cases. Our bacteriological reports were openly accepted in some 188 cases, received without opposition in 99 cases, and challenged in 20 cases. Of these 20, 3 which were admitted in the fever hospital developed scarlet fever; another was seen by Dr. Niven, who satisfied himself that the patient was not suffering from diphtheria; another case had, judging from the history afterwards obtained, scarlet fever; and in another case the patient recovered so rapidly that the diagnosis of diphtheria was difficult to support on any clinical ground. Of the 14 cases remaining after these have been excluded 2 seem to have been cases of diphtheria, but in none of the others has the information given us been sufficiently clear to make it certain that from a clinical point of view there was no doubt as to the nature of the illness. If we admit, however, that in 14 cases the bacteriological method failed to give accurate information this amounts to saying that in 4 per cent. of the cases on which we reported our opinion was not supported by the course taken by the case.

If we compare this result of bacteriological examinations as tested by clinical observation with those of clinical observation as tested by the bacteriological method we find that out of 307 cases suspected of being possibly affected with diphtheria not less than 218 were, bacteriologically, not cases of that disease, or if we exclude the 14 cases just alluded to in which our opinion was openly challenged, without our being able to prove that the error was not on our side, we find that 204 out of 293 cases of suspected diphtheria were affected with some other disease. This means doubt in 69 per cent. of the cases to compare with our 4 per cent. of error. But it might be said that the cases about which we have not received any expression of agreement or disagreement from the medical attendant should not be included in our estimates. Such an objection is easily overcome. After excluding those cases there remain still 207 reports, regarding which we have a definite opinion from the medical men. Out of these we have, on one side, 14 cases of unmistakable disagreement and, on the other side, 89 positive cases and 104 negative cases in which our finding was clearly accepted or proved to be correct at the fever hospital. According to this estimate the clinical doubts would not be less than 50 per cent., whilst the bacteriological errors would not be more than 7 per cent.

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[3] Since this report was written it has become possible to obtain the number of cases examined from Jan. 1st to Dec. 31st, 1897; 500 cases were reported upon during that period.

It is not necessary for me to push these remarks further to prove my point, but I may add that at least ten of the cases in which no diphtheria bacilli could be found turned out after admission at the Monsall Hospital to be cases of scarlet fever, two of typhoid fever, and one of thrush. I give these only as examples of the difficulties of ordinary diagnosis and to show that although I have accepted as possible cases of error on my side fourteen cases (in which the clinical diagnosis of diphtheria was upheld by the medical man notwithstanding our not finding diphtheria bacilli), it is more than probable that I have under-estimated the accuracy of the bacteriological work. I should say that whenever we were at all dissatisfied with the swabs sent to the laboratory, either because they did not seem to have been well loaded with morbid products or contained few or no cultivable bacilli (probably owing to the action of antiseptic applications), we invariably requested that another sample should be sent. I may also add that in several cases of re-examination we obtained in the second and sometimes in the third examination the same results as in the first, showing that the method was applied with sufficient care to ensure constancy of results.

There are many interesting points in connexion with the practical effects of the utilisation of bacteriological diagnosis which I must reserve for a further communication by Dr. Niven and myself.

(To be concluded.)

A NOTE ON UNCOMPLICATED PURPURA IN CHILDREN; ITS AFFINITIES.

BY H. W. SYERS, M.A., M.D. CANTAB.,
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THE number of cases of uncomplicated purpura seen in out-patient practice is very large. Cases, children almost exclusively, are continually presenting themselves in which the cutaneous affection is the only ostensible morbid feature. For several years I have given particular attention to this class of malady amongst my out-patients and especially endeavoured to ascertain whether, as is generally supposed and taught, there is really any connexion whatever (not merely casual) between this affection and rheumatism. In investigating these cases I have given the widest possible signification to the term "rheumatism," being quite content to admit as rheumatic those cases in children in which one or two joints only have been swollen and tender and to give weight also to the presence at a previous period of growing pains. Considering how often in a young child the joint manifestations of acute rheumatism are of the very slightest it would clearly have been unfair to exclude such apparently trifling evidence. I have entirely failed hitherto to trace any relation between the two maladies—the skin manifestation and rheumatism; and in hardly any cases have I found valvular disease of the heart—in so few that its presence was clearly accidental and had no reference to the purpuric condition being due to the rheumatism, which doubtless caused the endocarditis, either as cause, effect, or concomitant. Pain, if present, which has seldom been the case, has been almost entirely confined to the fleshy part of the limbs affected, nearly always the lower extremities.

I cannot recall a single case out of the great number I have seen in which the pain was prominent in or confined to a joint, still less a case in which a joint has been swollen or tender. But all my cases without exception have presented evidence of unhealthy surroundings and also, and still more markedly, of deficient or of unwholesome food. In many cases the hygienic conditions have been the very worst, ill-ventilated, stuffy rooms at the very least, and in some cases damp, badly-drained dwellings with defective light. In all cases there has been improper and deficient food and generally in the case of young children a grievous deficiency in the allowance of milk. I have found that if these faulty conditions of hygiene were rectified and the necessary changes made in the quantity and quality of the food that the complaint disappeared with the greatest rapidity. In fact, the treatment that is found to be curative in scorbutus is invariably the treatment which is immediately successful in cases such as those I describe. I am disposed to regard these cases in which, quite suddenly and without apparent cause, large numbers of purpuric spots appear, especially on the lower limbs, as scorbutic in nature. Probably the occurrence of such spots is the very earliest evidence of the morbid condition of the blood which has arisen from the causes above referred to.

In a few cases I have observed that there was slight softness and tendency to bleed on the part of the gums, but generally nothing of the kind was to be made out. Hæmaturia in babies is not infrequently the sole evidence of scorbutus which has been induced through improper feeding, and it does not seem impossible that the same morbid condition may manifest itself in older children—for in my experience the class of case to which these remarks apply includes children almost exclusively—by hæmorrhage into the skin. Be this as it may I have invariably found that the only efficient mode of treatment in these cases consists in regulating the diet and in improving the surroundings.

Fresh air, sunlight, good ventilation, together with fresh milk, orange juice, and potato gruel have been the agents most active in restoring the patient to health. Drugs may be entirely placed on one side; they are of no use and the administration of iron, ergot, tannin simply upsets the already disordered digestion and increases the mischief by rendering still more difficult gastric digestion. If anything of the kind is given I think quinine is the least unsuitable.

Of course, it is understood in these remarks that I refer only to the cases of purpura, nearly always occurring in children, which are slight and usually unaccompanied by other physical signs and symptoms. I say nothing with regard to the disease accompanying other morbid conditions such as morbus cordis, enteric fever, ulcerative endocarditis, &c. That is a totally different matter. But the point on which I would dwell is that in my experience these cases are much more allied to scorbutus than to rheumatism, with which they appear to me to have nothing in common. I regard them as mild forms of scorbutus. I have been led to this view by the experience gained during some years of a class of case met with in large numbers I suppose in the out-patient rooms of all large city hospitals.

Wimpole-street, W.

ON THE FLAGELLATED FORM OF THE MALARIA PARASITE.

BY E. LAWRIE, M.B. EDIN.,
SURGEON-LIEUTENANT-COLONEL, INDIAN MEDICAL SERVICE.

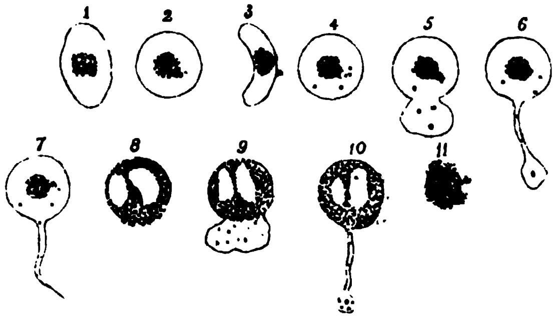
IN THE LANCET of Nov. 13th, 1897, there is an article by Dr. W. G. MacCallum, of the Johns Hopkins Hospital, Baltimore, U.S.A., on the Flagellated form of the Malarial Parasite, with a note of approbation by Dr. William Osler, the talented and highly trained professor of medicine, who was one of the first, if not the first, to discover that abscess of the liver is an infectious disorder. This article deals with observations on the comparative appearances of the blood of "infected crows" and of a "woman infected with the æstivo autumnal type of organism." Presumably these observations refer to Laveran bodies of the round so-called intra-corpuscular variety. Two forms of "parasite" are described by Dr. MacCallum which would seem to be common to infected crows and women suffering from the æstivo-autumnal type of Laveran body. One of these is a "hyaline" body which flagellates and is a male, the other is a granular body which does not flagellate and is a female organism. In malarial parasitology such terms as "hyaline" are as a rule the precursors of something startlingly new and exhilarating, and Dr. MacCallum's article is no exception to the rule, for he proceeds to represent the flagellum of the male organism as the living image of a spermatozoon. The habits of this "animal" correspond to a remarkable degree with its pretended anatomical resemblance to the male element of generation in higher animals and curiously enough Dr. MacCallum's particulars also correspond with Professor Schäfer's account of the fertilisation of the ovum by the spermatozoon in "Quain's Anatomy."[1] It will no doubt be useful to contrast the leading facts of the two descriptions in parallel columns:—

Schäfer's Embryology.	*MacCallum's "Sexual Process" in Laveran Bodies.*
1. The spermatozoa may be seen to penetrate the gelatinous investment and the head of one imbeds itself in the ovum.	1. Of these flagella one plunges its head into the sphere and wriggles its whole body into that organism.
2. The ovum becomes slightly protruded at the point of contact.	2. A conical process begins to appear at one side of the female organism.
3. One spermatozoon only as a rule imbeds itself in the ovum.	3. One flagellum only imbeds itself in the female sphere. "It seems to be impossible that another should enter."
4. As the spermatozoon passes towards the centre of the ovum it appears to exert a peculiar action upon the granules in the protoplasm.	4. As the flagellum passes into the centre of the female organism the "pigment granules in the protoplasm are churned up."

It is unnecessary to comment on this similitude except to point out that it throws a light on what follows. According to Dr. MacCallum the united form produced by the flagellum plunging its head into the female sphere has a bad time of it after this performance, as all the rejected flagella "may be watched circling about vainly beating their heads against the wall." The united forms quickly grow into a "spindle-shaped organism," one end of which is, as might be anticipated, hyaline; and, provided with this transparent beak, or perhaps spur, the organism rushes about prodding the unfortunate blood cells: "Red corpuscles lying in its path are punctured so that their hæmoglobin is allowed to escape, and after standing some time even the leucocytes may fall victims to the destructive force of these organisms, which have been seen to dash through them scattering their granules into the plasma." This is a new and altogether marvellous theory of malarious fever and anæmia. Dr. MacCallum completes the description, by saying, "the whole process described above seems to be a sexual process," and the organisms last depicted "*may be* the resistant forms that escape from the body during life into the external world." The words "*may be*," which I have italicised, illustrate the way the plasmodists have of throwing out a hint or suggestion which is afterwards quoted by themselves as an approved "scientific" fact, and, in the words of Professor Osler, as "another step in our still scanty knowledge of the life history of the malarial parasite."

The actual scientific value of Dr. MacCallum's observations may be fairly correctly estimated from his own statement that they were made on blood after standing for from twenty minutes to an hour and a half and more. But their accuracy under these telling conditions is open to grave question. Dr. MacCallum asserts that the flagella are developed from the hyaline forms of the Laveran body. Most plasmodists are agreed that they are developed exclusively from granular swarming forms. Further, I am at a loss to know what is meant by "infected crows" and by the "æstivo-autumnal" type of organism. Crows and malaria are both common—indeed, they are far too common, in India, but a malarious crow is a bird which I should imagine does not exist anywhere outside of the United States. The term "æstivo-autumnal" probably refers to something hyaline, i.e., to something which, like the "shadows" of red blood corpuscles, nobody but a plasmodist can see. It is a fair specimen of what passes current as "science" in malarial parasitology. As a matter of fact, the flagellated forms of the Laveran body are no more parasites than any of the other forms of that body are. Dr. MacCallum has omitted to state that Surgeon-Major Ronald Ross was the first to point out that the change of the crescent from the semilunar shape to the round form which flagellates, is hastened, if not in some instances brought about, by contact with the fluids in the stomach of the mosquito, and that Marshall has since demonstrated a precisely similar change by admixture of water with the blood. That is to say, by altering the density of the medium the crescent or spindle-shaped form of the Laveran body can be made to become round, then swarm, and then flagellate. But an analogous effect can be produced in the red blood corpuscles of hawks and crows, and in many of the leucocytes in human blood, by the addition of water. The spindle-shaped red blood corpuscle of the bird becomes round and is then in appearance exactly like the round form of the crescent, while the leucocyte changes its shape, then swarms, and throws out processes which are indistinguishable from flagella, except that they do not possess their lashing movements.

Changes produced in the Red Blood Corpuscles of Birds, in the Malarial Crescent, and in Leucocytes by the addition of Water to the Blood.



No. 1.—The oval or spindle-shaped red blood-cell of birds.
No. 2.—The same blood-corpuscle become round after the addition of water to the blood.
No. 3.—The malarial crescent.
No. 4.—The same crescent become round after the addition of water to the blood. It is now identical with No. 2 in appearance except that a few of the granules of its central intra-corpuscular mass may sometimes be seen swarming in the protoplasm of the cell. It must be noted that the intra-corpuscular body in the crescent which swarms sometimes retains its intra-corpuscular shape, while at other times its granules spread out over the interior of the cell.
No. 5.—The crescent in watered blood, round, the granules swarming, and showing the first stage of flagellation. This process commences as the shedding of the granules does in the leucocyte (No. 9) by the protrusion from the cell of a cloud or puff of protoplasm, into which two or more of the granules swarm. The difference between the two is that while the puff or cloud of protoplasm is violently agitated, in the case of the crescent it is quiescent or only displays slow movements in the case of the leucocyte.
No. 6.—The second stage of flagellation. The puff or cloud of protoplasm elongates, the granules swarming into it. A similar stage is seen in the leucocyte (No. 10), but the process is violently agitated in the crescent and only possesses slow movement in the leucocyte.
No. 7.—The flagellum completed in the crescent. The granules swarm into it and it moves with a rapid, lashing movement, which is not seen in the leucocyte.
No. 8.—A leucocyte in watered malarial blood, swarming.
No. 9.—The first stage of throwing out a flagellum-like process in the leucocyte.
No. 10.—The second stage of flagellation in the leucocyte.
No. 11.—The final stage in both the crescent and the leucocyte. The protruded processes of protoplasm are either withdrawn into the cell again or they disappear or fade away. The cell outline likewise fades and nothing is left but a confused mass of granules.

In Nos. 5, 6, and 7 active swarming and lashing movements are seen. In Nos. 9 and 10 the swarming movements are seen in the same active form as they are in the swarming crescent, but the lashing movements have not been observed. What has been seen is that the rounded crescent has been observed to be extruded from the interior of a leucocyte, to flagellate actively outside it, and then to go back into the interior of the leucocyte again and ultimately to become a mass of granules as in No. 11. This is only an example of what is very commonly seen in connexion with leucocytes in healthy blood. Processes of protoplasm and granules are shed outside the cell, move about detached for a time, and are afterwards enclosed again in its interior. I should like to ask through the medium of THE LANCET where this travesty of science in the guise of malarial parasitology is to end? The support of the entire fabric is to be found in the one solitary fact that quinine cures malarious spleen and fever, so that the plasmodists are able to proclaim with a great show of plausibility that it "kills the parasite." But the action of quinine in curing malarious fever formed a recognised principle of medicine long before the plasmodial era, and I do not know any of the thousand-and-one plasmodial theories connected with the etiology and pathology of malarious fever which will bear examination any better than Dr. MacCallum's and Dr. Osler's conception of a "sexual process" among the supposititious male and female malarial organisms on a slide, identical with that which obtains among the higher animals in the fertilisation of the ovum in the Fallopian tube. Moreover the plasmodists are utterly unable to demonstrate their "parasite" in anything but malarial blood, and this by no means in every case of malarious fever, for the Laveran body is never found in the blood in those inveterate forms of the disease where the spleen is much degenerated. Until they can show the "parasite" in some other environment than human blood I for one shall maintain the opinion that the assumption that the Laveran body is a parasite is altogether false and misleading. All the evidence goes to show that the Laveran bodies are altered blood-cells closely related to the leucocyte, and that they are, like it, products of the blood. If the Laveran bodies are to be regarded as parasites the leucocyte must also be regarded as a parasite. This brings us to the key to the whole position. Little or nothing is known of the true physiology of the leucocyte, the "science" of the plasmodists being satisfied with the way it takes a stain and the most learned physiologists assigning to it no higher *rôle* than that of a phagocyte or scavenger. If physiologists in Great and Greater Britain would devote some of the time they spend in hunting for patent hearts in order to bolster up a perilous method of chloroform administration to a genuine research into the physiology of the leucocyte the bottom would very soon be knocked out of the sham science of malarial parasitology, of which Dr. McCallum and Dr. Osler are the most recent exponents.

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[1] Quain's Anatomy, tenth edition, vol. i., Part I.—Embryology, by Professor Schäfer, page 11. The account is taken from von Beneden's "Recherches sur la Maturation de l'Œuf et la Fécondation."

Hyderabad, Deccan.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF TWIN PREGNANCY: MISSED ABORTION AT THIRD MONTH; RETENTION OF DEAD OVUM UNTIL AFTER DELIVERY OF SECOND FŒTUS ALIVE AT FULL TERM.

By ATHOL S. J. PEARSE, M.B., B.C.CANTAB.

ON Jan. 25th, 1898, I was called in to attend a married woman, aged thirty-three years, who was in labour with her fifth child. The labour was a normal one; the placenta was easily expressed fifteen minutes after the birth of the child, and on examination was found to be apparently complete. Two days later (on the 27th) a very foul-smelling mass was passed with pain, and this on examination I found to be an ovum of between two and three months, complete with small placenta and membrane. I saw no fœtus. Inquiry then elicited that the patient fell pregnant early in May, 1897. Early in August she had a severe fright caused by a thunderstorm and she lost some blood per vaginam for two or three days together with some pains in the stomach. These stopped and then pregnancy progressed normally until delivery at term.

The child, born alive, was a small one, as also was the placenta, which appeared to be complete. The patient was quite in her usual good health during the whole time of pregnancy although, as afterwards was proved, she had a decomposing ovum in her uterus along with the live fœtus. She made a rapid recovery without any bad symptoms.

Cardiff.

ARITHMOMANIA.

By L. A. PARRY, M.D., B.S.LOND., F.R.C.S.ENG.

THIS affection, which is, I believe, far more common than is generally allowed, is one of the many groups of the *tic convulsif* (*Gilles de la Tourette's disease*) of the French. It is a psychosis occurring chiefly in families with a well-marked neurotic inheritance, the age of onset being as a rule quite early, from six to ten years, occasionally later. The cases which I am about to relate all belong to the same family—they were, in fact, all first cousins. There were no instances of epilepsy, fits, or insanity, and no neurotic tendencies in any of the parents or members of the family with the exception of the arithmomania in the children themselves.

CASE 1.—The first case was that of a well-developed boy of about ten years of age. He had had no illnesses previously except some of the fevers so common in childhood. The onset of the attack was insidious; he gradually became absent-minded, took a long time to answer when spoken to, the question often having to be repeated three or four times, and there was frequently a peculiar fixed stare in his eyes as if his thoughts were far away. He could never enter a room in the normal manner, but was compelled to turn the handle of the door three times, start to make his entrance, and then draw back three times, or else kick one leg against the other three times before he started. When passing an object he was often compelled to touch it three times before he could walk on; in fact, three seemed to be his golden number. There was never any tendency to involuntary muscular movement, as is generally the case; it was throughout the mental disturbance which was the prominent feature. He was treated with arsenic, plenty of fresh air, and good food, but no improvement could be noticed in any way attributable to these therapeutic measures. The symptoms very gradually disappeared and now some years later all that remains is a slight tendency to absentmindedness.

CASE 2.—The next example was a cousin of the patient in Case 1, a girl of about seven years of age, who again presented no spasmodic movements, only slight mental disturbance. She was unable to bid her parents good night in the manner usual to children, but felt compelled to get out of bed and repeat at intervals her usual valedictory words, "Good night, mother," and when her mother would reply "Good night, C——," all was well for a moment. Then again would be heard the cry, "Good night, mother," and again the answer, "Good night, C——," would be given, and so on for a dozen times or so. If she touched anything she was obliged to repeat this touching first with her right hand, then with her left hand, again with the right, and lastly with the left. When walking along the street she would suddenly dart into the middle of the road, put her feet into a certain definite position, make a peculiar growling noise with her throat, and then return to the point from which she had started. She has gradually got well without any treatment except moral suasion and is now a perfectly healthy young woman.

Several other slighter instances of this affection in members of the same family have presented themselves to me, but none of them were marked and all of them are now free from any tendency to arithmomania.

Bartholomew-road, N.W.

CASE OF RUPTURE OF THE RIGHT VENTRICLE OF THE HEART FROM A BLOW IN THE EPIGASTRIC REGION.

By THOMAS FISHER, M.R.C.S. ENG., L.S.A.

THE patient was a man, aged twenty-five years, strong and robust, a noted pugilist and heavy-weight lifter. In an intoxicated condition he assaulted his neighbour, who, in self-defence, struck him in the stomach, from which blow he fell to the ground insensible and never regained consciousness. In this unconscious condition he was taken home, a distance of two miles, and after some delay I was sent for. On my arrival I found him quite dead, one and a half hours having elapsed from the time of the injury until I saw him, he having then just expired.

The post-mortem appearances were as follows:—The body was well nourished. There was a slight contusion in the right temporal region. There was no apparent bruise on any other part of the body. On removal of the scalp extravasation of blood was seen in the right temporal region. On removal of the calvarium the membranes of the brain were found to be very vascular. The brain was covered with minute petechiæ and was generally vascular. The skull was fractured in the right temporal region obliquely from behind forwards with no displacement of bone, and there was no injury to the dura mater and no clot. On opening the chest the pericardium at once bulged forward and was seen to be much distended; on opening it was found full of clots, dark in colour. The heart was large, weighing 14¼ oz. There was marked dilatation of the right ventricle in which was found an oblique rupture from above downwards, irregular at the edges and measuring in length 3½ in. The widest part of the heart was 5½ in., and the greatest length was 5½ in. The general appearance of the heart was pale in colour, and there was an abnormal quantity of fat in the pericardial region. The valves and blood-vessels were normal. The microscope revealed marked fatty degeneration. The lungs receded backwards from the pressure of distended pericardium; they were very highly congested with venous blood. The bronchi contained sero-sanguineous matter. The lungs were otherwise healthy. The pleural cavity contained a few ounces of serum slightly blood-tinged. The ribs were not injured. The abdomen and stomach were distended with gas and congested and contained no fluid. The intestines were healthy but congested. The liver, kidneys, and spleen were healthy but congested. The bladder was healthy, containing urine, which was normal. The spinal column and ribs were carefully examined and no bruise of any kind was to be found.

This rare case is interesting in many points. Here was a young man noted for his pugilistic powers and great strength with an abnormally large heart at the age of twenty-five years. I might here add that there was no history of rheumatic fever tubercle or syphilis but he was a practised pugilist and heavy-weight lifter for years. Another interesting point also is that the man apparently lived with a ruptured heart for one and a half hours and was subjected during this period to rough treatment, his friends believing him to be so intoxicated as to be totally helpless and the poor fellow was taken home two miles distant in an ordinary farmer's cart. All witnesses called at the inquest agreed that the patient fell from the first blow and that such blow was in the stomach and from that moment he never showed the least sign of consciousness. He was kicked when on the ground and this, no doubt, accounted for the fracture of the skull in the temple. There was not the slightest bruise to be seen in the epigastric or thoracic regions or anywhere else except the temple. The causes of the rupture in this case were evidently three-fold—(1) the abnormally dilated right ventricle causing thinned walls; (2) abnormal distention of the whole heart due to excessive stimulation; and (3) the blow in the stomach (containing gas) quickly raised up the diaphragm and thereby acted on the already distended and weakened heart, hence the rent in the right ventricle, the weakest part of the organ. It seems almost impossible that life could last one and a-half hours after such an injury. My opinion is that the rent was small to commence with but that by continued action of the heart it was increased. The pericardium was exceedingly tense and the pressure of the clots on the heart must have been very great. Lastly, the circumstances of this case prove that a blow of sufficient force may be dealt with the fist to practically cause death without any evidence of the same. The blow being over the solar plexus must have caused a great amount of shock apart from the cardiac rupture. The specimen was sent up to St. Thomas's Hospital Museum.

Garstang.

CLIFTON DISPENSARY.—The annual meeting of the Clifton Dispensary was held on Feb. 1st under the presidency of Canon Wallace. The report showed that during 1897 there had been 4094 cases treated, of which 3813 were medical, 180 were surgical, and 101 were midwifery cases. The receipts amounted to £833, including a balance of £223 from the previous year. The chief items of expenditure were salaries £289, medicine and medical sundries £85, and after paying all expenses there was a balance in hand of £125.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—The annual meeting of the Newport and Monmouthshire Hospital was held on Jan. 31st under the presidency of Lord Tredegar. The report showed that during 1897 there had been 569 in-patients admitted, a decrease of 19 from 1896; 1168 out-patients had been attended, as compared with 1450 in the previous year; and 2470 dispensary patients had been treated, as against 2885 in 1896. The financial report showed a good balance in hand. Lord Tredegar stated that only about half the funds needed for the completion of the new hospital had been raised and that the third and last year had been entered upon for which Dr. Garrod Thomas's offer of £5000 was available.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ST. MARY'S HOSPITAL.

A CASE OF RIGHT LOBAR PNEUMONIA, EMPYEMA, AND SUPPURATIVE PERICARDITIS IN A CHILD; PLEURA AND PERICARDIUM DRAINED; DEATH TWELVE DAYS AFTER THE LATTER OPERATION; NECROPSY.

(Under the care of Dr. CHEADLE.)

FOR the notes of the case we are indebted to Dr. F. John Poynton, medical registrar to the hospital.

A girl, aged four and a half years, was admitted on Dec. 22nd, 1897, to St. Mary's Hospital. On Dec. 17th the patient had seemed drowsy and did not care for her food. On the 19th the general malaise had increased and in addition she complained of pain in her "stomach and back." The symptoms increased from this date until her admission on the 22nd. The family and personal history threw no light on the condition. On admission the temperature was 100·4° F., the pulse was 168, and the respirations were 56. She was an intelligent little child, drowsy and flushed and evidently very ill. The impulse of the heart was felt below and just internal to the nipple and the sounds and area of dulness were natural except for the rapidity of the former. The respiration was grunting and laboured. The movements of the right side of the chest were impaired and there was dulness below the fifth rib posteriorly extending as far outward as the mid-axillary line. This area of dulness could be roughly divided into two portions, an upper and outer, over which rhonchi and coarse râles were heard, and a lower and inner, over which the breath sounds were diminished as also was vocal resonance. A few rhonchi and râles were heard at the inferior angle of the left scapula. Beyond the fact that the lips were dry and the tongue was extremely coated there were no abnormal alimentary signs. The urine was febrile but contained no albumin. From the day of admission on the 22nd to the 27th the condition varied but little but on the whole improved. The temperature ranged from 103° to 99 6°, the respirations were about 50, and the pulse was very rapid, being 144 on an average. On the 27th it was noted that the dulness continued very marked at the right base and that the diminution of the breath sounds remained constant. Dr. Cheadle made a special note that there was some crepitation below the right nipple and that the cardiac dulness on the left side reached to the upper border of the second rib very distinctly but the heart sounds were clearly audible. A small ice-bag was applied to the præcordium. On the 28th the upper limit of the heart was the same; to the left the dulness extended three-quarters of an inch external to the nipple and to the right to the mid-sternum. The impulse was diffuse but the sounds were clearly heard. The temperature was lower, ranging from 101·8° to 98·8°, the pulse was 130, and the respirations were 60. On the 30th Dr. Cheadle made a special note that the breathing was good over the upper part of the left front down to an inch above the nipple. The area of cardiac dulness had diminished. The right chest was aspirated and two and a half ounces of a brownish opaque fluid were obtained. Previously to this the temperature had risen to 103° and the child was in every way not so well. On the 31st the operation for empyema with resection of a portion of the seventh rib was performed on the right side and three ounces of thin pus were evacuated. On Jan. 1st, 1898, in spite of free discharge the temperature did not come down, but throughout the day ranged between 101° and 103°. Though the right lung appeared to expand during the next few days, the pulse and temperature remained unsatisfactory and the heart sounds were much fainter. During the night of the 4th there was a marked change for the worse. On the 5th the child, though perfectly sensible, was feebler and blue round the lips. She refused to take food and her breathing was much distressed, especially if she was raised from the pillow upon which she was propped. The pulse was 130, the respirations were 68, and the temperature was 101·8°. The cardiac dulness was mapped out by Mr. Gwynne Lawrence, Dr. Cheadle's house physician. The extent was as follows: From one finger's breadth external to the left nipple line it extended upward to the level of the second rib. Across the middle line to the right side just internal to the vertical nipple line and tending from the horizontal level of the nipple downward and outward to form an obtuse angle at the junction with the liver. No impulse could be felt. The heart sounds were very faint and this combined with the respiratory abnormalities due to the empyema gave a general impression of the heart perhaps best expressed by saying that it was lost. Over this dull area on the front of the chest there was a sense of resistance but no fluid thrill. The condition of the left lung except for some impairment of note at the inferior angle of the left scapula was natural. There was also some impairment over the back of the right lung in the position of the empyema.

On Jan. 5th Dr. Cheadle saw the child at midday and considered that there was suppurative pericarditis and after consultation with Dr. Lees and Mr. Pepper the latter opened the pericardium at 3 40 in the afternoon. The condition immediately before the operation was as noted above except that the pulse had risen to 160° and the respirations to 74. There was apathy and the lips were blue. An incision was made in the fourth space to the left of the sternum; there was no bulging, but on incising the pericardium pus at once escaped freely and continued to do so for some little time. The pus was thick and not offensive; the exact quantity could not be estimated. The escape was markedly affected by the respiratory movements and in addition Mr. Pepper noted a confused movement given to the out-flow, but no definite cardiac pulsation. A small tube was sewn in and the wound was partially closed and dressed, the child throughout being kept under the minimum of anæsthetic needful for the purpose. Immediately after the operation the pulse was 138 and the respirations were 62. The breathing was much easier and the note in the first and second spaces on the left improved. Seven hours afterwards the wound was dressed by Mr. Lawrence and there was abundant discharge of pus from the pericardial opening; it was cream-coloured, not offensive, and contained solid masses. The child was more vigorous and the lips were a good colour. On the 6th the temperature was 99°, the pulse was 120, and the respirations were 48. There was improvement in every way and she took interest in her surroundings. There was now resonance in the first and second spaces on the left side and the wound was discharging freely. The movements of air in the tube resembled precisely those in an empyema tube and there was no impulse transmitted from the heart. On the 7th the heart sounds were heard plainly and most intensely in the fourth space on the left side. The discharge was not so free and the temperature rose to 103°. On the 8th the tube was coughed out with a good deal of greenish pus, and was replaced by a longer one. On the 10th the pus was a little offensive and the temperature slightly lower (between 101° and 103°). Both lungs were expanding well. On the 13th the patient was weaker and more dulness was detected on the right side of the chest, coincident with which there was less discharge from the empyema. Mr. Pepper passed in a probe and liberated some lymph flakes and offensive pus from the right pleura. On the 14th the child was more cheerful but weaker and refused her food. The temperature reached normal in the evening, having been distinctly on the decline the previous two days. The pulse was more rapid and more feeble. On the 16th the temperature was normal and subnormal, but now obstinate vomiting commenced and the child was obviously sinking from exhaustion. She died quietly on the 17th, twelve days after the pericardium had been opened and thirty-one days from the onset of the illness.

Necropsy.—The post-mortem examination was performed by Dr. Poynton; permission for the thorax only was given. The body was emaciated. The two operation wounds were in a healthy condition. The sternum was very adherent to the anterior mediastinum and pericardium owing to mediastinitis. On exposing the front of the thoracic viscera the appearance was remarkably like the normal except for the opening in the pericardium at its lower and left margin. This opening was round and slightly bevelled. The lungs overlapped the heart much as usual. The pericardium on closer examination was found to be considerably thickened and on opening it about two teaspoonfuls of pus escaped. The heart and adjacent surfaces of the pericardium were covered with flakes of yellow lymph, which as well as the lymph in the empyema were found by Dr. Bill to contain diplococci lanceolati. There was one slight recent adhesion between the pericardium and the heart. This was in front just above and to the right of the opening in the pericardium. The valves of the heart were quite healthy and the cavities were not noticeably dilated. The right lung was completely adherent to the chest wall in front by recent adhesions; the empyema was situated chiefly on the posterior aspect of the right lung and barely reached forward as far as the mid-axilla it was completely drained by the tube passing in at the lowest limit of its vertical extent. Posteriorly, it extended backward to the vertebral column; upward gradually tapering it reached the level of the second rib. The cavity was lined with a layer of yellow lymph. The empyema came in closest proximity to the pericardium posteriorly, but no direct communication could be traced from the empyema to the pericardium. The lower lobe of the right lung was pneumonic but the upper and middle lobes were crepitant. There were some recent pleuro-pericardial adhesions between the upper lobe of the left lung and the pericardium, but there was no trace of pus. The left lung appeared to be healthy and there was not any peritonitis.

Remarks by Dr. Poynton.—The difficulties in the diagnosis of purulent pericarditis in young children are admittedly so great that I venture to bring into relief some of the most important features bearing upon this question in the above case. The early symptoms were persistent high temperature and rapid pulse with dyspnœa and prostration, an increase of the cardiac area, especially upward and to the left, with a gradual disappearance of the heart's impulse and sounds. There was no friction heard at any time. When fully developed the cardiac dulness to the right of the sternum did not curve inward as it reached the hepatic dulness, as in dilatation, but passed downward and outward to form an obtuse angle with this dulness. The tube in the pericardial opening might have been in the pleural cavity so far as the movements of the air with respiration indicated, for except that there was a confused additional movement at the time of operation there was never any sign of the cardiac pulsations. The diagnosis rested before the operation between a localised empyema on the left side in front displacing the heart somewhat to the right and the actual condition, but against the former was the fact that the left lung and pleura had been practically free from any distinct evidence of disease. The absence of any communicated cardiac pulsation at the time of the operation and afterwards once more raised this doubt. Finally, Dr. Cheadle when commenting on the case pointed out the association of these multiple suppurations in the chest with outbreaks of influenza.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Adjourned Discussion on Immunity and Latency after Operations for Cancer of the Breast.

A meeting of this society was held on Feb. 8th, Dr. Howship Dickinson, the President, being in the chair.

The adjourned discussion on the paper by Mr. Marmaduke Sheild on Immunity and Latency after Operations for Cancer of the Breast was resumed.

Sir Thomas Smith congratulated Mr. Sheild on the fair and judicial manner in which he had presented his facts, so that the impression left on his mind when the paper was finished was that Mr. Sheild had arranged the cases to show the good results which followed the older methods and it was not until later in the discussion that he found he was an advocate of what had been called the complete method. He strongly deprecated the drawing of dogmatic conclusions as to the treatment of cancer in the present incomplete state or our knowledge. The last time that there had been a general discussion on cancer of the breast was in 1874 at the Pathological Society, at the time when Sir William Jenner was president, but the discussion then was chiefly on pathological points. Little more was known of the nature of the disease than was known then and therefore an open mind was desirable. His own impressions of the results of operation for mammary cancer tallied pretty closely with those of Mr. Sheild. It was impossible to avoid comparing the old and the new methods (using those terms in preference to "incomplete" and "complete"). The new method which had been born in America and bred in Germany had been adopted somewhat hastily in this country and many of its advocates had not treated the question in the fair and impartial method which had been adopted by Mr. Sheild and Mr. Watson Cheyne, but made the most dogmatic statements and spoke with a kind of pity of those who did not adopt their views. Those who still adhered to the other methods had hitherto kept silence, but even the crushed worm would turn. The views held by the advocates of the new method seemed to be that cancer was a local disease, that it was curable by operation, and that a case was to be considered as cured if the patient was alive and free from any sign of growth at the end of three years. With regard to the local nature of cancer he could not understand at what stage it was held that it ceased to be a local disease. It required a strong belief in the local nature of cancer to justify some of the more formidable operations for cancer which were practised. He would certainly not allow that cases in which glands beneath the clavicle were involved and the arm had to be removed in order to get away all the growth could be considered as any longer local. In the case of syphilis as soon as the local disease had manifested itself general infection had occurred and excision of the chancre did not prevent general symptoms. In the case of cancer he thought that long before the growth was tangible it had ceased to be a local disease. He regretted the use of the term "cured" at all in connexion with the subject. It misled the public and in the present state of our knowledge of the subject was quite premature. Mr. Sheild's paper, and, he thought, general experience, showed that recurrence often recurred at periods greater than three years. He had lately been called on to remove carcinomatous glands from the axilla of a patient whose breast he had assisted Sir James Paget to remove twenty-four years ago, the recurrence having only been noticed lately, and he could give examples of recurrence at any period between that time and three years. The number of cases in which recurrence had occurred after three years had been estimated by one writer as high as 15 per cent. He noticed that both in Mr. Sheild's paper and in Mr. Watson Cheyne's lectures it was shown that after the complete operation there appeared to be special tendency to metastatic growths in the viscera. Where there were small local recurrences life could be prolonged by their successive removal. He was inclined to think that it was possible that the removal of *healthy* glands might precipitate the spread of the disease and Mr. Teale had suggested a similar idea. In a case quoted by Mr. Watson Cheyne some hard glands were left in the axilla of a patient whose breast was removed for cancer and it was not for fifteen years that they required removal. Owing to the altered circumstances of operation it was misleading to contrast present results with those obtained more than twenty years ago and he thought that Sir James Paget had been influenced by his experience in those early days in forming a pessimistic view as to the future of patients after operation. He thought that the chief factors in bringing about immunity after operation were the stage at which the operation was performed, the type of the growth, and the soil in which it had grown. Growth and recurrence were much more rapid in the tissues of a vigorous, florid, child-bearing woman than in those who had passed middle life. As regards the operation he always removed all visible diseased tissue and except on a few occasions he had removed the whole breast as well. He had been able to follow up two of those cases. In the first, that of a florid woman with cancer involving the nipple and areola, the growth only was cut out and the surface left was treated with caustic. She enjoyed perfect health for seven years and then recurrence took place, not in the breast, but in the axilla, and three operations were required at intervals of a year and at the present time she was quite well. In the second case, with a growth of a similar type, he cut out the nipple and areola in April, 1887. No caustic was employed and the wound was allowed to granulate up. When seen in January, 1897, she was well and there was no sign of recurrence in the breast or in the axilla.

Mr. HUTCHINSON said that his experience was much the same as that of Mr. Sheild. He was a firm believer in operative "cures" of cancer, using the term in the same sense that recurrence did not occur. He reminded the society that such cures were not new, but occurred in the practice of surgeons many years ago. Dr. Smith, of Cheltenham, had communicated to him particulars of two cases operated on by the late Mr. Phillips, of the Westminster Hospital. In one the patient (who was operated on in 1849) was quite well till 1869, when she developed a growth described as "keloid" over the other breast; and another patient operated on in the same year was perfectly well more than twenty years after. He thought that the knowledge of the pathology of cancer had advanced a good deal since the discussion to which Sir Thomas Smith had referred. It was now recognised that it was a chronic inflammatory condition and that there was an infective process and that it remained a local disease for a considerable time. The analogy with syphilis was not convincing. It was very important to try to ascertain in each case how long the disease remained local. It was certain that there was a predisposition, often hereditary, to the occurrence of cancer and this predisposition remained even after the complete removal of one growth and he insisted that many of the cases of recurrence after a long interval were really examples of a second attack of cancer in a predisposed individual. He owed much to the late Mr. Campbell de Morgan for his teaching on the local nature of cancer and the importance of its early removal. At one time he (Mr. Hutchinson) used to clear out the axilla, but he now rarely meddled with it unless he could feel something. To do so certainly increased the severity of the operation. He thought that the old operation gave a fair chance of a cure (using that term somewhat loosely) if it were done at an early stage. Even if some general infection had occurred it was of benefit to the patient to have this large focus of infection removed. He remarked that his best results had often been obtained in those cases which at the time of operation had not seemed hopeful. In one case in which there was a large, soft, rapidly-growing scirrhus in a young patient there had been no recurrence in fourteen years and in another there was a large ulcerated cavity into which the fist could have been placed. The breast was removed and now, six years later, there was no recurrence. He strongly urged the early performance of operation and he thought that it was due to the earlier operating at the present time that the improvement in results was to be attributed rather than to the more extensive character of the operation.

Mr. T. W. NUNN said that the moral of Mr. Sheild's paper was that the surgeon should operate early and widely. He thought that immunity and latency were largely due to individual peculiarities of the patients, as were the extremely rapid growth and general infection which often occurred. In some cases cancer appeared to be an affection of the lymphatic system and no operation would be adequate. He thought that recurrence in the opposite mamma was not so rare as Mr. Sheild had implied. Copeman found it in 19 per cent. of the cases of mammary cancer which he collected. With regard to the prolongation of life he thought that 8 per cent. of the cases lived from ten to twenty years after operation.

Mr. HOWARD MARSH devoted his remarks chiefly to the method of operating. Personally he always removed the whole of the breast and he invariably opened the axilla. In many cases it was impossible to detect enlarged glands through the skin. There were four structures concerned in the origin of the growth and in recurrences—the breast, the skin, the fascia with its lymphatics, and the lymphatic tract in the axilla. All of these structures should be freely removed. The skin need not be accurately brought together, although much could be done by shifting flaps of skin. If a gap were left it could be filled up with Thiersch grafts. The fascia should be removed from the surface of the pectoralis major. He did not remove the pectoral muscle as Halsted had recommended, as he knew of no case in which recurrence took place in the muscle. This removal of the muscle increased the severity of the operation and had dangers of its own. The patients suffered from much shock and several had died from that cause. Often, too, the arm became fixed to the side and there was persistent œdema of the skin of the upper part of the thorax and great pain.

Mr. A. E. BARKER said that for the last twelve years he had been accustomed to clear out the axilla in all cases, taking away all the fat and glands up to the clavicle, and to strip off the fascia from the pectoral muscle. Performed in this manner he did not think that the risks of the operation were increased in the least and he thought that there had been a great increase in the comfort of the patient and that there was less risk of intercurrent troubles, only one of his cases having died from the operation. He thought that the principal factor in the improved prospects after the operation was the routine removal of the glands. He agreed with Mr. Hu'chinson that the best results were often obtained in cases which appeared least promising. One of his patients had a mass of cancerous glands removed from the axilla as well as a large tumour from the breast and she was alive and well nine and a half years afterwards.

On the motion of Mr. PEARCE GOULD the discussion was adjourned to the next meeting on Feb. 22nd.

OPHTHALMOLOGICAL SOCIETY.

Epithelial Xerosis of the Conjunctiva.—On the Function of the Rods of the Human Retina.—The Localisation of Foreign Bodies in the Eye and Orbit by Means of the Roentgen Rays.

AN ordinary meeting of this society was held on Jan. 27th, Mr. HENRY EALES, Vice-president, being in the chair.

Mr. SYDNEY STEPHENSON made a communication upon Epithelial Xerosis of the Conjunctiva, which he said was not uncommon in England, since among 6209 children he had found no fewer than 1 87 per cent. affected. At particular places the examples of xerosis ranged from 0·66 per cent. to 9 47 per cent. After describing the appearances and bacteriology of the affection he passed on to consider its relationship to night blindness, which he regarded as something more than merely accidental. He pointed out that xerosis in the absence of hemeralopia was supposed to give rise to no symptoms beyond such as were presented by the conjunctiva. He had found, however, changes in the visual field—namely, (*a*) a reduction in size and a transposition of the red and green fields, and (*b*) a slight contraction in the limits of the field for white. The former was constant, the latter not always present. The retinal reflexes in these cases appeared also to be exaggerated. Mr. Stephenson concluded that every eye with epithelial xerosis was in a state of torpor retinæ. In discussing the causes of xerosis he laid stress on two factors—first, lowered nutrition, and secondly, dazzling by bright light. Most of his patients suffered from internal otorrhœa, hypertrophied tonsils, peripheral vascular opacities of the cornea, relapsing pustular eruptions of the face or scalp, or other signs of "scrofula" or tubercle. Hæmoglobin, according to Mr. Stephenson, was always reduced in amount, averaging in his cases of xerosis 65 per cent. of the normal, as tested by Gowers's hæmoglobinometer. As the conjunctival changes disappeared the proportion of hæmoglobin rose, but never to normal. This led him to inquire whether among children it was always below par. In conjunction with Mr. C. G. Burton he examined 164 healthy children, with the result that it was found to vary from 65 per cent. to 95 per cent. and to average 76·62 per cent. of the normal. Mr. Stephenson further claimed that in xerosis the red blood-cells were sometimes reduced in number. As to treatment, he strongly recommended iron, preferably in the form of Blaud's pill. Mr. Stephenson quoted a number of cases and illustrated his paper by cultivations and microscopical preparations of the xerosis bacillus. — Mr. ARNOLD LAWSON spoke of the morphological resemblance which the bacillus of xerosis bore to the Klebs-Löffler bacillus of diphtheria, though the manner and conditions of growth varied widely. The remarkable thing about the xerosis bacillus was its inertness, though it was so plentiful and swamped all the other bacilli.—Mr. BREUER said that constitutional ailment and not the xerosis was the cause of the symptoms in this disease. In one case in which a post-mortem examination was made cirrhosis of the liver was found, bile acids dissolved the visual purple, and there may have been some relationship between the night blindness and the altered function of the liver.—Dr. EYRE had attempted to raise the pathogenicity of the xerosis bacillus by varying the conditions of growth and by injecting toxin to impair the resistance of the subject, but all his results had been negative and the bacillus remained inert. — Brigade - Surgeon - Lieutenant - Colonel DRAKE-BROCKMAN had seen a great deal of this affection in the East and was glad to find his own observations in most respects confirmed. It was especially frequent in badly nourished children or those affected with tubercle or syphilis or intestinal parasites; it occurred among adults during famines. Those affected went to lie down directly the sun set. He found iron preceded by the removal of intestinal parasites the best treatment.

Mr. A. BREUER read a paper on the Function of the Rods of the Human Retina and dealt with the new theory of Kries regarding the function of the human visual apparatus. He described experiments of his own which tended to confirm the statement that the function of the rods differed from that of the cones. By means of experiments after adaptation of the eye for dark he demonstrated that the sensibility of the periphery of the retina for feebly illuminated objects was very much greater than that of the macula. Under these conditions (dark adaptation) the macular part of the visual field was represented by an absolute scotoma the exact extent of which was found to vary according to the intensity of the illumination employed. The weaker the illumination and the longer the adaptation of the eye for the dark the greater this area became. Other experiments made by Kries illustrated the same fact. He observed, for instance, that colour equations found by direct fixation and in a strong light no longer held good with peripheral vision under feeble illumination. These changes, moreover, were most marked when employing lights of short wave length. All these points were modified examples of the well-known phenomenon of Purkinje, who showed first, that when blue and red objects of equal luminosity were selected, the blue gained considerably in brightness as the eye was longer adapted for the dark. This difference, however, as Kries had shown, did not take place in small fields which fell entirely within the macula. Hence it was clear that the functions of the periphery of the retina and the macula were distinct. Other authorities attributed these differences to the presence of the yellow pigment in the macula. Mr. Breuer detailed an experiment which proved that this assertion was not supportable. Further, Mr. Breuer in a paper published in the *Zeitschrift für Physiologie und Psychologie der Sinnesorgane*, Band xiv., measured quantitatively the amount of absorption effected by the macular pigment for spectral lights of different wave lengths and found it quite inadequate to account for the differences between peripheral and central vision. These and many other observations made it highly probable that the theory of Kries was correct—namely, that a division of function seemed to exist between the apparatus connected with rods and cones respectively. According to him the latter, the cones, formed a trichromatic apparatus—that is, one capable of distinguishing the spectral colours and requiring for its exercise higher intensities of light resulting in greater definiteness and clearness of perception. The rods, on the other hand, constituted an apparatus adapted for exercise of function at far lower intensities of light, with the natural drawback of being able only to distinguish between light and dark, and not between colours. Generally speaking it was the cones that were exercised in strong light and the rods in weak. Briefly summed up, this special kind of vision, or the function of the rods, is characterised by (1) its inability to distinguish colours; (2) a very pronounced sensibility for weakly illuminated objects; (3) a preference for rays of medium and short wave length; and (4) its total absence in the macula.

Dr. MCKENZIE DAVIDSON made a few introductory remarks as to the Method of Localisation of Foreign Bodies by the Roentgen Rays. He demonstrated the special application of the method for the detection, localisation, and estimation of size of foreign bodies in the eyeball and orbit. The patient was seated upright and his head fixed in a rectangular rest. The photographic plate was placed against the temple of the affected side behind cross wires. A lead wire was made to touch the edge of the lower eyelid opposite a known point on the eye and the patient fixed his eye on a distant object during the exposures. These were made in the same way as for other parts of the body and the interpretation of the skiagraphs was carried out by the use of the "cross-thread localiser."—Mr. TREACHER COLLINS then gave a description of four cases in which this method had been applied. In none of them could the presence of a foreign body be certainly determined from the clinical appearances. In two of the cases the chip of steel was subsequently withdrawn by the introduction of an electro-magnet in the direction in which it had been ascertained to lie. The size of one of these bits of steel was practically the same as had been estimated previously to its removal. In another case, the eye being quiet and two and a half months having elapsed since the injury, operative procedure was not thought justifiable. In the remaining case, which was the first they had dealt with before they had obtained sufficient experience of the method, the foreign body was found to lie in the orbit when they thought it was lodged in the eyeball. Mr. Collins also mentioned three cases where the presence of a foreign body in the eye was suspected in which they had by means of the x rays been able to assure themselves none was there. In one of their patients, in whom a large number of exposures had been made, some loss of hair occurred a month afterwards from the temple which was directed nearest to the tube.

The following living and card specimens were shown :—

Mr. G. HARTRIDGE : (1) Foreign Body lodged in the Eyeball; (2) Rupture of the Choroid, with extensive Retinal Pigmentation, the result of a Severe Concussion of the Globe.

Mr. LAWFORD : Newly Developed Blood-vessels in the Optic Disc.

Mr. ROLSTON : Case of Keratitis.

Dr. POULETT WELLS : The result of Scraping the Calcareous Film of the Cornea.

OBSTETRICAL SOCIETY OF LONDON.

Exhibition of Specimens.—Annual Meeting.

A MEETING of this society was held on Feb. 2nd, Dr. CULLINGWORTH, President, being in the chair.

Dr. DAKIN exhibited a Uterus Ruptured during Unobstructed Labour (with a microscopic section).—Remarks were made by Dr. HANDFIELD JONES, Dr. JOHN PHILLIPS, Dr. CHAMPNEYS, and Dr. ILOTT.

Dr. DAKIN also exhibited a Uterine Fibroid clinically resembling sarcoma. — Remarks were made by Dr. CHAMPNEYS and Dr. GILES.

Dr. HANDFIELD JONES exhibited a specimen of Cancer of the Body of the Uterus removed by combined vaginal and abdominal section.

The annual general meeting of the society was then held. The report of the treasurer was read. On the motion of Dr. CHAMPNEYS, seconded by Dr. WALTER TATE, the following motion was carried : "That the audited report of the treasurer just read be received, adopted, and printed in the next volume of the Transactions and that the most cordial thanks of the society be accorded to Dr. Potter for his valuable services during his term of office."

It was proposed by Dr. HORROCKS and seconded by Dr. M. MCCANN that the following motion be put : "That the report of the honorary librarian (Dr. Griffith) be received, adopted, and printed in the Transactions." This was carried *nem. con.*

It was moved by Dr. WATT BLACK, and seconded by Dr. REMFRY, and carried *nem. con.*: "That the report of the chairman of the Board for the Examination of Midwives (Dr. Boulton) be received, adopted, and printed in the Transactions."

The PRESIDENT then delivered his annual address.

It was moved by Mr. DORAN, seconded by Dr. POLLOCK, and carried with acclamation : "That the thanks of the meeting be given to Dr. Cullingworth for his most interesting address and that he be requested to allow it to be printed in the next volume of the Transactions."

Votes of thanks to the retiring Vice-President (Dr. Nesham) and members of the council and the retiring honorary secretary (Dr. Dakin) and honorary librarian (Dr. Griffith) were passed.

The following is a list of officers for the ensuing year :—President: Dr. Charles James Cullingworth. Vice-Presidents: Dr. William Duncan, Dr. John H. Galton, Dr. William Radford Dakin, and Dr. Jamieson Boyd Hurry. Treasurer: Dr. James Watt Black. Chairman of the Board for the Examination of Midwives: Dr. Percy Boulton. Honorary secretaries: Dr. John Phillips and Dr. Herbert R. Spencer. Honorary librarian: Dr. Amand Routh. Other members of the council : Dr. A. H. Freeland Barbour, Dr. John Walters, Mr. Joseph Thompson, Dr. George Francis Blacker, Dr. Arthur Nicholson, Mr. Richard Pinhorn, Dr. Thomas Watts Eden, Dr. John Dysart McCaw, Dr. Frederick John McCann, Mr. William Gandy, Mr. George Henry Pedler, Dr. Augustus W. Addinsell, Dr. John Ford Anderson, Dr. Arthur Edward Giles, Dr. Angus Fraser, Dr. Harold A. des Vœux, Dr. Charles Hubert Roberts, and Dr. George Ernest Herman.

HUNTERIAN SOCIETY.

The Treatment of Constipation.—Stomach Disease.

AN ordinary meeting of this society was held at the London Institution on Jan. 26th, the President, Dr. G. E. HERMAN, being in the chair.

Dr. HINGSTON FOX read a paper on the Treatment of Constipation. The condition is met with in two forms : (1) general or peristaltic constipation and (2) rectal constipation, or both forms may be present. The paper was concerned with the latter form only and its object was to point out that most cases begin from the neglect of the habit of periodic relief and that the impairment of the evacuant function of the rectum is the primary feature. The mechanism of defecation was described and the steps by which the act becomes gradually altered, less automatic and more voluntary in its character, and the rectum becomes no longer merely a passage and an evacuant, but a receptacle like the bowel above. The habitual use of aperients was discussed and opposed as unscientific, for the difficulty is in the lowest portion of the canal and is not properly met by stimulants directed to the bowel generally or to a large part of it. To regain the lost habit of rhythmic relief several practical rules were submitted. 1. Absolute regularity in the solicitation of the bowels twice daily—i.e., after breakfast and in the evening when fatigue often relaxes the tight sphincter. 2. Easy posture (Lauder Brunton) ; the use of a footstool helps. 3. Diversion of the mental attention. 4. In cases of difficulty, postponement of vesical relief until after breakfast so as to get simultaneous relaxation of both sphincters. 5. Removal of all local sources of irritation. 6 Occasional small enemata.—Dr. F. J. SMITH referred to the relief obtained in cases of piles by an action of the bowels nightly whereby venous congestion is obviated.—Mr. A. H. TUBBY inquired as to why a glycerine enema in some cases acts as an irritant and in other cases not and referred to the importance of peristaltic action.—Mr. COTMAN spoke of the remedies which act on the lower bowel.—Dr. ARTHUR DAVIES referred to the value of iron combined with aloes.—The PRESIDENT spoke of the practice of prehistoric man who swallowed much indigestible matter, such as seeds, vegetable fibre, bone, and gristle. Civilised man eliminated all indigestible matter and thereby removed natural aperients from his diet. He usually ordered in constipation brown bread, oatmeal porridge for breakfast, and fruit, such as figs, at night. He referred to the importance of habit as the true explanation of constipation, especially such as occurs in women.—Mr. BOWKETT referred to the value of taking large quantities of fluid.—Dr. FOX replied.

Dr. DAWSON read a paper on the Physical Signs of Stomach Disease and their Relations to Diagnosis and Treatment. He first referred to the methods employed by him : (1) inspection ; (2) palpation ; (3) splashing ; (4) percussion and auscultatory percussion ; (5) inflation ; and (6) illumination, the last being of course used with caution in cases of ulcer. Taking functional disease of the stomach first of all, dilatation is more common in what is conveniently called chronic dyspepsia than is usually imagined and this knowledge is a help to treatment. In many cases of anæmia with dyspeptic symptoms there is pain after food, but the vomiting is not frequent and not emphatically related to food or pain ; the treatment consists in iron and arsenic from the first with bismuth if necessary. In cases of chronic dyspepsia without anæmia, with sedentary habits and sometimes large ingestion of fluids, dilatation may be marked, and the sequence of events consists in loss of expulsive power, retention partly due to nervous insensitiveness, stagnation, putrefaction, and so further atony and dilatation. In such cases lavage is a necessity to be combined with electricity and massage and arsenic and alkalies. Taking the next group of cases with pyloric disease and consequent obstruction to the outlet due to such causes as carcinoma, cicatrisation of gastric ulcer, fibroid structure (syphilitic or otherwise), adhesions around the pylorus and pressure from without, it is found that in almost half the cases of pyloric cancer no tumour is felt and in such an accurate mapping out of the stomach wall is very valuable in helping to form a diagnosis. Dr.

Dawson quoted a case in illustration which had been diagnosed as cancer of the pylorus, but inflation and illumination showed that the tumour, though probably in the pyloric region, was outside the stomach wall and an operation showed it to be a healed gumma or hydatid adherent to the pylorus. Passing to the last group of cases—namely, organic disease of the gastric fundus—everyone will admit the great difficulties of diagnosis, which is often impossible without surgical exploration. In nineteen consecutive fatal cases, where a necropsy showed malignant disease of the fundus, no tumour was felt. In such cases an accurate mapping out of the stomach by means of inflation and illumination may definitely prove the tumour to be part of the stomach wall. The paper was illustrated by photographs of cases quoted. — Dr. F. J. Smith thought that the suggestion that the gastric symptoms in anæmic girls were due to incipient dilatation was probably correct, and this explained the constant success of the administration of iron and arsenic in such cases irrespectively of a doubtful gastritis.—Mr. A. H. Tubby quoted the views of some physiologists who considered the stomach as not being a digestive organ, but as one the acid secretion of which helped to prepare the way for the later digestive actions.—Dr. Hingston Fox alluded to the method of auscultatory percussion in mapping out the stomach as taught by Dr. Fenwick. He found dieting of great use and nitrate of silver valuable in such cases.—The President was struck with the confident tone of Dr. Dawson as to the inferences drawn from the methods of examination of the stomach as compared with the qualified opinion of Professor Ewald on such means.—Dr. Rawes referred to the enlargement of the stomach due to previous habits of life.—Dr. Dawson replied.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

The Transmission and Dissemination of Cancer.

A meeting of this society was held on Feb. 4th, Dr. H. P. Potter, President, being in the chair.

Mr. C. A. Ballance introduced a discussion on the Transmission and Dissemination of Cancer. For a great number of years he had been working at the subject of cancer in conjunction with Mr. Shattock. He stated that he believed that the death-rate from cancer was on the increase. There were three main theories as to the origin of malignant tumours and possibly also of innocent ones: (1) spermatic, (2) embryonic, and (3) parasitic. Having briefly discussed the two first problems, he dwelt chiefly upon the third. He alluded to the writings of Sir James Paget, particularly instancing his statement that micro-parasites, or substances produced by them, will some day be found in essential relation with cancer and cancerous diseases. Mr. Ballance emphasised the facts that carcinoma sometimes has a purely local origin, giving as an example epithelioma of the lip, and that metastasis in carcinoma and sarcoma by lymphatics and blood-vessels is such as occurs in tuberculosis. He touched on the question of latency of carcinomatous deposits in lymphatic glands. He discussed auto-inoculation and the evidence for the transference of cancer from one animal only to another of the same species. Geographical distribution of cancer was dealt with and particular reference made to noted cancer homes and districts. The phenomena of atavism were noticed as were some other considerations. Mr. Ballance then proceeded to give a detailed account of the elaborate experiments conducted by Mr. Shattock and himself in order to discover the protozoic parasite although these experiments have been negative in their result. Infection experiments also met with the same unsuccessful ending. Further he alluded to the chemistry of carcinomatous growths, especially noting the facts that in cultures of pathogenic bacteria albumose was present, but in malignant growths none was found and that encapsulated protozoa had chitin or cellulose in their capsules, but neither substance was found in fresh scirrhous tumours. Dr. Brodie had kindly made this research. Mr. Ballance concluded by affirming that the doctrine of the parasitic origin of cancer recommends itself as bringing the essential pathology of malignant growths into natural relation with other diseases the parasitic pathology of which admits of scientific proof.

Mr. Alban Doran congratulated Mr. Ballance on his work and paper. He alluded to the theory that organs which are subjected to irritation during devolution were apt to become the site of malignant disease. He further contrasted the operative procedures in carcinoma of the mamma and of the uterus; in neither did he think it was at all likely that all the lymphatic channels of metastasis were entirely removed. He referred to the subject of deciduoma malignum and asked for Mr. Ballance's opinion on the cause of it.

Dr. McCann showed a series of specimens illustrating the various forms of malignant disease of the uterus. He considered that heredity was an important factor in the causation of uterine carcinoma; so probably were gonorrhœa, septic processes and subinvolution after the menopause. He averred that uterine cancer was really a local carcinoma and that the cachexia seen in it was due to sepsis.

Dr. Herbert Snow doubted the parasitic origin of cancer. He considered there were great differences between it and the well-known parasitic diseases, such as leprosy and tuberculosis. He thought an autositic origin of cancer most probable. He did not think contagion in cancer other than very rare, but auto-inoculation was common. He greatly doubted whether geographical distribution was proved in the case of carcinoma but thought that heredity occurred in about 20 per cent. of the cases.

Some remarks were made by Dr. Chapman, Mr. T. R. Atkinson, who gave some interesting clinical experiences, and the President.

Mr. Ballance, in reply, suggested that deciduoma malignum might be analogous to those cases of acute traumatic malignancy with which surgeons were familiar.

LIVERPOOL MEDICAL INSTITUTION.

Coli-cystitis.—Myxœdema.—Removal of the Tongue.—Operations for Dilated Stomach.

A meeting of this society was held on Feb. 3rd, Dr. Macfie Campbell, President, being in the chair.

A vote of congratulation to Dr. McMurray on his election to the mayoralty of Bootle was proposed by the President, seconded by Mr. Banks, and carried with acclamation. Dr. McMurray thanked the members.

Dr. C. A. Hill read notes on Coli-cystitis which complicated a case of Enteric Fever in the second week occurring in a man aged fifty-five years. Bacteriologically the only organism present was the bacillus coli communis. — Dr. Carter and Dr. Hill Abram spoke.

Dr. A. Davidson read notes of a case of Myxœdema occurring in a woman aged fifty years. All the characteristic symptoms were present and no perceptible thyroid gland could be made out. This patient had been under the care of Dr. Davidson twenty-four years ago with marked exophthalmic goitre, photographs of her being shown.—Dr. Carter thought it was not necessary to wait for atrophy of the thyroid body in order to get myxœdema. He instanced a case of a woman in which the two conditions were present in a very marked degree. He spoke highly of the good effect of hydrofluoric acid, the tumour having markedly reduced in size under its influence (neck measurement from 15 in. to 12 in.). The acid was continued and thyroid tabloids (5 grains) were prescribed; the myxœdema disappeared and none of the other symptoms were re-excited.

Mr. Mitchell Banks gave a brief outline of the various methods hitherto employed for the Removal of the Tongue in whole or in part, all of which he had tried with the exception of the thermo-cautery. In many serious cases where the disease was extensive and far back he had employed a preliminary laryngotomy which saved loss of blood and which notably prevented the septic pneumonia so fatal in tongue cases by avoiding the sucking of blood into the lungs during the operation. During the last few years he had made use of the semi-circular incision under the jaw which was first thought of by Regnoli fifty years ago. By this a remarkably free access to the diseased parts is obtained, so that the tissues may be quietly clipped with scissors down to the lingual arteries, which may be secured with an aneurysm needle and ligature before being cut at all. The whole proceeding can be effected without any bleeding into the throat at all; the blood runs outside the mouth, not into it. Again, if the incision is not quite closed a most admirable drain is obtained for the very offensive discharge which would otherwise accumulate in the floor of the mouth and which does not get away well after the ordinary operations. Finally, the affected glands can be readily eradicated.

Mr. RUSHTON PARKER read a paper on a Series of Operations for Dilated Stomach. The paper was based on a series of seven cases explored or otherwise operated on for dilatation of the stomach. The first was in a woman, thirty-seven years of age, who had suffered from "indigestion" for many years and latterly symptoms of gastric ulcer, for which she had been in hospital for several months. The stomach was widely dilated and it was inferred that a contracted pylorus existed. At the operation in August, 1895, the pylorus was found to be contracted to the thickness of a cedar pencil outside measure. This was freely laid open and one of Mayo Robson's decalcified bone bobbins inserted, after which the widely separated sides of the incision were attached in their new attitude while the original ends were approximated, thus adding greatly to the width of the pylorus. The operation was performed by the method described and figured by Mr. Robson.[1] The patient made a quick and simple recovery, ate fish on the tenth day, and was well in a fortnight and reported herself on Feb. 3rd, 1898, as having been in excellent health ever since. The second case was that of a young man, aged twenty-two years, suffering from vomiting, dilatation of the stomach, and tumour in the region of the stomach. Exploration revealed a hard tumour close to the pylorus, thought to be malignant, and further operation was abandoned. He died soon after and the growth showed no evidences of malignant disease, leading Mr. Parker to regret not having at least performed pyloroplasty, which perhaps might have saved the patient's life. In the third and fifth cases the same symptoms attended by tumour existed; pyloroplasty was performed and a growth found close to but not implicating the pylorus. In both cases the immediate effects of the operation were good. Quick healing occurred and relief of symptoms, which only returned in one (a man, aged fifty-two years) after nine months and in the other (a woman, aged thirty-five years) after three months. Both are still living and the ultimate result is not yet settled. In a fourth case, in a man aged thirty-eight years, after similar symptoms pyloroplasty was performed and although locally all was healthy the patient died from inanition after four days. A sixth case, operated on only on Jan. 31st, 1898, under the same conditions was so far going on simply and well. In applying pyloroplasty to cases of carcinoma, the growth causing narrowing only of the pylorus by proximity in some cases and in others actually partly invading the tube, the principal object, after inspection, was temporary relief of the obstruction. This relief was so great in two cases and so enduring in one of them as to lead to the supposition that the growth was inflammatory rather than cancerous. Incidentally, then, the operations have been found of service in cases of dilated stomach owing to pyloric obstruction. The seventh case was one of gastric dilatation explored, with the discovery of a widely dilated pylorus. Nothing further was done, but all symptoms had ceased, the case apparently being one of abdominal ptosis.—Mr. PAUL referred to a case of supposed simple stricture in which the patient died from dissemination of cancer.—Dr. C. A. HILL referred to a case recorded where in idiopathic dilatation a large fold had been tucked in and the edges sutured.—Mr. BANKS having spoken, Mr. PARKER in his reply drew attention to the striking difference manifested after death in the growth in the two fatal cases as compared with the condition observed during the operation. In both cases a hard, distinctly prominent growth had become soft and level and on section showed great indistinctness of microscopical structure. This appeared to him to be due to post-mortem digestion. None of these tumours surrounded the pylorus and only in one, the last case, did he feel strongly inclined to perform pylorectomy. The conditions favourable to that proceeding seldom occurred, owing to the most important one, the strength of the patient, being wanting.

MANCHESTER MEDICAL SOCIETY.

General Peritonitis.—Suppurative Disease of the Frontal Sinuses.

A MEETING of this society was held on Feb. 2nd, Mr. G. A. WRIGHT, President, being in the chair.

The PRESIDENT gave an inaugural address entitled "Some Unsolved Problems, chiefly Surgical."

Dr. ARNOLD W. W. LEA read the notes of a case of General Peritonitis with Intestinal Obstruction the result of appendicitis. The patient, aged eighteen years, was taken ill with severe general abdominal pain and pyrexia. These symptoms continued for ten days. At the end of this time the abdomen became enormously distended and vomiting was incessant. When first seen the abdomen was much distended, resonant all over, and excessively tender. The bowels had not acted for five days and for twelve hours the vomiting had been fæcal. Rectal examination revealed a mass of exudation filling up the right side of the pelvis and continuous up to the pelvic brim. The general condition was good. The temperature was 101° F. and the pulse was 100. The abdomen was opened in the middle line. Sero-purulent fluid escaped freely and the coils of bowel were reddened and much distended. In the right iliac region numerous lesions were found. On separating the coils a large abscess was opened and over a pint of feculent-smelling pus evacuated. The abscess cavity filled the pelvis and in its outer wall close to the brim the appendix was felt. It was not removed. The cavity was flushed and a large drainage tube was inserted. Sutures were now placed in the centre of the abdominal wound to shut off the general peritoneal cavity from the abscess. The coils of intestine were extremely distended, so a loop of bowel was pulled out and punctured with a trocar; a pint or more of fluid fæces escaped. The wound in the bowel was closed by Lembert's sutures and the loop returned. Several collections of sero-purulent fluid were now discovered among the coils of bowel. Adhesions were broken down freely and strips of moist sterilised gauze were passed among the intestines in various directions. The patient stood the operation well. The vomiting ceased at once and flatus was passed within six hours. The next day the bowels acted freely. The case did perfectly well. The gauze was removed at the end of forty-eight hours and the tube at the end of a week as the abscess cavity rapidly closed. The patient is now (ten months after the operation) in excellent health and the appendix has caused no further trouble. General peritonitis secondary to appendicitis is in most cases rapidly fatal, but recently several successful cases have been recorded. The diagnosis of the cause of the peritonitis in this case was doubtful, inasmuch as there was at no time a localised swelling in the right iliac region or any dulness. In these cases the appendix hangs into the pelvis and rectal examination is of the highest value in making a diagnosis. The intestinal obstruction in this case appeared to be secondary to paralysis of the gut the result of bacterial invasion of the peritoneum. In the treatment the management of the distended bowel is of great importance. If nothing be done to relieve the tension obstruction is likely to continue and prove fatal. Puncture and drainage of the intestine relieve the over-distended coils of bowel and enable active peristalsis to again commence. In some cases even it may be advisable to make an incision in the wall of the bowel, allow the contents to drain away, and then suture. The gauze drains in the general peritoneal cavity are of great use in preventing any reaccumulation of fluid among the coils of bowel. They do not appear to cause any irritation and can be removed without difficulty.

Dr. MILLIGAN read a paper upon the Etiology and Treatment of Suppurative Disease of the Frontal Sinuses. The anatomical relation of the parts was first dealt with, special reference being made to the importance of the fronto-ethmoidal cells both scientifically and clinically. The occurrence also of the occasional continuation of the infundibular tract directly into the opening of the ostium maxillare was pointed out and its importance emphasised. Consideration was given in some detail to acute catarrhal and acute suppurative frontal sinusitis and various methods of treatment were mentioned. The etiology of latent empyema of the frontal sinus was next considered and the difficulty of its accurate diagnosis pointed out. Its co-existence also with suppurative disease of the ethmoidal labyrinth was detailed and the relation of this to subsequent treatment pointed out. With regard to its treatment it should be considered, both as regards operative and non-operative interference, intra-nasal and extra-nasal. The non-operative treatment was then reviewed — namely, the use of antiseptic lotions, syringing by means of a specially constructed cannula *per vias naturales*, pinning down redundant mucous membrane by means of an escharotic, the use of anti-streptococcic serum, and the employment of oxygen gas. The operative treatment was next reviewed—namely, anterior turbinectomy (middle turbinated body) and the various methods of opening the sinus externally. A median incision was advocated and the importance of securing free fronto-nasal drainage was considered an absolute essential for a successful termination of the case. The various methods of dealing with the mucosa lining the frontal sinuses were then reviewed and Kuhnt's method was specially commended. Of fifteen cases which had been operated upon nine of the patients were males and six were females. In thirteen cases the sinusitis was unilateral, in two cases bilateral. In five cases the right sinus was affected, in twelve cases the left. In all the cases with the exception of one (a subacute case) other accessory sinuses were similarly involved, and a statistical review of the sinuses implicated was then mentioned.

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[1] Brit. Med. Jour., July 20th, 1895.

GLASGOW SOUTHERN MEDICAL SOCIETY.

Exhibition of Cases.

A meeting of this society was held on Feb. 3rd, Dr. James W. Allan, the President, being in the chair.

Mr. Parry gave a demonstration on the following cases. 1. Cases of Hip-joint Disease and Psoas Abscess in the Early Stage. These were compared and their differential diagnosis considered. By causing abduction in disease of the hip the pelvis moved with the leg. In psoas abscess the pelvis did not move. This was made more apparent if two lines were drawn in crayon on the abdominal wall, (*a*) from the umbilicus to the symphysis pubis, and (*b*) transversely joining the anterior superior spines. Photographs to show this were distributed. Abdominal palpation comparing both sides would confirm a diagnosis of early psoas abscess. 2. Two successful cases of Kraske's operation. A preliminary colotomy greatly favours the success of this. (*a*) It allows of an exact diagnosis; the parts can be examined through the abdominal wound; (*b*) it relieves the patient at once; and (*c*) the surgeon gets a better command of parts below and a little time with change of air perhaps puts them in a more favourable condition for operation. 3. Cases of Acute Intestinal Obstruction. In such cases to be successful the operation should be made as short as possible. A rapid and methodical search should be made for the cause. A stream of warm salt solution, 60 grains to each pint, at a temperature of 100° F. should be kept playing over the parts exposed and used to irrigate the abdominal cavity; one or two pints may be allowed to remain in the cavity when closed. 4. Case of Diffuse Intra-peritoneal Hæmorrhage following Rupture of Tubal Pregnancy. A small tear was found in the right tube which was ligatured and removed. Here salt solution was used, two pints being injected into the median basilic vein. 5. Case of Cerebral Abscess. Operation took place a fortnight ago, the patient recovering. There was a history of suppurative disease of the ear, headache, earache, and coma. The pulse was 60 and the temperature was 100°, but in these cases the temperature need not necessarily be high. There was dilatation of the right pupil. Operation took place through the mastoid cells which were full of pus. Improvement was gradual. 6. Case of Cholecystotomy. There was a history of recurring attacks of pain indicating gall-stones. There was no local sign. On exposing the gall-blader an incision had to be made before the presence of gall-stones could be definitely ascertained. 7. Case of Perforation of the Stomach and Diffuse Purulent Peritonitis; operation; recovery.

Dr. Davidson, Dr. Alexander Napier, Dr. Watson, the President, and others made remarks.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Medicine.

Laryngeal Necrosis in Enteric Fever.—Thyroid Extract in Goitre.

A meeting of this section was held on Jan. 28th, Sir George F. Duffey, the President, being in the chair.

Sir George Duffey made a communication on Laryngeal Necrosis, an uncommon complication of enteric fever, based on a case that had been recently under his care in the City of Dublin Hospital. The patient was a delicate-looking labouring man, aged twenty-two years. His attack of fever was a very severe one characterised by a continuously high temperature, bronchitis, drowsiness, and great prostration. In the fifth week of his illness, when he appeared to be convalescing, he complained one morning, after a fit of coughing, of pain in his throat and difficulty of breathing. These symptoms were slightly relieved by treatment, but recurred next day in an aggravated form and accompanied with noisy stridor, hoarse and weak voice, slight dysphagia, and great prostration. The epiglottis was very dependent, but there was no obstruction to the entrance of air into the lungs. He died on the seventh day after the accession of the laryngeal symptoms—the forty-fourth day of his illness. Post-mortem examination showed typical typhoid ulceration in the ileum in process of cicatrisation with enlargement of the mesenteric glands and of the spleen. The larynx, which was exhibited, presented on its removal a small, dirty yellowish spot on the external and posterior surface of the plate of the cricoid. An incision through this spot opened a small abscess which contained about half a drachm of pus. The abscess cavity separated the swollen perichondrium from the underlying cartilage which was roughened and eroded. Sir George Duffey referred to a very similar case that he had reported seventeen years ago[1] and to the comparatively few cases of the kind occurring in Great Britain and Ireland.—Dr. E. H. Bennett said that he had a considerable time ago published the case of a man who was seized with laryngeal perichondritis a fortnight after dismissal from hospital, where the case had run a protracted course of typhoid fever. Immediate tracheotomy was necessary to relieve dyspnœa. There was no suppuration. The tube could not be afterwards removed and the patient wore it for fourteen years, when he died from malignant disease. He (the speaker) had the specimen of a second case in which there was an abscess in the larynx following typhoid fever and in the abscess lay two pieces of necrotic cartilage.—Dr. J. Magee Finny related a case where laryngeal complications occurred in a patient about nineteen years of age, a strong, healthy man. The condition being unrelieved by ordinary treatment tracheotomy had to be performed by Dr. Taylor. Recovery followed. The tube was removed in seventeen days.—Dr. A. R. Parsons said that three years ago a patient of his, twenty-two years of age, had a moderately severe attack of typhoid fever and in convalescence complained of some difficulty in swallowing. On the following evening his temperature was 104° F. and he had severe dyspnœa, accompanied by well-marked laryngeal stridor. Sweating and cyanosis were present. Tracheotomy was immediately performed, but with little relief, and very soon emphysema occurred extending down to Poupart's ligament. Death ensued fourteen hours after the operation. Post-mortem examination showed extensive œdema of the epiglottis, enormous swelling of the arytenoids and ary-epiglottidean folds, with the formation of ulcers over the mucous surfaces. The ulcers were covered with something like a diphtheritic membrane, but more in the nature of slough, and no pus was present. Microscopic examination showed this whitish material to be swarming with cocci of various kinds.

Dr. Richard A. Hayes read notes of a case of Acute Goitre successfully treated by Thyroid Extract. The patient, who was present at the meeting, was a man, aged twenty-two years, and he applied at the Throat Department of the National Eye and Ear Infirmary on Oct 14th, 1897. He presented a soft goitre involving both lobes and isthmus, which he stated was of three weeks' duration only. His neck measured eighteen and a quarter inches over the tumour; his pulse was 84 and quiet. A loud systolic bruit and venous murmur were heard over the tumour, there was marked dyspnœa with loud inspiratory stridor on the least exertion or excitement, but the arytenoids moved outwards normally during quiet inspirations although in a jerky manner. There was no exophthalmos and the heart sounds were normal. Ten grains of iodide of potassium with ten minims of tincture of strophanthus were given thrice daily. After a week the tumour was almost unaltered, but the pulse-rate had gone up to 96. Five-grain tabloids of thyroid extract twice daily were then ordered and at the end of a week the dyspnœa and stridor had completely disappeared and the systolic bruit and venous hum could no longer be heard. The tumour had also somewhat decreased in size. The treatment was continued and on Dec. 16th, or two months after the patient was first seen, the goitre had almost quite gone, a slight enlargement of the left lobe alone remaining, the neck measuring sixteen inches. This case probably belonged to the exophthalmic variety of goitre. In forms of goitre other than exophthalmic Dr. Hayes has found the results of treatment by thyroid extract unsatisfactory, although several cases have been reported as cured and improved.—Surgeon-General POTTER said he had seen many cases of simple goitre when in India. The goitres, although extremely large, did not cause the slightest trouble to the person. The swelling in the neck generally went away after one application of biniodide of mercury.—Dr. A. R. PARSONS asked if it was not possible for the enlargement of the thyroid gland to subside without thyroid extract as rapidly as it had come on.

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[1] Dublin Journal of Medical Science, vol. lxxi., p. 555.

Reviews and Notices of Books.

A Text-book of Physiology. By MICHAEL FOSTER, M.A. Cantab., M.D. Lond., LL.D. Glasg., F.R.S.; assisted by C. S. SHERRINGTON, M.A., M.D. Cantab, F.R.S. With illustrations. Seventh Edition, largely revised. Part III.—The Central Nervous System. London: Macmillan and Co. 1897. Price 10*s*. 6*d*.

THIS part of the seventh edition of Professor Foster's and Professor Sherrington's work is occupied with the consideration of the central nervous system and the nerves of motion and of common sensation connected with it, the special senses being reserved for another part. Professor Foster remarks in a brief preface that the progress of our knowledge in the short space of time that has elapsed since the appearance of the last edition in 1892 has been truly remarkable, rendering it requisite to re-write numerous paragraphs. This has been very thoroughly and conscientiously done. The result is an addition of about fifty pages and nine new diagrams. The chief additions that have been made are in the sections devoted to the consideration of the reflex actions of the cord and the morphology of the brain and cerebellum. The disposition and functions of the fasciculi of origin of the vagus, glosso-pharyngeal and spinal accessory nerves are considered, and a very minute account is given of the paths for the conduction of the visual, olfactory, and auditory sensations, together with the effects of stimulation of various parts of the cerebral cortex in reference to vision. The morphological constituents of the nervous system, and particularly of the cerebellum, are also described in detail by the light of recent observations, and the student will find all that is at present known in regard to nerve cells and their prolongations. The authors follow the views of Ramon y Cajal and Golgi in regard to the structure of the cell with its nucleus and protoplasm or pericaryon, its axon, and dendrites, but speak with great caution in regard to the relations that the terminal filaments of one cell bear to another cell. "So far as our present knowledge goes," they say, "we are led to think that the tip of a twig of the arborescence is not continuous with but merely in contact with the substance of the dendrite or cell body on which it impinges." They suggest that "such a special connexion of one nerve cell with another might be called a synapsis." No complaint can be made of the accuracy of the statements or the soundness of the views advanced in Professor Foster's work and the treatise is admirably adapted for those who are about to take up physiology as a pursuit in life, but it is becoming, if it has not already become, too bulky for the average medical student to master. Even if no additions are made to the fourth part few can afford the time and still fewer have the disposition to read through 1600 pages of a work which after all does not include the subject of development. A condensation of the "Text-book" limited in size to that of the first edition would prove very serviceable alike to the student and to the practitioner and we trust that Professor Foster will see his way to the publication of such a work.

Practical Diagnosis: The Use of Symptoms in the Diagnosis of Disease. BY HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, &c. Second edition, revised and enlarged. Illustrated with 200 Engravings and 13 Coloured Plates. London: Henry Kimpton. 1897. Pp. 605. Price 21*s*.

THE rapidity with which a second edition has followed the first in little over a year is the best possible proof of the success of this book. Dr. Amory Hare has the gift of making whatever he writes interesting and those unacquainted with his work could not have a better introduction than this volume. It will prove of most value to those recently qualified, but useful and suggestive to almost everyone. The general arrangement is to take the various parts of the body one after another and describe the abnormalities of signs and symptoms associated with each. Separate chapters are devoted to the Face and Head, Hands and Arms, Feet and Legs, and so on, with special chapters interpolated on subjects that need fuller treatment, such as Hemiplegia and Convulsions. The illustrations are well chosen and good in themselves. In the chapter on the Face and Head there are in close juxtaposition excellent figures of a mouth-breather with post-nasal growths, a cretin, an acromegalic, a patient with myxœdema, syphilitic ptosis, and exophthalmic goitre, with short, pithy descriptions of the conditions represented. The grouping is unlike that which is ordinarily employed and is therefore striking. In the chapter on the Hands and Arms there are some good photographs and skiagrams of gout and rheumatoid arthritis and progressive muscular atrophy. Dr. Hare's large clinical experience and knowledge of students come out well in the third chapter on the Feet and Legs, where the usual difficulties of the different forms of paralysis are made as clear as possible by good plates and tables.

In the chapter on the Tongue, Mouth, and Pharynx the coloured plates of various conditions of the tongue are rather poor and would prove practically useless. The description of the diseases of the eye is very full and good and the difficult subject of diplopia is well treated. There is a long and elaborate chapter on the skin, giving practically every abnormality met with, and good coloured diagrams are supplied of the skin areas corresponding to the different nerve roots as mapped out by Thorburn, Starr, and Head. The chapter on the Thorax and its Viscera could not be better done; it is everywhere obvious that the statements made are the result of careful thought and experience. The latest methods of diagnosis in abdominal disease, "the gastrodiaphane of Einhorn," and Török's gyromele all find their proper place. There is a good clinical account of the abnormalities of blood and urine, of forms of vomiting, and types of sputa. The index, forty-six pages in length, is excellent. Dr. Hare is to be congratulated on having written a most stimulating and suggestive book.

The Mystery and Romance of Alchemy and Pharmacy. By C. J. S. THOMPSON. London: The Scientific Press, Limited, 28-29, Southampton-street, Strand. 1897. Price 5*s*.

"THE history of the past, whether in science or in art, is always worthy of study and attention." With this prefatory statement most readers will agree, but we do not think that the students, at any rate, of medical science "are apt to overlook and lose sight of the patient labours of the early pioneers of science, many of whom laid the foundation of discoveries that have since proved of inestimable value to mankind." Despite the enormous advances made in recent years in medicine and therapeutics there is still much that is empirical in treatment and many of these empirical methods may be traced a long way back. Paracelsus is said to have been the first to use mercury internally, as the author points out; Van Helmont used alum in uterine hæmorrhage; the Arab physicians advised the use of senna, tamarinds, and cassia (page 107) in place of the violent purgatives of the Greek physicians; and Thomas Dover, the originator of Dover's powder, was born in England in 1660. In the interesting chapter on Surgery in the Middle Ages Mr. Thompson quotes how water was tested and how disinfection was attempted during the fifth (*sic*) crusade. In this crusade St. Louis of France was accompanied by his private physician, Dudon, and other leeches; among them was a lady doctor, or *physicienne*, named Hernandis, who probably attended the Queen in her confinement, which took place at Damietta. The expedition suffered terribly from scurvy, typhus fever, and other pestilences. The part played by water in the diffusion of disease would seem to have been recognised, though the methods of water examination, observes the author, would hardly satisfy a modern chemist. A piece of white linen was dipped in the water to be tested and then dried; if there were any stains on the linen the water was condemned, but if not it was pronounced pure. The addition of four crushed almonds or beans was believed to make the water of the Nile safe for drinking. The method of disinfection adopted for the King's tent was to fumigate it with a mixture of amber, chick-peas, or lupine, previously macerated in wine and then placed on live charcoal. In the sixth crusade, says Mr. Thompson, which took place twenty-two years later, vast numbers, including St. Louis himself, fell victims to ignorance of the elements of sanitation. Mr. Thompson's history is somewhat erratic. St. Louis was not born at the time of the fifth crusade. He led the seventh and eighth crusades and died during the latter. Apart from these slips the book is well worth reading as a record of curiosities connected with the evolution of chemistry, medicine, and pharmacy. It records also the superstitions that were held in olden time in regard to healing. Thus there are chapters on amulets, talismans, and charms, the philosopher's stone, witchcraft, plant lore, mummies, &c. In Part II. the eleven chapters relate to alchemy and pharmacy referred to in literature. The list commences with Chaucer and Shakespeare and ends with Dickens, Thackeray, and Marryatt. The book consists, indeed, of a very quaint and historical record of facts which all students of medicine will read with the greatest interest. Mr. Thompson has evidently been at some pains to collect his materials and his book will save those who follow this subject much trouble in seeking the various archaic tomes from which he has drawn his information.

Report of an Investigation of the Epidemic of Malarial Fever of Assam, or Kála-ázar. By Leonard Rogers, M.B., B.S. Lond., F.R.C.S. Eng., Surgeon-Captain, Indian Medical Service. Shillong: Printed at the Assam Secretariat Printing Office. 1897.

This report, into which a large amount of matter has been compressed, is of an exhaustive nature and it is illustrated by numerous charts and plates. The origin, nature, and spread of the disease known as *kála ázar* in Assam and the Garo Hills district has excited a good deal of attention and, we may add, of contention and has been frequently alluded to in the annual sanitary reports of Assam. The facts connected with the prevalence, spread, and pathological nature of the disease were investigated by Surgeon-Major Giles, who came to the conclusion that although cases of malarial cachexia were very common in the affected districts the increased mortality of the pestilence was attributable to its parasitic nature and that kála-ázar was really an ankylostomiasis. This view was also supported by some other observers. On the other hand, grave doubts having soon arisen as to the accuracy and soundness of this opinion, more especially owing to the excellent observations of Surgeon-Major Dobson, it was determined to submit the whole question to re-investigation. The result is the exhaustive and ably argued report before us, wherein the reasons are fully set forth on which it was concluded that the epidemic sickness in Assam known as kalá-ázar is from first to last a very severe form of malarial fever. This is supposed to have originated in an intensification of the ordinary malarial fever in the Rungpore district in the early "seventies" by a succession of unhealthy seasons, to have thereby acquired infective properties, and to have spread slowly during the last twenty years up the Assam Valley, having found in the districts it had traversed a suitable soil for its propagation. The way in which the subject is worked out is interesting and ingenious, and a number of points connected with the history of malaria are touched upon in the inquiry, but it would occupy too much space for us to deal with these in detail. That a malaria generated in one place may occasionally become epidemic and overflow the geographical limits of its production and so become spread over considerable areas is probable enough from what we know of what happened in the history of the Burdwan fever. Surgeon-Captain Rogers goes, however, a step further than this and boldly advances the view that under certain circumstances it may become communicable, and the germs of the disease may pass from one person to another, either directly or indirectly through the soil. But it will, we suspect, require a good deal more evidence than he has adduced before this view is generally accepted. The clinical and histological features of kála-ázar are apparently those of a severe and cachectic variety of malarial fever, but whether there is any specific form of micro-organism superadded to that found in malaria has not yet been determined. Kála-ázar possesses, however, many points which apparently differentiate it from ordinary malarial fever. The author's report on malarial fever and kála-ázar at Assam, if judged from the standpoint of scientific investigation, strikes us as well done, and he mainly bases his recommendations for checking the spread of this particular form of disease on the conclusions which he has been led to form as to its nature and pathology. These should not of course be neglected, and we regard his proposal to evacuate an affected area and take up new ground even in its near vicinity as likely to be productive of good. We also commend his practical suggestion regarding the publication and distribution of a pamphlet translated into Assamese, Karachi, and other languages. Looking, however, at the general conditions affecting the low-caste native population of Assam it cannot cause any surprise that there is a large amount of sickness among them. The natives are, as a rule, miserably poor, half-starved, badly clothed and lodged, and as a consequence constitutionally feeble. Their environing conditions and unhygienic habits are in other respects also the reverse of sanitary. This being so we suspect that from a sanitary or practical policy point of view attempts at checking the spread of any particular disease will not be productive of great benefit to the public health if unaccompanied by efforts to improve the general conditions affecting the native population.

LIBRARY TABLE.

The Commercial Uses of Coal Gas. By T. Fletcher, F.C. Warrington: Fletcher, Russell, and Co., Thynne-street.—Mr. Fletcher's name is well known in connexion with a great number of gas appliances. Of the introduction of gas for heating purposes in industrial operations he is probably the pioneer. He has designed a great number of ingenious apparatus in which gas may be employed as fuel for a great number of applications. The little volume before us is full of practical hints as to the uses of gas appliances and how best to employ them. In one paragraph the author describes the use of coal gas to the burglar. He says that with a small cylinder of compressed gas and one of oxygen it is possible by means of a small blow-pipe to penetrate the hardest drill-proof steel plates. In this way safes made of the hardest drill-proof steel, if not over half an inch in thickness, can be fused with the greatest ease. Safe-makers know this, he adds, and the best safes are now made of plates which are too thick for the blow-pipes to deal with. The application of such a formidable tool is, however, of the greatest value in "brazing up" leaks and making repairs in pipes and the fittings of engines without taking them apart. We quite agree with Mr. Fletcher that the products of complete combustion of coal gas are practically without injury to health *so long as they are complete*. As we have already shown[1] the amount of carbonic acid produced in the combustion of coal gas is quite insignificant compared with that exhaled by the human individual. Of the two the human exhalation is much more prejudicial to health.

Introduction to the Study of Organic Chemistry. By JOHN WADE, B.Sc. Lond., Senior Demonstrator of Chemistry and Physics at Guy's Hospital. London: Swan Sonnenschein and Co., Limited. 1898. Price 7*s.* 6*d.*—The author in his preface states: "This book is intended as a guide to students commencing organic chemistry." There are certainly many excellent features about the book, but few which appear to bear out the opening sentence of the preface. In Chapters XII. and XIII. a very clear exposition of structural formulæ is given, but these chapters are respectively followed by very complicated charts dealing with the relation of the different groups; these are found all through the work, they are not at all easily made out and will certainly not tend to improve the reader's conception of organic formulæ. Again, the portion of the book dealing with stereo-isomerism and the placing of the consideration of the formula for benzene until after the simpler compounds have been dealt with are distinctly good features, as also is the addition of laboratory notes, only here the author has been led into too abbreviated a manner. He certainly calls them notes, but would five lines on the preparation of the important substance ethylene dibromide enable a first M.B. student to prepare the compound? We do not notice any errors in the text. As a work of reference the book will be a useful addition to scientific libraries.

A Doctor of the Old School. By IAN MACLAREN. London: Hodder and Stoughton. Price 2*s.* 6*d.*—A new edition, very prettily got up, with illustrations by Fred. C. Gordon. This book is so well known that it is unnecessary to say more than that we recommended every one to read it on its first appearance and we see no reason for altering our opinion.

Chambers's Algebra for Schools. By WILLIAM THOMSON, M.A., B.Sc., F.R.S. Edin. London and Edinburgh: W. & R. Chambers. 1898. Pp. 560. Price 4*s.* 6*d.*—Although there is no obvious reason why a treatise on algebra should be sent to THE LANCET for review we may state that the present work is an excellent one of its kind, all the usual processes being clearly explained and copiously illustrated with examples the answers to which are given at the end of the book. The construction of geometrical loci from indeterminate equations is shown, a method which often helps to fix the attention of a pupil and gives him some notion of coördinate geometry. Less space, however, might have been devoted to cubics and equations of higher degrees, for these expressions cannot be adequately dealt with before the theory of equations and imaginary roots has been read and when general methods are available it is hardly scientific to encourage beginners to use special artifices for arriving at partial solutions.

A Manual of Mental Science for Teachers and Students. By JESSIE A. FOWLER. London: L. N. Fowler and Co. New York: Fowler and Wells Co. Pp. 235. Price 4*s.*—Notwithstanding its comprehensive title this book, which is dedicated to the Chairman of the London School Board and the President of the Board of Education, New York, seems to aim chiefly at the teaching of phrenology to children. The illustrations include a phrenological chart of the head, photo-prints of brains and skulls, and upwards of forty portraits from photographs of children, some of them extremely young, who were considered to exhibit the various phrenological characteristics. Destructiveness, for instance, is represented by an infant of eight and a half months and combativeness by a little girl in a short frock. Each of these forecasts might be justified almost as soon as it was made, but surely the author is anticipating too much when she gives the likeness of a boy of eight years as an example of conjugality (p. 164). The description of the various regions of the brain and the glossary which is added at the end of the book are useful features.

The Latest Fruit is the Ripest. By F. J. GANT, F.R.C.S.Eng. London: Digby, Long, and Co.—This book is in part a sequel to the "Perfect Womanhood" by the same author which was reviewed in THE LANCET of Oct. 26th, 1895, and the sequel is worthy of its forerunner. The second part of the book is mainly an autobiography of the author. From this we learn that Mr. Gant was born in 1825 in a house in the Kingsland-road, but early in his life his parents removed to Eastbourne, a change of *milieu* to which Mr. Gant attributes the preservation of his life. Here he went to school where the usher seems to have been as ushers mostly were in those days, a veritable Orbilius. Afterwards he lived at Hastings, and at the age of thirteen years commenced his education at King's College, London, passing from thence to University College, London. In 1859 he married. Mr. Gant reminds his readers of the foundation of the London School of Medicine for Women, founded in connexion with the Royal Free Hospital, of which he has been for so many years a surgical officer. Mr. Gant is too upright and honourable not to give the women students every credit for their success; albeit, he candidly confesses that he was not in sympathy with the movement for their admission.

BRISTOL BOARD OF GUARDIANS.—The guardians of the Barton Regis (Bristol) Union pay the Bristol board of guardians 15*s.* weekly for the maintenance and treatment of infectious cases belonging to them that are sent by them to the Stapleton Workhouse, 12*s.* of this sum being for maintenance of the patients and 3*s.* for remuneration of the officers for their extra services in connexion with the cases. During the past two years this latter sum had reached nearly £60 and at the last meeting of the Bristol board of guardians held on Feb. 4th it was resolved, subject to the sanction of the Local Government Board, to divide that sum amongst the officers and nurses, Mr. Robert Norgate, the resident medical officer, being awarded £30.

HEALTH OF TORQUAY.—At the meeting of the Torquay Town Council held on Feb. 1st the medical officer of health presented his annual report for 1897. The births had been 461, equal to a rate of 18 per 1000, which was the smallest return for the past twenty years. The deaths were 383, or 15 per 1000, which was the lowest death-rate for some years; excluding 77 cases entered as visitors the rate would be 12 per 1000; 11 deaths were due to zymotic diseases, equal to a rate of 0·43 per 1000; 18 cases of typhoid fever had been notified, 4 of which were imported, and of these latter no less than 3 had a fatal termination.

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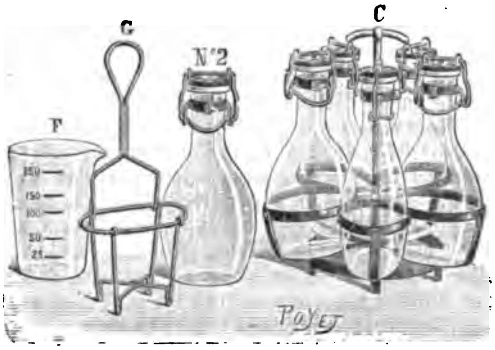
[1] THE LANCET Special Analytical and Sanitary Commission on the Incandescent System of Gas Lighting, THE LANCET, Jan. 5th, 1895.

New Inventions.

THE "TUTÉLAIRE" APPARATUS FOR PASTEURISING MILK AND TEAT.

THE simplification of a method whereby the purity and freedom from hurtful organisms of milk are ensured must commend itself to all those concerned in the supply of healthy food to the infant. Milk is not only known as a carrier of actual disease, but it may also contain impurities which may seriously disturb the delicate digestive functions of the class for whom it is essentially the diet. The "Tutélaire" apparatus is designed for "pasteurising" rather than sterilising milk. Sterilisation at a temperature of 212° F. does undoubtedly produce profound changes in the character of the milk. Milk thus treated cannot at any rate be said to possess physically or physiologically the same properties as milk when freshly drawn from the breast. The "Tutélaire" process is quite simple. The apparatus consists of a large metal container or bath provided with a thermometer, a cruet-stand holding bottles provided with specially constructed stoppers, a graduated glass measure, a lifter, and a warming tin. In Fig. 1 the metal bath and the warming tin are not shown. The milk is first measured into a measuring-glass (F), 150 c.c. being suitable for the child in its early infancy and 250 c.c. when the child is ready for weaning. The bottles, as seen at No. 2 and C, are secured by a patent spring-stopper of a form which resembles the pattern now being largely introduced for bottles containing pasteurised lager beer. After the bottles have had the required quantity of milk measured into them they are placed (after the stoppers have been secured) in position in a pail of cold water. After a few minutes they are taken out and shaken so as to ensure uniformity of composition and then placed in the cruet-like stand (G). The bottles are then put in the metal bath, which should contain about a pint of water. Previously to this the spring of the stopper is gently released without shifting the cork itself, so that while it allows for expansion during the heating process it closes automatically and effectually on the contents being cooled. The bath is then placed over a fire or gas stove until the proper temperature as shown by the thermometer is reached. As soon as the temperature has arrived at the correct point the lid is removed and the steam allowed to escape for a moment and the stand containing the bottles is lifted out, after which the spring of the stopper is carefully replaced. The bottles are then plunged into cold water where they should be left until required. It is advisable just before using a bottle to warm it, which can be done by means of a small boiler provided with the apparatus and then shaking. The "Tutélaire" apparatus supplies a very distinct and important want and fulfils very satisfactorily, according to our experiments, those conditions under which milk, required for infant feeding and free from injurious tendencies, may be prepared. Bacteriological experiments are scarcely necessary to prove the efficiency of the apparatus, since we found that by its means milk can be kept indefinitely without any undesirable change in composition taking place or any notable deterioration in regard to taste. Further, this satisfactory result is obtained in spite of exposing the milk thus "pasteurised" to blood-heat temperature for some time, a condition which, as is well known, readily fosters objectionable changes in milk that contains organised impurities. The "Tutélaire" apparatus was designed by M. Louis Contant, who obtained a prize of 5000 francs in an open competition in France instituted by *Le Journal* in 1896, and who was also awarded the grand prize at the Paris National Exhibition, 1897. Mr. James J. Hicks, of 8, 9, and 10, Hatton-garden, E.C., is the sole agent for the apparatus in this country. The same gentleman is also agent for the "Tutélaire Teat" (Figs. 2 and 3), which is another useful introduction by M. Louis Contant. It is designed so as to approach as nearly as possible the human teat. As will be seen from the accompanying illustration, it consists of an ordinary sucking-piece provided with a shield (B) overlapping a small rubber reservoir (A) which is readily yielding. In other words the sucking-piece represents the human nipple and the hollow rubber cushion beneath the breast. The arrangement is attached firmly to the bottle by means of a rubber cork (D) and metal clasp (E). The cork is provided with a perforation which is fitted with a tube of fine bore (F). On inverting the bottle filled with milk a small quantity of air enters. When this ingress of air ceases the nipple is full of milk. The entire teat is a very ingeniously constructed arrangement and does completely away with most of the manifold sources of objection pertaining to ordinary feeding bottles.

FIG. 1.



Showing graduated measure (F), lifter (G), separate bottle (No. 2), and stand (C).

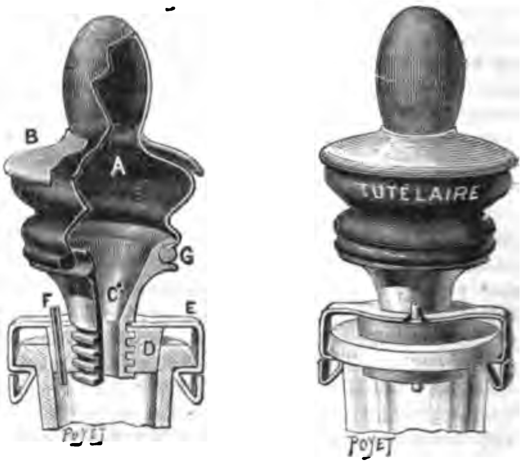


FIG. 2. FIG. 3.

Tutélaire teat in section (Fig. 2) and elevation (Fig 3).

AN IMPROVED RETINOSCOPE.

HAVING a large number of patients to retinoscope daily I have found the instrument described below of great service. It consists of an ordinary spectacle frame, which must be accurately centred for each user, fitted on one side with a concave mirror having a central aperture of 5 mm. in diameter; the other side is empty, the mirror being before that eye which the oculist is accustomed to retinoscope with. By very slight lateral, vertical, or oblique movements of the head the various movements of the shadow are obtained. This instrument has the advantage of leaving both hands free, which facilitates the rapid removal and insertion of lenses in the trial frame as well as the controlling of young, restless children. The light is on the patient's eye immediately it is looked at by the uncovered eye. The rapidity of the movement of the shadow can, I believe, be better appreciated. The instrument has been made for me by Messrs. Curry and Paxton, London.

AUBREY JELLY, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A.,
Royal South London Ophthalmic Hospital.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 12, 1898.

THE nationalities of southern Europe, particularly the Italian, are year by year becoming more cognisant of the fact that physically they are proving less and less a match for the northern races and that even if intellectually their inferiority is not so marked they can turn their mental gifts to less account than their northern contemporaries for the very lack of that energy which physical strength supplies. Even in France there is a confession to the same effect and last summer M. EDMOND DESMOLINS startled, if he did not shock, his compatriots by the prospect he held before them of being everywhere elbowed out or trodden down in the struggle for existence by the Anglo-Saxon civilisation. "A Quoi tient la Supériorité des Anglo-Saxons?" was the title of his book and the impression it made in Italy was hardly less profound than that which it left on France. The subject, so started, has evoked many interesting contributions to its discussion; but of all yet given to the world the most temperate, the most scientific, and the most conclusive is that of the Professor of Physiology in the University of Turin, Dr. ANGELO MOSSO. He takes his text from the brilliant book of Signor GUGLIELMO FERRERO, "L'Amore nella Civiltà Latina e Germanica," and cites one of its most pregnant passages on which to hang his discourse. "The Englishman and the Scandinavian," says FERRERO, "are sexually less precocious and cooler-blooded than the Frenchman or the Spaniard, and in this organic difference lies the root of nearly all the other psychical differences of the two races, northern and southern." Not accepting this thesis absolutely Dr. MOSSO interprets it with considerable modifications which seem to us scientifically well-founded. "Life," he admits, "develops more intensely, more rapidly in southern latitudes. In India the female becomes a mother at thirteen; with us in Italy she may become so at fifteen; in the people of the north at eighteen. As nothing happens in one sex which has not a 'harmonic correspondence' in the other, so we may say that the youths of the Latin race are made men two or three years before the youths of the north." This, he proceeds to show, does not constitute a physiological inferiority because the strength of muscles and the brain power reach the normal degree of energy with manhood. "The bones continue to grow, but the development of the fundamental organs is completed only when the individual can give origin to another being." It is precisely here that Dr. MOSSO lays his finger on the fatal weakness in the upbringing of his compatriot youth—an upbringing which, taking no account of racial and physiological characteristics, models itself on that of other and differently constituted nationalities, forfeiting thereby the advantages native to the compatriot constitution without gaining anything from adhering to the foreign exemplar. A little recent history illustrates his meaning.

The crushing defeat sustained by France in 1870–71 raised not only for Frenchmen but for Italians and, indeed, for the whole Latin civilisation the question: to what was attributable the superiority of the victorious race? Man for man, it was said, the German is robuster in body and mind than the Frenchman or Italian. How is this explained? "Education" was the unanimous answer. MOMMSEN'S saying that the victories of 1870–71 were won at the universities was taken seriously to heart; and so legislation, as soon as practicable, sought in both Latin countries to bring up youth as much as possible on the German model at school and college. The centralised educational authority in Italy as well as in France made it easy to impose the exotic system in either country, and after more than a quarter of a century's trial the results have been not only disappointing but disastrous. The Italian experience, indeed, has been more of a failure than the French, and that, too, because the people are more purely Latin and are less well provided with the counteracting forces which superior wealth and comfort can bring. The precocity which FERRERO and MOSSO alike admit was not recognised in the educational reforms and whereas physical exercise should have taken precedence of intellectual the converse became the rule. At an age when the boy, or rather child, should have been inflating his lungs and developing his muscles in the open air, with but a moiety of time reserved for school attendance, he was kept to his desk the best part of the day within doors painfully conning the task on which he was afterwards to be examined, orally or in writing, in the same confined atmosphere. When precious years had been spent in this unhealthiest of routines his pale looks and flaccid muscles were thought ripe for the physical exercise that would give them glow and vigour, and the gymnastics of the Turnverein, or the nearest Italian equivalent, were imposed on him generally at the close of the day and invariably in an indoor atmosphere. Every influence, in fact, that could stimulate the "precocity" indicated by Signor FERRERO and blunt its natural correctives had full play on the Italian youth, and the results as given by Dr. MOSSO are such as make him tremble for his country's future. Let us quote the testimony of Dr. R. LIVI, of the Army Medical Department, as to the results of the system in that section of the community which with us, for example, turns out the most fully and fairly developed specimens of ingenuous youth. "The rejections for insufficiency of thoracic girth increase year by year and notably among the student class." "La ristrettezza del torace è una diretta conseguenza dello scarso esercizio muscolare, della vita sedentaria, del soggiorno molto prolungato in ambienti chiusi" (the narrowness of the chest is a direct consequence of the scanty muscular exercises, of the sedentary life, of the greatly prolonged sojourn in confined atmospheres). True of the young man, this physical degeneration is not less true of the young woman, of whom Dr. MOSSO says: "The abuse and excess of school-work is like a fatal ivy suffocating the organism of the female, saddening her existence, drying up the well-springs of life." Sexual precocity, a channel of enervating indulgence for the southern, is morbidly encouraged by this mode of life, while the body is weakened in the apparent interests of the mind, which, in turn, is itself impaired by the unnatural methods to which it has to conform; and the result is seen in that "effeminatezza" which increases in contemporary France, and especially in Italy, and places both countries at a disadvantage, becoming year by year more visible, with the northern races. Correct all this however, says Dr. MOSSO, by abandoning our exotic educational system and by returning to the model imported into ancient Italy from Greece, and in another generation it will be seen that the "effeminatezza" now causing so much concern is not a "vizio Latino costitutivo ed organico" (a Latin vice constitutional and organic), but a defect of education of which the origin can be traced and for which the remedy is at hand.

Not Germany, but Great Britain, contends Dr. MOSSO, presents the model which Italy ought to follow; and why? Because more than any other nation the English have reproduced the old Greek ideal of the harmonious, the concurrent exercise and development of body and mind. Here his colleague and brother reformer Signor FERRERO and he are quite at one, Signor FERRERO indulging in an enthusiastic eulogy of the open-air athletics of Oxford and Cambridge and of the great public schools which prepare for them. The sexual precocity on which he is so eloquent as conducing to "Latin effeminacy" finds no such corrective as the muscular hardening and the purified circulation gained from the cricket-field, the football ground, and the river. In this Dr. MOSSO agrees with him and, admitting that Italian youth do not take kindly to outdoor games or, indeed, to physical exertion of any kind, he would yet introduce the English custom among them, confident that ere long they would become as enamoured of it as their ancestors were of the exercises imported from ancient Hellas. The bodily physique once rehabilitated intellectual food of all kinds would have a better chance of being healthily assimilated. Study would be more valued and practically appreciated by not encroaching on other interests and academic qualification would be all the more sound and satisfactory if for the "demonstrations" and college disturbances in which it finds so frequent an outlet for its energies Young Italy would substitute inter-university sports—"SYBARIS pulling stroke in a regatta on the Tiber and GYGES winning the honours of a goal in a football match in the Colosseum!"

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IT has been too well proved that the mere possession of a university degree is no guarantee of spotless behaviour in the graduate. On the principle of *noblesse oblige* we are entitled to expect a high standard of professional conduct from those who possess degrees, but common observation and the records of the General Medical Council show that such expectation is often disappointed. A late President of the General Medical Council, Mr. JOHN MARSHALL, among the other admirable work which he did for the Council, presented in the year 1888 a memorandum on the disciplinary powers of the qualifying bodies, showing in what a chaotic state the disciplinary function was, that it existed pretty efficiently in some of the corporations and was almost non-existent in others, and that in the universities it was still less effective and in some cases altogether absent.[1] He showed that in the Scottish universities and in the Durham and Victoria universities, and even in the University of Cambridge, there was no power to degrade even a convicted or imprisoned criminal. The General Medical Council might see fit to remove his name from the Medical Register, but the universities mentioned could not withdraw his degrees. This state of matters was felt by the profession and by the General Medical Council to be well-nigh intolerable, the more so as it left the offender whose name had been removed from the Medical Register in possession of the qualification which gave him his most distinctive title and, in the opinion of some persons—even persons of authority—a kind of excuse for continuing to practise, if not a sort of qualification entitling him to do so. The records of the General Medical Council show that graduates have formed a material part of the whole number of persons who have been removed from the Register by the penal action of the Council. There was therefore no excuse for the universities affecting to believe that their graduates were necessarily above the need of any disciplinary control or any penal action on the part of their *alma mater*. But although Mr. MARSHALL brought this unsatisfactory state of matters to light so long ago as 1888 and 1889 the subject was allowed to sleep till the year 1895, when, on the motion of Dr. GLOVER, seconded by Dr. (now Sir RICHARD) THORNE, the Executive Committee of the General Medical Council was instructed to revert to the consideration of the subject as it had been left by Mr. MARSHALL. Since then it has received considerable attention from the present PRESIDENT of the Council and from the Executive Committee as well as from a sub-committee of the Executive Committee, and it is gratifying to observe that the universities themselves whose disciplinary or penal powers were *nil* have begun to show a much more worthy interest in the subject. Two of them in particular have taken pains to acquire the means of removing from their list of graduates persons who have proved themselves unworthy to be on such lists and to withdraw their degrees. The University of Cambridge set a good example to the other universities that were helpless in respect of ridding themselves of discreditable graduates by preparing a disciplinary statute to deprive of his degree any graduate sentenced to imprisonment. The statute was soon approved by HER MAJESTY in Council and has since been acted on. The University of Durham and, we believe, the University of Victoria followed the example of the University of Cambridge and sought powers so obviously needed.

The newspapers have just shown us that the University of Durham has not only acquired such powers but has used them. The *Newcastle Chronicle* of Feb. 2nd reports as taking place at the University of Durham on the preceding day what it calls a singular and rarely executed ceremony—"that of revoking the degrees of LEWIS LAMB BAILES, upon whom the degrees of Master in Arts, Bachelor of Medicine and Bachelor of Surgery, and the title of

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[1] Minutes of the Medical Council, vol. xxv., 1888, appendix 3. Memorandum on the Disciplinary or Penal Powers of the Qualifying Medical Authorities and of the Medical Council as regards Erasure of Qualification and Names from the Medical Register.

Associate in Science had been conferred," on the ground that at the preceding assizes he had been convicted of a crime and sentenced to penal servitude. It is no doubt lamentable that one who had been so honoured by a university should have to be degraded by the same authority. But it is obvious that both powers should reside in the same body. This seems right in respect of all the faculties. Graduates in arts or science or in any other faculty have the right to expect their *alma mater* to purge the list of graduates of unworthy members. In the case of graduates of medicine there are special reasons why the university authorities should have and should exercise such powers. For such graduates are in virtue of their degrees entitled to practise medicine and bound to observe all its obvious and its traditional standards of conduct. But we do not agree with those who think that other graduates may commit crime with impunity and still retain their university *status*. We are glad, therefore, to notice that the new Charter of the University of Durham gives the power, as in this case, to revoke "any degree or title that has been conferred." It is gratifying to know that the Scottish universities no longer refuse to take steps to vindicate their own honour in this question. It is to be hoped that the General Medical Council will prosecute its investigations into this subject with vigour. At present the investigation is only begun. The powers recently acquired by the universities only apply to great crimes. There are all sorts of differences in the disciplinary powers of the corporations, including the power of re-instatement, which threaten to impair the authority of the General Medical Council itself and call for its serious attention.

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HAS influenza become endemic to this country? That is a question which is forced on the mind by the seasonal exacerbation of the disease which has really never left us since the land was swept by the great pandemic waves of 1889-92. Ever since those memorable years when the characters of this remarkable affection and its protean sequelæ were made familiar to hosts of victims and to the hard-worked members of our profession it cannot be said that influenza has been wholly absent. To be sure during the summer months cases are few and far between, but almost invariably with the approach of winter they multiply in number and serve to swell the death-rate. Nor is it possible to afford a satisfactory explanation of this recrudescence of an infective disorder that seems to obey no law, but to arise with a capriciousness that defies generalisation. Does it recur because of certain favourable conditions of soil or atmosphere? If so, why does it prevail in times and places in which these conditions are so diverse? The mild yet comparatively dry season through which we have been passing this winter has been characterised by recurrence of the disease in certain localities; but when we recall the concomitants of the more widely spread outbreaks we are unable to connect the type of season with the prevalence of the malady. Nor is it easy, in the lack of any system of notification, to determine to what extent influenza prevails at the present time. That it does prevail and that to a notable extent is apparent from the death returns and from the statements of practitioners in certain districts where the "green Yule" seems to have been accompanied by much sickness. Yet—except perhaps in a few instances of outbreaks in institutions—there has been happily nothing approaching to the epidemics with which we were familiar a few years ago.

The scope for conjecture and speculation which such an affection affords is boundless. It might, for instance, be held that although the morbific agent is still prevalent yet that immunity has been attained by the majority of persons — an immunity in the case of many only secured by a repetition of attacks. Or more fancifully the irregular distribution of localised outbreaks may be regarded as the gradual decline in extent and intensity of the epidemic waves that were so overwhelming in the pandemic period. However this may be, there is at any rate one fact about influenza upon which there would seem no room for argument and that is its infectiousness. This character it still betrays and perhaps at this time more strikingly than in the past, since it is not so universal in its incidence. We hear of reports of its appearance in small communities, in households and in offices, asylums, and factories, and the rapidity of its diffusion is further proof of its high degree of contagiousness. The same may indeed be said of the ordinary nasal catarrh, although we doubt if there is any distinct proof of the relationship of the latter with the specific disease influenza to which it has often been assigned. But influenza has its own typical characters and they still appear with each recrudescence, although from their variety and number they may sometimes pass unrecognised. The pyrexia and prostration, anorexia and insomnia, neuralgia and myalgia, and the sequels on the side of the nervous, circulatory, respiratory, and digestive apparatus are familiar enough now, so that their very diversity makes it all the more difficult to be certain of their one and only origin. It is not known why in some outbreaks there should be a greater liability to one form of inflammatory complication and in other outbreaks to another, but so it is, and unless we are to admit a multiplicity of poisons we can only conjecture that there must be some subtle variations of operation. The most reasonable view is that the toxin is one that acts mainly upon the nervous system and that it may lessen the resistance to other morbid influences. Certainly pneumonia following influenza is generally more serious and more prostrating than pneumonia not so associated; cardiac depression and failure are readily referable to disordered nerve action and the gastro-intestinal affections that seem to have been especially prominent of late may be mainly induced through nervous disturbances. It might well be asked whether an affection which apparently is linked with such varied disorders of the economy has not always prevailed and whether we are only now beginning to appreciate the presence of the underlying factor in the causation of what are wont to be regarded as local diseases. If so, then influenza is, and always has been, an endemic disease, but with each succeeding generation it sweeps over the world in epidemic form. If in the past we have not been alive to the influenzal factor in etiology we must beware lest in the present and the future our minds are so dominated by the conception of its ubiquity and variety as to relegate to its sphere conditions that have no relationship with it whatever.

Annotations.

"Ne quid nimis."

THE PUBLIC HEALTH IN 1897.

THE Registrar-General in his quarterly return for the last three months of 1897, just issued, is able to give a brief but satisfactory summary of the vital statistics of last year. The death-rate in England and Wales in 1897 did not exceed 17·4 per 1000, which, with the exception of the unprecedentedly low rates (16 6 and 17·1 in 1894 and 1896), was lower than the rate in any previous year on record. The death-rate last year was 1·2 per 1000 below the mean rate in the ten preceding years 1887–96. Notwithstanding the fatal effect of epidemic influenza, more especially in 1891–92–93, the annual English death-rate in the seven completed years of the decennium 1891–1900 has been so low as 18·3 per 1000, against 22 5, 21·4, and 19·1 respectively in the three preceding decennia of the thirty years 1861–90. These figures point conclusively to continuing satisfactory health progress and to increasing longevity. The birth-rate in 1897 was the same as that in the preceding year—namely, 29·7 per 1000; and with the single exception of 1894, when the minimum rate of 19·6 was recorded, was lower than in any year on record. The English birth-rate averaged 35·3 per 1000 in the twenty years 1861–80 and fell to 32·5 in 1881–90; while in the first seven years of the current decennium the mean annual rate had further fallen to 30 3. To return to the mortality statistics, the unsatisfactory feature of an increase of infant mortality should be noted. The deaths of infants under the age of one year were in 1897 in the proportion of 156 per 1000 of the registered births, which exceeded by 8 per 1000 both the rate in the preceding year and the mean rate in the ten years 1887–96. This excess of infant mortality is in a certain sense explained by the increase of diarrhœa in 1897, to which 26,857 deaths were attributed in England and Wales against but 17,114 in 1896. There is probably no disease which may more correctly be described as "preventable" than infantile diarrhœa: this annual sacrifice of infant life therefore distinctly discounts our claim to satisfactory health progress, more especially when we recognise the fact that the mortality from this disease is almost exclusively confined to that section of the population generally known as the working or weekly-wage classes. Notwithstanding the marked excess of diarrhœa fatality last year the deaths attributed to all the so-called principal zymotic diseases corresponded to a rate which did not exceed 2·15 per 1000, against 2·17 and 2 21 in the two preceding years. This zymotic rate was 2·87 in the thirty-three great towns, 2 41 in sixty-seven other large towns, and only 1·62 in the rest of England and Wales. Whereas diarrhœa mortality showed a marked increase, due mainly to high summer temperature, the recorded death-rates from measles, scarlet fever, diphtheria, whooping-cough, and enteric fever were lower in 1897 than in 1896. Only 25 fatal cases of small-pox were registered in England and Wales in 1897, against 534 in the preceding year owing to the severe epidemic in Gloucester. Nearly 20,000 deaths last year were caused by different forms of violence, but the death-rate from this cause was slightly lower than in either of the two preceding years. Inquests were held in 33,999 cases, or in 6 6 per cent. of the registered deaths, showing a slight increase upon the proportion in the previous year. In rather more than 11,000 cases the cause of death was not certified either by a registered medical practitioner or by a coroner. It should, however, be remembered that a very large proportion of these uncertified cases were referred by the registrar to the local coroner, who, in the exercise of his discretion, decided that an inquest was unnecessary.

KISSING THE BOOK.

WE have frequently[1] commented upon the dangers which may accrue to a witness from kissing a copy of the Gospels which has been before kissed and handled by all sorts and conditions of people possibly suffering from infectious diseases. We have pointed out that this danger is in no way an imaginary one but very real and have urged the use of the Scotch form of oath in preference to the English. At a case which was tried in the Westminster County Court on Feb. 3rd a woman who had been subpœnaed as a witness produced her own copy of the Gospels to be sworn upon and we can only congratulate her upon her forethought and good sense. Over and over again we have pointed out that everyone has the right to be sworn after the Scotch fashion if he so desires it, but as the magistrates' clerks are sometimes ignorant of this form it would be well for witnesses to follow the above example and bring their own Testament. We cannot see either why it should not be made permissible (and, in fact, his honour, Judge Emden, has, we believe, allowed it) for the swearer to take the oath by laying his hand upon the copy of the Gospels. Kissing it is a comparatively modern and useless innovation.

A MARTYR TO THE NEW REGULATIONS OF THE GENERAL MEDICAL COUNCIL.

THE new Notice of the General Medical Council on the subject of unqualified assistants is causing great excitement and disturbance in various parts of the country where the unqualified assistant has been a sort of institution. One practitioner in Wales seems to have become a veritable martyr to the edict. Mr. John Jones held appointments in Clydach of the annual value of from £500 to £700 a year. Mr. Jones's assistant was Mr. Jenkins, who had been in the district for thirty years and had worked under various practitioners. Opinions vary as to Mr. Jones's relation to Mr. Jenkins and Mr. Jones argues that when he first came to terms with Mr. Jenkins the offence of "covering" had not been formulated by the General Medical Council. Be this as it may, when the new notice appeared Mr. Jones felt called on to dismiss his old assistant in deference to the views of the Council. He also resigned his position as "works-doctor" at Clydach, but offered himself for re-election. Such, however, is the resentment of the workmen at the treatment of the unqualified assistant that they have elected to the post a stranger, Dr. Harvard Jones, of Festiniog, by a large majority. They have no fault to find with Mr. John Jones's services and they admit him to be a man of great ability; but they are so attached to Mr. Jenkins, the unqualified assistant, as to think that Mr. Jones should have retained him even at the risk of the erasure of his own name from the Medical Register! This is, of course, absurd. Mr. Jones's position is a very hard one. There can be no doubt about the substantial soundness of the regulation of the General Medical Council. It is in the interest of the people themselves, who are entitled to have qualified medical men to attend them in their illness. For years past the General Medical Council has been confronted with the unqualified assistant backed or "covered" by registered medical practitioners. The arrangement and its results have been the cause of wide scandal to the profession. And it had become imperative to deal with it severely. The men of Clydach are perhaps within their rights in acting towards Mr. John Jones as they have done. And we can quite understand their friendship for Mr. Jenkins and their sympathy with him in the somewhat abrupt interference with his career involved in the recent Notice of the General Medical Council. But they are scarcely likely to serve their friend by such harsh conduct to his late principal. They would have done better to re-appoint him and to have appealed for a short period of grace to the General Medical Council. Many members of the Council think that such a short period should be given for the sake of all persons concerned. But the most ardent friends of unqualified assistants must see that the change was necessary and that it was impossible any longer to insist on young medical men going through exhausting and costly examinations to qualify for the Medical Register and at the same time connive at the work of the profession being done by men who have not given any such guarantees of competence. The workmen of Clydach should realise that the Council is not acting arbitrarily but on the pressure of coroners, home secretaries, and other powers of the law and in the real interests of the working classes.

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[1] THE LANCET, Jan. 18th, Feb. 22nd, and April 11th, 1896.

PHYSICAL CURIOSITIES.

NOT the least interesting feature of the colossal show organised by Messrs. Barnum and Bailey at Olympia is the collection of "freaks" which the industrious managers have been able to get together. That public interest in these creatures, whether human or belonging to some lower order, is very deep is proved by the tenour of letters which we now and again receive asking for explanations of the various physical phenomena manifested. We need hardly say that errors of development may produce extraordinary results and that the average "freak" is simply an error of development, the curious or, it may be, monstrous appearances being as a rule easily comprehensible by students of embryology and fœtal structure. But there are two persons giving performances at Olympia who are able to perform feats which must certainly produce a very astonishing impression on the anatomical mind. One of these entertainers, whose name is Delno Fritz, is a sword-swallower and asserts that he can swallow longer swords than have ever been swallowed before. We for our part never want to see anyone swallow more rigid metal. To those who know the surface markings of the abdomen and the situation of the stomach it is little short of appalling to see this man pass a sword down his gullet until the hilt impinges upon his teeth and then withdraw the weapon and demonstrate by outside measurement that in the erect posture the point falls some inches below the usual line of the lower curvature of the stomach. What really happens, of course, is that Delno Fritz has learnt, consciously or unconsciously, to stretch the somewhat loose and elastic tissues between the lips and the cardiac orifice of the stomach, so that these tissues will lie along his blunted sword in a condition of extension, while a protruded chin assists in the prolongation of the pharynx. It should be added that the solidity of the weapon with which the feat is performed is beyond question. A second person in whom medical men must be interested is one Young Hermann, who can expand and contract his chest and abdomen at will to really remarkable dimensions. He is able to make a *bonâ-fide* difference of sixteen inches in his chest measurements and accordingly to snap chains and straps fastened across his thorax by the steadily extending pressure he is able to effect upon them. The alteration which he produces in his abdominal outlines are no less striking. By swallowing air and then effecting pressure upon it by contractions of the rectus abdominalis muscle, he can rapidly pass from the appearance of extreme corpulency to the appearance of horrible emaciation, the skin of the abdomen appearing in the latter case to lie against the spinal column. His extraordinary power of swallowing and inhaling air enables him to shift the apex beat of the heart many inches and otherwise to displace his viscera. The power of swallowing air is not exceedingly rare,[1] but the extent to which Young Hermann possesses it is unexampled in our experience. It is probable that Joseph Clark, the celebrated posture-master of the seventeenth century, possessed the secret of this trick in addition to his unwholesome knack of dislocating many of his joints at will. It may be remembered that Clark's favourite joke was to go to a tailor to be measured with his right shoulder, say, much higher than the left, to return to fit the suit on with the protuberance on the other side, and finally to call at the shop and reject the clothes indignantly, having this time assumed a central hump. Young Hermann might amuse himself in a similarly ill-natured way if the inclination took him.

A CASE OF PORENCEPHALY.

IN the February number of the *Edinburgh Medical Journal* Dr. George Gibson and Dr. Aldren Turner describe a case of this condition which is of sufficient rarity to make a careful record of each case examined very desirable. It is true that the condition is well recognised, but its etiology is still a point on which authorities differ. The patient was a woman, aged twenty-two years, who was admitted to hospital in a condition of status epilepticus. The history was that a few days after her birth—which had been a long and difficult process and effected with instrumental aid, she had had a series of convulsions and soon after had been noticed to be paralysed in the left hand. She was backward both in speaking and walking, but she went to school when about seven years of age and learnt without difficulty to read and spell. She could never learn to write, however. She had apparently remained free from fits until about the age of seven years, when convulsions returned and she continued to suffer from them periodically during the rest of her life. She was evidently feeble-minded and after the fits was occasionally violent—indeed, almost insane. The chief peculiarity of the convulsions from which she suffered after her admission to hospital was that they were all unilateral, but sometimes one side of the body was affected and sometimes the other. In spite of various efforts to control the convulsions they continued with great severity and ultimately the patient died from exhaustion. At the necropsy careful measurement failed to reveal anything more than a slightly larger size of the arm, forearm, leg, and thigh on the right side. No difference in the bones was made out. The left side of the head was distinctly larger than the right. The middle and posterior fossæ of the skull were much larger on the left side than on the right. The right cerebral hemisphere was partly cystic and partly solid, the cystic part comprising the occipital lobe, the convolutions around the posterior end of the fissure of Sylvius and the ventral part of the temporo-sphenoidal lobe. The cavity communicated with the ventricle and was lined by a smooth membrane. The basal ganglia were atrophied. The left cerebellar hemisphere was considerably atrophied and there was partial atrophy of the mesial fillet on the right side. The part least implicated was the most internal, the so-called pes lemnisci, and this condition would support the view that the mesial fillet ends partly in the optic thalamus and partly in the cortex cerebri. There was partial atrophy of the right pyramidal tract. Dr. Gibson and Dr. Turner, in conclusion, point out that various views as to the etiology of this condition have been propounded, but that the one which has been most favourably received is that it originates in the blocking of an artery with secondary softening and cystic formation. Such an origin would seem likely in this case as the part of the hemisphere chiefly affected is that related to the distribution of the posterior cerebral artery. If this view is correct the occlusion probably took place either at or just before birth.

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[1] Edinburgh Hospital Reports, 1895; THE LANCET, Aug. 1st, 1896, p. 305.

BOILER EXPLOSIONS

ACCORDING to the report on the working of the Boiler Explosions Acts during the year ending June 30th, 1897, the total number of cases dealt with was 80 and by these explosions 27 persons were killed and 75 injured. This represents a total of 102 persons killed and injured during the year and exceeds the average (90·5) for the fifteen years during which the Act has been in operation by about 12·7 per cent. The loss of life taken alone closely approximates to the average (28·6) for the same period. The causes of explosion show no important variation. Of the 80 cases dealt with 28 were attributed to the defective condition of the boiler or of its fittings; 33 to defective design, workmanship, material, or construction, or to undue working pressure; 12 to ignorance or neglect of the attendants; and 7 to miscellaneous causes. In 42 cases the boilers proved to be under the inspection of some public association or were used in vessels provided with Board of Trade passenger certificates, but in many of these cases explosions were not due to defects which existed when the last periodical inspection was made. We notice that three accidents were due to heating apparatus, the cause being undue pressure due to the pipes becoming choked with ice. In one case, that of an appliance used for warming manufacturing premises, one person was killed. We have heard, fortunately, of no cases of kitchen boiler explosions this winter, for the simple reason that the winter has so far been a mild one and not visited by prolonged frost. At the same time, householders are now aware of the importance of having a safety valve connected with the boiler and some useful instructions upon this head appeared in our columns of Feb. 8th, 1896.

THE INSPECTION OF WATER-SUPPLIES.

DR. THRESH, the medical officer of health of the Essex County Council, has recently issued a reprint of his paper upon this subject and its issue is timely in view of the epidemic outbreaks which have recently occurred in several parts of the country. Notwithstanding the labours of various Royal Commissions and the unwearying efforts of the Local Government Board the outbreaks of preventable disease due to the pollution of public water-supplies, he remarks, furnish abundant proof of the fact that the care taken to insure the hygienic purity of water used for domestic purposes is in many cases utterly inadequate. He dwells upon the difficulty of preventing the pollution of surface water, which to be done completely can only be by acquiring and exercising control over the area from which such water is collected. The Public Health Acts, however, provide for the prevention of the source of pollution to streams. The control of the more important portions of the gathering ground is as important as the steps subsequently taken to purify the supply by filtration or storage. We are glad that Dr. Thresh calls attention to the fact that the sanitary authorities in a district may have on powers over either the collecting area or the company's works. Representations to the various bodies concerned may result in improvements being effected, as in the case of Stockport, where the report of the borough medical officer of health upon the unsatisfactory conditions obtaining upon the gathering ground of the water company resulted in securing the removal of many possible sources of pollution. The difficulties in the way, however, were so great that the Sanitary Committee recommended that a petition should be presented to the Local Government Board under the seal of the council, praying that legislation might be initiated whereby every sanitary authority supplied by a water company which is not also a sanitary authority should be empowered to authorise any duly appointed official to enter, inspect, inquire, and take samples at any part of any source or works of water-supply or water purification at any time by day or night, and whereby also such water company should be required to afford all reasonable facilities and information for such inspection, inquiry, and sampling. Dr. Thresh gives instances of the great purifying power of the subsoil in addition to the surface soil, but he points out that subsoil supplies derived from fissured strata should be very carefully watched. As is well known impurities may travel along such fissures for very considerable distances. Dr. Thresh admits that the whole subject is one which bristles with difficulties and that the full inspection of any source of public supply requires not only a certain knowledge of geology, physiography, chemistry, and of engineering, but a large amount of ingenuity and power of attention to details if no point is to be overlooked. "The strength of a chain is merely that of its weakest link and to miss the weak link is to court disaster." He concludes by emphasising the importance of the inspection of public water-supplies and of these inspections being periodical, say once a year, and in the intervals samples should be submitted to chemical and bacteriological examination, the frequency depending upon the importance and character of the supply. In a note upon the circular bearing upon this subject which was recently issued by the Local Government Board Dr. Thresh points out that this circular letter would have been more complete had it also directed attention to Section 7 of the Public Health (Water) Act, which renders it obligatory on the part of every rural sanitary authority from time to time to take such steps as may be necessary to ascertain the condition of the water-supply within its district and authorises the payment of all reasonable costs and expenses incurred by the authority for this purpose.

MR. HALL HAINS'S DEFENCE FUND.

A MEETING was held at the house of Mr. Joseph Smith, the chairman of the Defence Fund Committee, on Friday evening last, to present Mr. Hains with a cheque for the subscriptions received. The accounts were audited by Dr. J. Ball and were found to be correct. Subscriptions to the amount of £113 6*s*. 6*d*. had been received and after deducting £1 10*s*. 6*d*. for the expenses of type-writing, postage, and stationery there remained a sum of £111 16*s*. In presenting a cheque for this amount to Mr. Hains the chairman referred at some length to the case. He had watched it carefully and was convinced from the first of the unfounded nature of the charge. He warmly congratulated Mr. Hains on having left the court without a stain on his character and on the fact that to many of his brother practitioners had come forward in the manner they had done. Undoubtedly a great many had not subscribed owing to the fact that they considered Mr. Hains should have belonged to some medical defence association. He had great pleasure in handing to Mr. Hains what he considered to be a very substantial sum. Mr. Hall Hains, in reply, said that words failed him to express the gratitude he felt to Mr. Joseph Smith and the subscribers for coming forward in so extremely kind a manner. No one who had not experienced it could understand the terrible mental distress he suffered whilst these charges were hanging over his head; and it was only the knowledge of his complete innocence that enabled him to bear up as he had done. In conclusion he most heartily thanked the subscribers for their great kindness in expressing their confidence in him in so substantial a manner. Dr. Arthur Walker proposed a vote of thanks to the honorary secretary and treasurer. Dr. J. Ball, in seconding this, said he quite appreciated the necessity of every medical man joining some defence association, yet at the same time because one had not insured in this manner was no reason why his brother practitioners should not help in a case of this kind. Having regard to the difficulty in collecting sums in these cases and also the many calls made on medical men he thought the sum a very substantial one. Mr. Herbert Carre-Smith, in reply, said that knowing the case as he did he was only too glad to help in any way he could. There never had been a case in which a man had more completely established his innocence and it was strong evidence of this that Sir Edward Clarke, a former law officer of the Crown, had written to say that Mr. Hains was "not even guilty of an indiscretion" in the matter. Mr. Carre-Smith also thought that the Royal Colleges of Physicians of London and Surgeons of England should protect their members in cases of this kind. He begged to thank the gentlemen who had been kind enough to propose a vote of thanks to him and he could only say that he was very glad to have made the acquaintance of Mr. Hains. A vote of thanks to the chairman for his hospitality brought the proceedings to a close.

THE QUESTION OF ANTISEPTICS IN FOOD.

As is well known unless it can be proved that injury to health has been done the law as it stands at present lends little assistance in preventing the employment of preservatives in food. When the quantity of the preservative has been found to be present in large excess, that is to say, over and above that which is required to preserve the food, the evidence seems to convince magistrates that in such a case it is clearly an offence within the meaning of the Act. Thus a few weeks ago a case was heard at Pontypridd in which it was shown that a certain specimen of butter had contained nearly 1 per cent. of boracic acid, whereas probably a fourth of this quantity would have been quite sufficient to preserve the butter. A conviction was obtained and a somewhat heavy penalty was inflicted. We have already expressed our views on this important section of the food question and the subject was discussed in THE LANCET Commission on Antiseptics in Food published in our columns on Jan. 2nd, 1897. This article contained also the opinions of several well-recognised authorities. The conclusion seems to be that under certain circumstances the employment of certain antiseptics might be permitted. The question remains, what is to be the permissible quantity? In a report drawn up by the medical officer of health of the county borough of Cardiff and subsequently presented to the Health and Port Sanitary Committee of that place Dr. Walford quotes the information which we placed at the disposal of our readers in the article just referred to. Dr. Walford thinks that although the addition of antiseptics to milk is quite unnecessary yet their use might be permitted in butter. At any rate where the use of preservatives is permitted the quantity, as we have suggested before, should be limited by law. But we do not think the new Food and Drugs Bill referred to in the Queen's Speech will afford the slightest assistance in this matter. Indeed, there is no sort of reference therein to the question. It is evident that the antiseptic value of boric acid is limited and it follows therefore that the quantity that is concerned in keeping an article of food free from change can have but little further action in the system. When, however, the quantity of preservative is largely in excess of that actually required to preserve the food, then this excess would act freely and perhaps injuriously in the system. We want a law, therefore, which by imposing some limit will effectually control the practice of employing antiseptics in articles intended for human consumption.

THE POLLUTION OF RIVERS BY TANNERIES.

THE dumping down of trade refuse into a river is just as much an offence as allowing untreated sewage to flow into it. Trade refuse may not carry with it the specific seeds of disease, but may give rise to a nuisance, foster putrefaction, and render the air of a neighbourhood foul and unwholesome. Last week at Leeds a tanner was convicted of allowing liquid refuse from his tannery in a very polluted condition to flow into the river. The pollution, counsel said, turned a natural watercourse into a foul sewer and caused danger to the health of many people. Some attempt had evidently been made to purify the refuse but without any practical result. Surely measures can be taken to do this efficiently. All along the banks of the lower reaches of the Thames glue manufacturers, fish manure makers, and the like are compelled to undertake not to discharge into the stream anything that is likely to become a source of offence and there is no reason why this regulation should not be enforced over the whole country.

GROSS CARELESSNESS OF A MIDWIFE.

AN inquest was held at the Market Harborough Police-court on Feb. 4th by the coroner, Mr. G. E. Bouskell, touching the death of Mary Ann McDermott, a married woman, who died from puerperal fever. She was attended at her confinement on Jan. 25th by a midwife named Eaton, who on her own evidence had attended a Mrs. Hezelmach on Jan. 1st in her confinement and had gone to look after the infant on Jan. 2nd, 3rd, and 4th, although she did not touch the mother. Mrs. Hezelmach died on the tenth day from puerperal fever. Continuing her evidence Eaton said that in consequence of a message she received from Mr. Durrant, the medical officer of health, she went round to his surgery on Jan. 11th. Pressed by the coroner she said that she went to see if she could safely attend another case in a short time. She also stated that Mr. Durrant said that in a case of this kind it was not usual for the midwife to attend another case for a month or six weeks, but on her stating that she did not nurse Mrs. Hezelmach he said it did not matter. She attended another woman within ten days, but in consequence of what the medical man said she tried to get off attending her. That woman was going on all right. She did not think the medical man really meant what he said. Mr. Durrant deposed that he sent a message by his assistant to Eaton that she was not to attend any maternity case for six weeks or two months. Eaton called to see him and he explained matters to her. On her saying that she had not nursed Mrs. Hezelmach he modified his term of restriction to one month. The coroner said he left it to the jury to answer the following questions: (1) Did the fact of Mrs. Eaton attending the deceased at her confinement on Jan. 25th last cause her to contract puerperal fever? (2) Was puerperal fever the cause of death? (3) Was Mrs. Eaton's conduct in attending the deceased at her confinement, having regard to the interview she had with Mr. Durrant on Jan. 11th last, of such a gross and culpable character as ought to be punished criminally? The jury answered Questions 2 and 3 in the affirmative. With regard to Question 1 they thought there was not sufficient evidence to show that Mrs. Eaton's negligence caused the deceased's death, but they thought she ought to be severely censured. They also added a rider to the effect that all midwives should be registered and not allowed to act unless they had a certificate. The midwife was accordingly severely censured by the coroner. These sort of cases will continue to happen as long as the present state of the law holds. Anyone, however ignorant or careless, may practise medicine, surgery, or midwifery. It is fair to say that by her own request no medical man saw the deceased until just before her death, when Dr. Irwin Moore was called in and very rightly refused to give a certificate. It is of course impossible to definitely say that Eaton did infect the deceased, but it is all the same highly probable that she did. But there can be no doubt about the impropriety of her conduct. "She did not think the doctor meant what he said." She had no right to think, and if she did put this interpretation upon his words why did she "try to get off from attending" the case she attended after attending Mrs. Hezelmach "in consequence of what the doctor had said"? We should fancy, however, that Mrs. Eaton's "practice" will considerably fall off now that these facts are known.

THE EDINBURGH GRADUATES' MEDICAL CLUB.

THE quarterly dinner of this club was held on Wednesday, Feb. 9th, at the Holborn Restaurant, Sir Dyce Duckworth in the chair. About a hundred members were present besides guests. Among the latter were Colonel Arthur, Dr. Cholmeley, Dr. Hillier, Dr. Percy Kidd, Dr. Hector Mackenzie, Dr. Montague Murray and Dr. Sharkey. The chairman gave the toast of the evening—namely, that of "The Club," tracing its progress from its inception some thirty years ago. Dr. Playfair proposed the health of the guests, who were responded for by Dr. Kidd and Dr. Hillier. The health of the chairman was proposed by Dr. Glover. Some excellent music was provided by Mr. William Nicholl, Mr. Peterkin, and Mr. McCann, while Mr. A. B. Acton accompanied. Those present were indebted to the exertions of the indefatigable secretaries, Dr. Rutherford and Dr. Leslie Ogilvie, for a very pleasant evening.

AN INTERNATIONAL HEALTH EXPOSITION IN NEW YORK.

FROM April 25th to May 31st an International Health Exposition will be held at New York in the Industrial Building known as the Grand Central Palace, Lexington-avenue. The New York Household Economic Association and kindred organisations will coöperate with the management of the Exposition, which will embrace everything relating to health, both indoors and outdoors, and illustrate the sanitary and hygienic progress of the century. Mr. Charles F. Wingate is the supervising director. All exhibitions of this description should be encouraged, for they are of distinct benefit; firstly, in bringing together for comparison the latest sanitary appliances and methods; and secondly, in educating the public in their use and benefits. The second point is perhaps the most important, because whatever sanitarians may do with regard to the improvement of their science the resulting benefits to the health of the community must be tardy unless the public are ready to help in the application of the improved processes. In our own country we have far too few of these exhibitions and sanitary science would be much benefited if the public were better educated in this matter.

DEATHS UNDER ANÆSTHETICS.

AN infant, aged two years, was admitted to the Victoria Hospital, Chelsea, for relief on account of retention of urine. He was suffering from phimosis and posthitis, to great which condition chloroform was administered. The general condition was good. A Skinner's mask and drop bottle for chloroform were employed to induce anæsthesia while circumcision was performed. There was struggling and crying during the first half minute, then the anæsthesia appeared to take a normal course until collapse occurred some four or five minutes after the commencement of the inhalation, respiration and circulation stopping simultaneously. The chloroform was discontinued, artificial respiration was practised, hypodermic injections of brandy were given, the head was lowered over the end of the table, and the legs were raised. Nitrite of amyl inhalations were given and hot cloths placed over the præcordium. The breathing recommenced and the operation was begun, but only the initial incision was made, as in a few seconds the breathing again ceased, but was restored by the performance of artificial respiration and became deep and regular. No blood, however, escaped from the cut vessels and no radial pulse could be felt. There was slight cyanosis. In from thirty to sixty seconds respiration again failed and was again restored by artificial means. Shortly after this it again stopped and no measures succeeded in restoring it, although artificial respiration was kept up for an hour. It is stated that thirty minims of chloroform were used. The necropsy showed all the organs to be healthy and the heart to be empty and contracted. The account of the above case, for which we are indebted to the house physician in charge, seems to show that circulatory failure caused the death. The danger of struggling and crying during the inhalation of chloroform in children is too well known to need further comment; the prolonged and deep inspiration occurring in these conditions leads to the intake of an overdose of chloroform which apparently never in this case became eliminated or had already fatally damaged the tissues before it left the body.

THE QUEEN'S SPEECH AND MEDICAL LEGISLATION.

THE Queen's Speech read on Tuesday last contains several promises of legislation of more than passing interest to the medical profession. One suggestion for the Amendment of the Vaccination Law should meet with approval from persons of all shades of opinion. It will propose to give the parent the option of having the child vaccinated with glycerinated calf-lymph instead of with lymph drawn from other children and this will obviate the occurrence—rare, but at present possible—of the transmission of constitutional taints. Measures dealing with a Teaching University for London and with the Adulteration of Food and Drugs will also be laid before Parliament, "in case" (Her Majesty is made by Her Ministers to say) "the time at your disposal should permit you to proceed with them." Proposals for future legislation which are qualified in this manner do not generally lead to realisation, but it is something that the Government has definitely promised to attend to these subjects. If the present session does not offer opportunities we are encouraged to hope that in the next session the Bills will occupy higher places in the programme. This remark refers especially to the reconstitution of London University. We are not particularly sorry to see the Bill relating to the adulteration of food and drugs relegated to the future, for the measure does not, as we have already pointed out, offer any serious amendment to existing legislation. But the question of the reconstitution of London University is too urgent to admit of any further delay. We recommend the various bodies interested in the passing of the Bill now before the House and under the ægis of Government to urge upon all the metropolitan Members of Parliament, whatever their party or their creed, that it is their duty to secure for London a teaching university—their duty, in short, *to help* the Government to find time for legislation on the matter. A solid front of all the metropolitan Members would secure early attention for the measure.

THE lecture to be delivered at the Imperial Institute next Thursday afternoon by Mr. Herbert Birdwood, C.S.I., on the Plague in Bombay should be of considerable interest to the medical profession as well as to those possessing Anglo-Indian interests. The lecture will be illustrated by a series of special lantern views from photographs brought home by Mr. Birdwood, who during the earlier stages of the plague was a member of Lord Sandhurst's Government and as such was jointly responsible for the measures adopted by the authorities in the Western Presidency. Earl Spencer will take the chair at 4.30 P.M. There will be a discussion. The arrangements are being made by the Indian Section of the Society of Arts.

AT the meeting of the Medical Society of London on Monday last the President, Dr. A. E. Sansom, referred with much regret to the death of Mr. Edward Lund, of Manchester, who had been a Fellow of the society for thirty years and had filled the offices of Orator and Councillor. A vote of condolence with the family in their bereavement was moved from the chair and carried, and the President intimated that he had requested a Fellow to represent the society at the funeral.

DR. R. E. BREDON, who has been appointed by the Chinese Government to be Deputy Inspector-General of Imperial Maritime Customs, is a medical man holding degrees from Dublin University. He has been a Commissioner under Sir Robert Hart, whose relative he is by marriage, for over twenty years and has acted also as Sir Robert Hart's chief secretary. Dr. Bredon was formerly an officer in the Army Medical Department.

THE anniversary dinner of the Medical Society of London will be held at the Whitehall Rooms of the Hôtel Métropole on Wednesday, March 9th, at 7.30 P.M. Those intending to be present should signify the same to the honorary secretaries at the society's rooms, 11, Chandos-street, Cavendish-square, W.

PROFESSOR A. D. WALLER, F.R.S., will give an address on "Dosage of Anæsthetics" on Thursday, Feb. 17th, at 8.30 P.M., before the Society of Anæsthetists at their rooms, 20, Hanover-square.

NOTES ON THE
NIGER-SOUDAN CAMPAIGN OF 1896-97.

BY R. HORACE CASTELLOTE, M.D. LOND., F.R.C.S. ENG.,

LATE EXPEDITIONARY MEDICAL OFFICER TO THE ROYAL NIGER COMPANY.

THE following particulars of the medical work of this short but eminently successful campaign have been compiled with the view of giving a general idea of the way in which it was carried out, of the difficulties that occurred in organising a medical department and in tending sick and wounded men in a country where dependence had to be placed entirely on what was carried with the expedition, and to give a general idea of the diseases prevalent in that little-known part of the world. It is not intended to give a lengthy and detailed account of the expedition with precise notes on all individual cases which came under notice. A good deal has been written about the diseases of the West Coast of Africa and it will only be necessary to indicate those peculiarities which occurred in the Royal Niger Company's force. I have to thank the permanent medical officers of the Company—especially Dr. Cargill, with whom I worked—for many valuable hints on my first arrival and for a knowledge of other things which did not come under my immediate notice.

A very brief account of the nature of the country in which we had to travel may not come amiss. All the operations were carried out within about sixty miles of the banks of the Middle and Upper Niger. The country varies immensely in different parts. The lower river runs through dense impenetrable forests on very low ground and these parts, as well as being very uninteresting, are generally considered by far the most unhealthy portions of the territories. After about the first 100 miles the banks begin to rise and the vegetation to thin out until, as one reaches the highest parts which lie in British territories, the country consists of open, sparsely-vegetated lands with rocky and sandy tracts here and there. In general terms the healthiness of the country increases with the distance from the sea, but the questions of elevation and vegetation bear on this matter also as is shown by the amount of sickness prevalent during the different expeditions.

The whole campaign consisted of three distinct expeditions. The first one was the most southern and traversed about 186 miles. The route lay through hilly country and mountain passes and defiles, in most places clothed with thick scrubby undergrowth and scattered trees. Here there was only a moderate amount of sickness amongst both whites and natives, mostly of a mild character. There was no fighting. The second march of about 60 miles to Bida was more to the north but lay through low-lying, flat, or slightly undulating country, where there was moderately thick rough undergrowth with a few scattered trees, alternating with belts of forest and two or three swamps. This expedition, from a medical point of view, was by far the most important both on account of the severity of the fighting, which gave us a good many wounded men, and also the amount of sickness prevalent amongst all ranks. The third expedition of 120 miles was a good deal more to the north through dry, rocky, and sandy country with very little thick vegetation. Here there was fighting, but we had hardly any wounded and the health of both black and white members of the force was excellent. My notes deal mostly with the second march to Bida, the capital of the Foulah Empire, the subjects of which are a powerful Mahommedan race who mustered roughly about 1500 horsemen and from 20,000 to 25,000 irregular fighting men on foot.

The Niger Company's force consisted roughly of 600 native troops, 800 native carriers and 32 Europeans. The soldiers were recruited mostly from the two powerful fighting races of Haussas and Yorubas and were men in the prime of life, of good physique, and used to the rough kind of campaigning of these regions. The carriers were of mixed races and on the whole were much inferior in physique and development to the troops. Those recruited from the rivers were the best and hardiest, but they were in the minority at Bida, and those coming from the different coast stations, Accra, Elmina, &c., suffered severely from the hardships and fatigue of the campaign. Amongst the natives of the force by far the greatest amount of disease prevailed amongst these coast carriers, so that for the final expedition they were nearly all sent down river and men recruited in the rivers substituted for them.

EQUIPMENT.

On each expedition there were two medical officers. Each one was provided with exactly the same equipment so as to be able to act independently and though it was seldom that the column was split up the considerable length of the latter marching in Indian file divided us sometimes by two or three miles. One marched in rear of the front guard and one in front of the rear guard with the whole transport, baggage, and centre guards between. The medical detachments, each complete in itself, consisted of one medical officer, one armed medical orderly, one native servant, four carriers for the medical equipment, four carriers for the stretchers, and four carriers as reliefs. The Royal Niger Company spared no expense in supplying the expedition with everything that might possibly be wanted both in the way of drugs, dressings, and instruments, and with medical comforts, stimulants, &c. The whole question of medical equipment was in the hands of Mr. W. H. Crosse, the principal medical officer of the company in London, and it was due entirely to his careful consideration of every detail and thorough knowledge of the country in which we had to work that we were able successfully to overcome the many difficulties that rose in dealing with sick and wounded in parts where we had to depend entirely on ourselves and where communication with a base of any sort was usually impossible. It is not necessary to enter into minute details of the equipment, but I wish to indicate how they were packed and arranged with a few remarks on some of the special things we carried.

Of the four carriers in each medical detachment told off for equipment the first carried a metal "Congo" medicine-chest, a most convenient and compact box, the great utility of which was forcibly demonstrated on many urgent occasions when it would have been difficult to find what was wanted in a larger and less well-arranged case. It contained all the common drugs useful in the tropics packed in glass-stoppered bottles and mostly in the form of tabloids; a few, such as chloroform and chlorodyne, were necessarily liquid. The more commonly used drugs were in 6-oz. bottles, the others in 4-oz. ones. In addition to these there were small quantities of dressings, bandages, sutures, needles, hypodermic case, &c., together with a few first-field dressings. These cases stood the wear and tear of the campaign excellently. A few bottles got smashed, but the wonder is, considering the way in which the native carriers handle things, that more did not suffer. These accidents demonstrated another great advantage of, the tabloid form of medication, as the drugs from a smashed bottle are none the worse and do not affect the other bottles. One hint, however, before leaving this subject. On the voyage out a bottle of liniment of iodine burst or was smashed and many of the labels of other bottles were obliterated. The iodine in the other cases was removed and the labels were rewritten before we started, but another time it would be advisable to omit this drug altogether. Another "Congo" chest was carried as an experiment in one or two of the marches. It was made of aluminium and the bottles were made of ebonite, but it was not altogether a success as it did not stand the hard wear well, though, of course, it was considerably lighter. As far as one could estimate, the quality of the drugs in tabloids did not suffer in any way from the climate during the time we were using them (about three months). The second carrier had an iron-bound wooden case arranged with necessary partitions which contained our surgical apparatus, including a very complete and handy operating case, chloroform, splints, a case of eye instruments, sutures, needles, and small quantities of dressing and bandages, the whole weighing about 64 lb. The third load was another case similar to the last which was not often required and could in consequence be left behind in times of emergency and sudden movements. It contained reserves of the commonly used drugs such as chloroform, carbolic acid, quinine, and ipecacuanha, and in addition supplies of such other drugs as were not often in demand and a few ointments, &c. The weight of this was about 56 lb. The fourth load consisted of two waterproof canvas valises containing an abundant supply of antiseptic dressings and lint, amongst which were packed small splints, bandages, bottles of soda-water and a few other necessary comforts. Each medical orderly carried an ordinary brown canvas haversack with a few antiseptic first-field dressings, bandages, stimulants, &c., and was relied on when in action and on shore marches and reconnaissances. Two other cases with further reserves of stores were left at the river base on the steamers from which the other cases could be restocked between the different expeditions. They were very little used.

The quantities of particular drugs to be taken was a matter for very careful consideration, as one did not wish to be hampered by unnecessary bulk and weight, and on the other hand to run short of the more useful drugs would have been awkward. Details of quantities would be of no great use. In some cases it was largely a matter of arithmetic—e.g., we started with nearly 110,000 grains of quinine in tabloid form. This large quantity of course was to provide for its administration to all white men as a prophylactic as well as a curative measure. The bisulphate of quinine was mostly used as, being more soluble, it could be used in rectal injections where the irritability of the stomach would not admit of administration by the mouth. A small quantity of lactate of quinine was also carried for hypodermic injections, but I do not think it was used, as it is impossible to give large quantities this way (and the drug is not much use unless pushed in bad cases), while it has the reputation of producing, even in small quantities, sloughing of the skin at the point of injection. Large quantities of antipyrin and ipecacuanha were carried and of these I shall have occasion to speak again in mentioning the diseases for which they are required. Of antiseptics carbolic acid and perchloride of mercury were taken; the latter, being in tabloid form, was found much the more convenient. The sal-alembroth gauze and wool were mostly used as antiseptic dressings. A supply of anti-tetanic serum was obtained from the British Institute of Preventive Medicine and Dr. Calmette, of the Pasteur Institute, Lille, kindly sent me over twenty flasks of anti-venomous serum as prepared by him. The former we took because arrow wounds in certain parts of the Niger territories are said to be followed by symptoms of tetanus. We had, however, no opportunity of using either of these serums. Before leaving this subject I must say a good word for one of the medical comforts that we took with us—Maggi's consommés. We had 600 on starting, but unfortunately we ran short of them before we had finished. Their great compactness, easy preparation, and agreeable flavour made them extremely useful as a diet for invalids, and their praises were sung by many of the patients whose taste for food in any form had almost disappeared. Their analysis proves them to have considerable dietetic properties. If anything, they are prepared with rather too much salt for hot climates and so tend to increase a thirst which seldom wants encouraging in the hot weather.

The next point I wish to dwell on is that of filters and in the same connexion the question of our water-supply. This question is one of immense importance and one which in the tropics gives rise to a lot of discussion both as regards the diseases propagated by ingestion of bad water and the best methods of purification of the latter. On the Bida expedition there was seldom any scarcity of water and that found on the march was of very fair quality. In the wells of Bida itself we found an abundant supply of clear, sweet, and cool water. The only test we were able to apply, apart from a visual and gustatory one, was with permanganate of potassium, which was quickly decolourised by one or two of the supplies, and over these a military guard was placed to prevent troops and carriers utilising them. The Bida wells were, as far as we could make out, only holes dug in the ground into which water had been poured from above and the process of purification was merely one of sedimentation. On the Ilorin expedition water was scarcer and in quality much inferior, at one or two places being almost black. But it seems rather a significant fact that while at Bida, with its comparatively good water-supply, the diseases usually thought to be water-borne were rampant amongst both whites and blacks, at Ilorin, on the other hand, there was hardly any sickness at all, and what there was was of a mild character. I shall have occasion to speak of this again under the head of "dysentery."

Filters.—Each white man was supplied with a small pocket charcoal filter in a metal case similar to those supplied to the troops in the Ashantee Expedition. They were compact and at times came in very handy, but they required very frequent cleansing to keep them clean, and even then so much inspiratory power was required to get such a small result that there was a strong tendency amongst thirsty men to discard their use. As syphons their action was very slow and if they were choked to any degree they would not work at all. In addition to these small filters some half-dozen Pasteur-Chamberland filters were taken but were soon given up as almost useless. The tin cases in which they worked would not stand the wear-and-tear of the campaign, soon got bent and would not allow of the formation of the vacuum on which their action depended. The porcelain tubes required very frequent cleansing. So that altogether the question of portable filters in the tropics is a difficult one. The principal requirements are these. A filter should be strong enough to stand the knocking about that things get from native servants and carriers; it should be capable of turning out a large quantity of water in a short time; should be easily taken to pieces for the component parts to be cleaned at frequent intervals (the amount of deposition on the porcelain or charcoal is evidence of the quantity of suspended matter in the water at most places); to be useful at short halts on the march it should be easily set going and packed up again; and lastly it must be fairly portable.

On the whole, probably one of the larger forms of Pasteur-Chamberland filters fitted with pump and with the body made of earthenware or galvanised iron, and securely packed in an outer jacket of wood or wickerwork, would turn out enough water for twenty men in a short time and would answer most of the other requirements. The only point not satisfactory would be its portability. It would form a complete load for one carrier and if of earthenware possibly would have to be carried between two.

Whenever possible, undoubtedly the best and most certain way of purifying or rather sterilising water is by boiling. This in itself is sufficient to make the water good and palatable for drinking purposes if it is naturally fairly clear, but if, as usually is the case, there is much suspended organic matter in it this can be largely removed by straining through fine muslin or a clean pockethandkerchief before boiling.

Boiling was the process on the failure of our filters that we most generally relied on for getting a drink. Each white man carried a vulcanite water-bottle of about one and a half pints capacity covered with felt and fitted with padlock which was filled up with boiled water, tea, &c., overnight. But with thirsty men on a long day's march under a tropical sun it can readily be understood that one and a half pints of fluid did not go very far and three or four hours generally saw most of the water-bottles empty. After that one had either to exercise a great deal of self-control or risk drinking unprepared water whenever we came to it. It was not nice and it was not wholesome, but at all events it was wet and I think the latter quality was the one which recommended itself most to many. The vulcanite bottles require careful attention. In a short time, especially if used to carry tea, they acquire a musty, stale odour which communicates a similar taste to the water. Hot water shaken up with a little clean sand soon disposes of this trouble. The felt coverings absorb a good deal of water which on exposure to the sun and wind by evaporation renders the contents of the bottles very fairly cool. It was customary to dip them whenever we came to water.

TRANSPORT.

The transport of sick and wounded was a matter of some difficulty and had to be considered from two points of view—on land and on water. Firstly, on the march. All transport had to be carried by hand. The rough nature of the ground with narrow tracks only and no roads rendered all idea of transport waggons out of the question and even cacolets, had we possessed them, together with a sufficient supply of horses, would have been perfectly useless as they would soon have been smashed to pieces against trees, rocks, &c. Each medical detachment was provided with two canvas stretchers of the ordinary army pattern, for which eight carriers were apportioned, two for each stretcher and two reliefs. In addition each company of the troops carried four Ashantee hammocks which were carried folded up and only needed a long pole from 8 ft. to 9 ft. long to be cut to make them ready for use. The great superiority of the Ashantee hammocks over stretchers was very soon demonstrated. In the first place they are much more comfortable to travel in, especially over rough ground. By hanging native mats over the pole the patients are well protected from the rays of the sun, while the ends being open a good current of air passes through. But their great advantage is to the native carrier. These are trained from boyhood to carry loads only on their heads; they have very poor arm and shoulder development and in consequence a few hundred yards with a stretcher sees them completely done up though they will carry a man in a hammock two or three miles without requiring relief. The stretchers were therefore very soon given up for transport except in cases of emergency and when poles for the hammocks were not obtainable. They came in useful, however, in forming beds for a few of the native patients at night in our improvised hospitals, the wheels keeping the canvas a few inches above the ground.

Transport by river was not as easy as might have been imagined. It might be thought that having got the patients to the water all difficulties were over. But although when we went up there was a fair amount of water in the river by the time we were coming down it had fallen considerably, at some of the "crossings" there being not more than 4 ft. of water. Over these places the small launches could easily pass as a rule, but as there was so little accommodation for more than one or two sick men on board these boats it was necessary to utilise the larger steamers drawing from 4 ft. to 5 ft. of water, and these vessels frequently experienced great difficulty at the shallow crossings, getting stuck on sand-banks for hours and sometimes days at a time. The noise, fuss, and delay on these occasions was very trying with men whose best chance of recovery lay in getting down to the sea as soon as possible. One sick escort left Egborn for the coast—a distance of from 350 to 400 miles—with eleven white men and many sick soldiers and carriers. This journey down stream took sixteen days and even then only three of the worst cases arrived at the coast after changing vessels four times. The rest of the sick men took over a month to get down. The vessel we started in got stuck three days on a sandbank and then I transferred the bad cases to two native canoes in which we traversed 150 miles. The three days spent in these canoes were anything but agreeable, especially for the sick men. To the uninitiated it must sound something like boating on the Thames. But when one remembers that part of the country we traversed was hostile, that the canoes were mere shells cut out of trees about 2½ ft. across and in which there was no room to stretch the legs, that we were exposed to intense heat in the day from which the patients were only partly protected by "Omimi" mats and a damp, chilly atmosphere at night with endless mosquitoes, with great difficulty in cooking food, it will be readily understood that the pleasures of boating vary considerably under different conditions and in different climes. The company of seven or eight malodorous and lazy native canoemen and servants does not tend to improve the situation.

Hospitals.—A few words on this subject is all that will be necessary. Native patients required very little in the way of shelter and all sick Europeans were treated in their tents. In the camps on the march rough shelters were built by the medical orderlies with a framework of poles, the sides and roof being thickly thatched with branches of trees and the ground covered with dry grass and leaves of which there was always an abundance. One side was left open to the north. While we were occupying Bida a large circular building open on all sides which had been used as a corn market was utilised as a hospital for native patients who were ranged round the sides in much the same way as patients are placed in the circular wards of some of our modern hospitals at home. This building answered its purpose very well for the short time we were there, but the difficulties of keeping any building sweet and clean where natives are congregated would soon have necessitated a change had we stayed there longer.

(To be concluded.)

OCCUPATIONAL MORTALITY.[1]

THIRD NOTICE.[2]

WE are reluctantly compelled to leave unnoticed several matters of medical interest concerning the mortality of occupations which are fully discussed in the report before us, and our remaining space will only suffice for a few remarks on the three important essays with which Dr. Tatham concludes this portion of his book. These essays treat of the following subjects: (1) Effects of Alcoholic Excess; (2) Results of Breathing Contaminated Air; and (3) Effects of Chronic Lead Poisoning. It is found that the mortality directly ascribed in the medical certificates to intemperance forms but an imperfect measure of the mischief due to abuse of alcohol. Some medical men when returning the cause of death of inebriates state only the pathological condition of the organs affected; cirrhosis of the liver, for example, is frequently returned as the cause of death in such circumstances, the fact that abuse of alcohol had induced the cirrhosis being omitted from the certificate. Upon this point we may remark parenthetically that whilst desiring to see the most accurate possible certification of death-causes in the interest of medical science, we fear that it will be long before medical men consent to inflict additional pain on bereaved relatives by employing such terms as alcoholism, intemperance, &c., in certificates which are not only read by the survivors but which have to be delivered by them to the local officers for registration. It would apparently tend towards the attainment of a more accurate return of the causes of death if the law were altered so as to require the medical attendant to transmit his certificate direct to the Registrar, who should be bound to treat it as confidential.

The experience of the period 1890–92 agrees with that of earlier periods in showing that publicans as a class succumb to the effects of intemperance much more rapidly than men engaged in any other occupation. Of the two divisions of the publican class innkeepers suffer from alcoholism and diseases of the liver more severely than their servants do; the former die from these diseases more than seven times faster and the latter four times faster than other occupied males. The mortality among publicans varies widely according to the locality in which they trade; they die most rapidly in the industrial districts and least rapidly in London. Next to publicans come butchers with a mortality figure from intemperance which is two and a quarter times as high as that of occupied males generally. Among the remaining occupations in the list given in the report chimney-sweepers and dock labourers suffer most severely from alcoholic excess, whilst coachmen and cabmen suffer least severely, the mortality of the last two from alcoholism and liver diseases exceeding that of other occupied males by about one-half. Diseases of the respiratory system cause heavy mortality among most of the classes of men who are addicted to the excessive use of alcohol, but Dr. Tatham inclines to the opinion that special liability to these diseases results from exposure to wet and cold, and that such exposure is followed by a fatal issue more often among intemperate than among temperate men.

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[1] Letter to the Registrar-General on the Mortality of Males engaged in Certain Occupations in the Three Years 1890–92 and on a new Healthy District Life Table. Supplement to the Fifty-fifth Annual Report of the Registrar-General. By John Tatham, M.A., M.D. Dub. Eyre and Spottiswoode. 1897.

[2] The first and second notices appeared in THE LANCET of Jan. 15th and 22nd, 1898, respectively.

The results of breathing an impure or dust-laden atmosphere are so baneful, especially to the workers in certain important industries, as to justify the devotion of a considerable amount of space to the consideration of this subject. In the endeavour to determine the exact amount of injury accruing to different classes of workers as a consequence of their employment, the statistician experiences great difficulty because of the inaccuracy of the national records of death-causes. For in the first place it must be remembered that the deaths are not in all cases certified by medical men, many of them are attested by coroners without medical evidence, and a certain though happily diminishing number are registered without formal certificate of any kind. In the second place it appears that under circumstances sometimes existing it is difficult to distinguish one kind of lung disease from another, and there is reason to believe that a considerable number of deaths which had resulted from non-tuberculous maladies have been returned in the registers and consequently in the classified tables as due to phthisis. In many remote country districts, in parts of Wales for example, where many of the inhabitants are unprovided with medical attendance, there is a tendency to attribute to what is locally known as consumption or decline all cases of illness that are accompanied by cough, expectoration, or difficulty of breathing. Having regard to the above considerations the expedient has been adopted of placing together the deaths due to phthisis and to other affections of the lungs and using the mortality thus obtained as a test of the healthfulness or otherwise of the several occupations under notice. Agriculturists have been selected as the class of workers with which the several dust-producing occupations shall be contrasted so as to bring into adequate prominence the enormous waste of life which, although largely preventable, is still sustained by those engaged in several important industries. In a table in this report a list is given of twenty-nine occupations which appear to be especially liable to injury from the presence of dust in the air breathed. This table shews the mortality from phthisis and diseases of the lungs together, the mortality from these diseases among agriculturists being taken as 100 and that among other occupations being shown in proportion. Of the twenty-nine occupations in this table there are twenty-two in each of which the combined mortality from phthisis and lung disease is more than double that of agriculturists, and of those twenty-two there are eight (giving employment to more than a hundred thousand men) in which the mortality from those diseases together ranges from three times to four and a half times that of the agricultural class. Potters appear from the experience of 1890–92 to sustain a mortality from the diseases in question which is far in excess of that experienced by any other workers. They succumb to non-tuberculous diseases of the lungs much more rapidly than they do to phthisis, and it is certain that much of the so-called "potter's phthisis" ought properly to be designated cirrhosis of the lung. Speaking generally it is found that respiratory diseases are more fatal than phthisis to occupied males, but there are certain occupations in which the reverse is the rule. Tin-miners, lead-miners, brassworkers, locksmiths, and carpenters sustain a mortality from phthisis which is higher than that from diseases of the lungs by proportions ranging from 2 per cent. among brassworkers to 35 per cent. among tin-miners. Dr. Tatham next proceeds to consider the case of those workers whose occupations are not of a dusty character or in themselves necessarily unhealthy, but who are the victims of unwholesome conditions resulting partly from the accumulation of respiratory and other organic impurities in the air breathed and partly from the cramped posture adopted by workmen engaged in sedentary labour. As in the case of the dust-producing occupations phthisis and lung diseases are here also employed as the test of unhealthiness in each of the tabulated occupations, amounting to fifteen in all. From a table which accompanies this portion of the report it appears that whereas engravers and artists experience a mortality from phthisis and lung disease which scarcely exceeds that of agriculturists there are at the bottom of the list eight occupations in which the mortality from these causes varies from twice to two and a half times that of agriculturists. It is remarkable that the workers in four of these eight occupations die from phthisis and lung diseases together more rapidly than farmers in agricultural districts die from diseases of every kind.

In his third essay Dr. Tatham gives a list of thirteen occupations in which there exists unmistakeable evidence of poisoning by lead. Among the several industries the mortality from plumbism varies enormously, for whereas amongst cutlers and printers the comparative figure does not exceed 3 it amounts to 21 among plumbers, to 73 among file-workers and to no less than 211 among lead-workers. But in addition to the deaths attributed directly to plumbism the report shows that sustained exposure to the poison of lead as a condition of labour is associated with increased liability to disorders of the urinary and nervous systems and further it is found that those occupations which show the greatest excess of mortality from plumbism also show the greatest excess from diseases of the urinary and nervous systems.

In Part I. of the supplement under notice a life-table was published based on the mortality in England and Wales during 1881–90. But from the nature of its construction it will be seen that a life-table of the general population can represent nothing more than the result of blending a series of widely differing conditions of existence. For certain statistical purposes, however, a more delicate standard of comparison is needed. In 1859 Dr. Farr published a life-table based on the mortality in sixty-three healthy districts —namely, those in which the mortality did not exceed 17 per 1000. Continued improvement in the public health has, however, made it possible to adopt a more exclusive standard, and in the present report there is published a new healthy district life-table based on the experience of 263 healthy districts with a population exceeding four and a half millions whose rate of mortality in the last decennium did not exceed 15 per 1000. The new healthy district life-table is printed in detail in the report before us and is followed by four tables in which the principal results of six life-tables are brought together. These six tables consist of the English life-tables of 1854, 1881, and 1891, the healthy district life-tables of 1853 and 1891, and the Manchester life-table of 1891. They are extremely interesting, not only as showing the increase in the expectation of life which has taken place throughout the country, but as indicating with unerring precision the amount of saving of life which has been effected by the sanitary improvements of recent years.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE ninth meeting of the Royal Commissioners was held in the Moses Room of the House of Lords on Monday, Feb. 7th.

The whole of the sitting was occupied by the examination of Mr. Haward, Comptroller to the London County Council.

Mr. HAWARD gave evidence with regard to the expenses of management and the fluctuation in these expenses with a view to showing how these were affected by the amounts paid in dividends by the companies.

Mr. CRIPPS expressed the opinion that evidence of this sort was not worth hearing.

The CHAIRMAN remarked that the evidence appeared to be intended to show that as the profits of the companies diminished the expenses of the management were cut down and that when profits increased the remuneration of those concerned in the management was made on a more liberal scale. He thought that the London County Council would not have the same inducement to keep down the expenses.

With regard to the method of purchase Mr. HAWARD suggested that the purchasing authority should have the option of buying the water companies' undertakings for cash and that they might have the option of arranging to give the shareholders stock and annuities; the option of doing this should, however, rest entirely with the purchasing authority. Some evidence was given with regard to the purchase of the bridges over the Thames by the late Metropolitan Board of Works. In the case of the purchase of these undertakings a sum considerably smaller than that which the owners of the property at first demanded was ultimately paid. The companies affected settled with their debenture-holders and shareholders as to the distribution of the money obtained. It seemed to be generally admitted that the purchase of the property of the bridge-owners was not analogous to that of the metropolitan water companies, because in the case of the bridges they were, speaking generally, not paying concerns Mr. Haward considered that the method of giving the shareholders of the water companies terminable annuities was open to serious objections. These annuities involved a stereotyped rate of interest throughout, whereas in the case of the issue of the stock there would be the option of redemption. Terminable annuities were also open to the objection that the Inland Revenue authorities claimed income-tax on the whole amount of the payment. Mr. Haward agreed to the suggestion of Mr. Robert Lewis that terminable annuities were not "a trustee stock." The advantage that would accrue by the purchase of the water companies by the County Council was that they would be able to obtain money for the purchase at about 2½ per cent. with option of repayment at the end of sixty years. In the case of the issue of debenture capital by the metropolitan water companies the price of the issue was now determined by the Governor of the Bank of England. The Chelsea Company had lately obtained money at the rate of 2¾ per cent.; in other cases 3 per cent. had been fixed as the rate of interest. The witness believed that the price at which the County Council could obtain money would be a little over ½ per cent. under the price at which the water companies would be able to raise it.

The **Chairman** asked in what ways Mr. Haward thought that there would be financial advantage by the management of the water-supply by the County Council.

The witness thought the chief advantages would be: 1. Economy in maintenance. The late Mr. Smith, who negotiated for the option of the purchase of the undertakings on behalf of Lord Beaconsfield's Government, estimated that there would be a considerable amount of saving in the cost of the pumping arrangements and in maintenance and he thought the advantage foreshadowed by Mr. Smith would be obtained by the County Council. 2. The directors' fees would be abolished. At the present time the cost of directors was about £28,000 a year. The place of the directors would be filled by a water committee chosen from the county councillors. Mr. Haward did not think that the present directors of the London water companies should receive compensation. 3. The salaries and superannuation fund would, the witness thought, be reduced by the County Council. This saving he estimated at 10 per cent. A considerable sum would be saved in the salaries of the secretaries of the eight companies. There would also be a considerable saving in the cost of the collection of the water rents. 4. Law and Parliamentary expenses would be reduced probably by one-half. 5. There would also be considerable saving in the amount spent at the present time by the water companies in stationery and printing.

The **Chairman** asked, having regard to the immediate future, if the undertakings of the water companies were bought by the County Council and it was necessary to divide the water between different Authorities whether the saving of expense to which Mr. Haward referred would be possible.

Major-General **Scott** asked whether the water committee of the County Council would superintend the management of the engines and it was suggested that possibly some members of the County Council were not reliable authorities on engineering matters.

Mr. **Haward** said that the present engineers of the water companies would be employed.

Major-General **Scott** said that in that case he did not see why the engineers should be paid less than they had been previously paid and pointed out that the directors of the water companies after some years often obtained a considerable knowledge of the working of the undertakings of which they had charge.

Mr. **Haward** was asked at what date he thought the County Council should take over the water-supply and he suggested April 1st, 1901. In answer to Mr. de Bock Porter Mr. Haward said he could not explain why the cost of management differed so much in the case of the different companies—why, for example, it was low in the case of the Southwark and Vauxhall Company and high in the case of the Chelsea Company. The only company which had a reserve fund was the West Middlesex. Mr. Haward believed that in making up the accounts the water companies wrote nothing off for the depreciation of the machinery as was done in the case of other companies.

Mr. **Littler**, Q.C., then cross-examined Mr. Haward with regard to the purchase of the undertakings and with regard to the price at which the water-stocks would have stood if the scheme of Mr. Smith had been carried out.

Mr. **Haward** said that whereas the present market price of the undertakings of the company was about £30,000,000 he estimated that had Mr. Smith's scheme been carried out they would have stood at something like £44,000,000. With regard to the authorities outside the metropolitan area it was true that their interests were not identical with those of the County Council. Witness did not know the exact number of the staff employed by the water companies.

Mr. **Pember**, Q.C., asked some questions with the view of showing the very large number of undertakings which were already under the supervision of the County Council and pointed out that carrying out the arrangements for the water-supply would increase the amount of work they had to do.

Mr. **Baggallay**, Q.C., on behalf of the New River Company, pointed out that with regard to the issue of their capital they had carried out the provisions of their Act of 1866 and that the company had never made any claim for back dividends.

Mr. **Rickards**, on behalf of the Chelsea Company, complained that some items in the figures put in by Mr. Haward were not correct. Mr. **Haward** showed that these figures were derived from the Parliamentary return and the **Chairman** remarked that if they were not correct that was the fault of the Chelsea Company and it was idle for the company to dispute their own returns made to Parliament. It was intolerable that a company should send one return to Parliament and should come to the committee saying that the return was incorrect.

Sir W. **Goldney**, on behalf of the City of London, wished Mr. Haward to make some addition to the tables which he had put in and pointed out that the earlier figures had been already given at an inquiry held by the Corporation of London.

The next meeting will take place on Monday, Feb. 14th. The Chairman said the place of the meeting would be announced later.

THE BATTLE OF THE CLUBS.[1]

Medical Defence in Suburban Essex.

The inaugural meeting of the Suburban Essex Mutual Medical Protection Society was held on Jan. 25th as announced in The Lancet of Jan. 29th. The following is an account of the proceedings. Dr. F. J. **Smith** was in the chair.

The committee who had called the meeting delivered the following report: In December last a Provisional Committee was formed to extend the operations of the "Plaistow Maternity Charity and District Nurses' Home" to East Ham by the establishment of a branch in that district. For years the medical men of West and East Ham had suffered in silence from the competition of this institution. An informal meeting of the medical profession was held on Jan. 8th; a protest was drawn up signed by fifty-one practitioners of the district, printed and circulated within two days. Other meetings were held, a committee was formed, a second circular was formulated, and the result was that the Provisional Committee of the proposed branch of this charity withdrew their scheme as regards midwifery and announced their intention to confine themselves to general nursing. We had then to consider our position and determined to promote reforms in the parent institution in West Ham. Our next step, therefore, was to draw up a memorial to our Direct

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[1] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from The Lancet Office, price 1s.

Representatives upon the General Medical Council. We have also arranged this meeting that we might be confirmed and encouraged in our action by the approval of medical men from all parts of suburban Essex.

The following is the text of the memorial:—

A MEMORIAL TO DR. J. G. GLOVER, M.D., GEORGE BROWN, ESQ., M.R.C.S., AND VICTOR HORSLEY, ESQ., F.R.S., F.R.C.S., DIRECT REPRESENTATIVES FOR ENGLAND ON THE GENERAL MEDICAL COUNCIL.

SIRS,—At the inaugural meeting of the Suburban Essex Mutual Medical Protection Society, held on the 25th January, 1898, it was resolved that we should approach you, as our Direct Representatives upon the General Medical Council, respecting certain matters which have recently occupied the attention of the profession in this district.

We feel sure that you will give your best attention to the subject and help us in our fight against the growing tendency to exploit the medical profession in the interests of laymen who in the name of charity carry on medical institutions at our expense.

In order to fully set forth the position of affairs it will be necessary to refer to somewhat ancient history, to produce a few documents and statistics, and to extend this communication to some length; but we do not think you will grudge a little time and consideration to a subject which, whilst of primary importance to us who practise in this particular district, involves questions of the widest extent and of the highest interest to the profession at large.

Some ten years ago there was started in this neighbourhood an institution known as "The Plaistow Maternity Charity and District Nurses' Home." From a small beginning—two or three nurses at first—this so-called "charity" has grown, by dint of successful advertising, to be a very large concern; and with the increase of its funds and of its staff it has extended its operations widely throughout the district and amongst the more prosperous working-classes, to the encouragement of thriftlessness and to the serious detriment of the local practitioners.

From all parts of the country raw young women seek this institution, in which for a fee of from fifteen to forty guineas they undergo what is termed "training," and having done a few months' work by visiting from house to house in twos and threes they are let loose upon the community as "trained nurses." Trained nurses, forsooth, who have perhaps never seen the inside of a hospital and who certainly have not learned those elementary lessons concerning the proper relative positions of doctor and nurse which can only be acquired in the wards!

These nurses attend midwifery cases for a fee of 5*s.* and are "covered" by certain medical women and one local medical man.

In order to find work for their large staff, which numbered sixty last summer, and has since then, we believe, been further increased, cases are attended with entire disregard to the means of the patients. The wives of skilled mechanics earning good wages, clerks, and small shopkeepers are attended without inquiry or scruple; and every medical man in the neighbourhood can give instances of patients so attended who have on previous occasions cheerfully paid him fees of from one to two guineas.

The midwifery practice of the whole district—the backbone of general practice—is thus being ruined by this so-called "charity." which floods the religious and secular press with appeals on behalf of the "poor of Plaistow."

In support of these statements it is a significant fact that a protest against a proposed extension of the institution recently drawn up in great haste was signed by no less than fifty-one local practitioners. A copy of this protest is enclosed.

From the *Annual Charities Register and Digest for 1897* we glean the following statistics, although these are stated therein to apply to the year 1895, since when the operations of the institution have been much extended.

"*Total income*—£2637, of which £112 was in payments from patients.

"*Visits paid*—86,000, including those to 1365 *maternity cases.*

"*Fees for training* range from £15 15*s.* for three months' midwifery to £40 for one year's midwifery and district nursing (lady pupils)."

After an attempt had been made by the supporters of the institution to evade our protest mentioned above upon a mere verbal quibble we formed a committee and drew up a second circular at greater length. This also we append for your perusal.

In accordance with clause 4 of our second circular we hereby request your opinion, as our representatives on the General Medical Council, upon the position of these nurses and of the qualified persons "covering" them. Is this, or is it not, we would ask you, the employment of unqualified assistance as recently denounced by the Council? If not, is a private practitioner justified in employing an unqualified woman to assist him in his practice, but guilty of "infamous conduct" when the individual performing the same duties is a man?

In addition to receiving your personal opinion, which we shall value most highly, upon this point we would ask you, if the proposal be in proper form and practicable, to bring forward this important question at the next meeting of the Council in order that we may have guidance from that source to which we are entitled to look for light.

We should also be grateful for any suggestion of yours as to our future line of conduct, in our natural endeavours to check the destruction of our midwifery practice by this unfair competition.

We append various papers bearing on the subject, and thanking you in anticipation, have the honour to remain.

Yours faithfully,
A. W. BEAUMONT, Chairman } of Committee.
CHARLES ALLEN, Hon. Secretary }
(2, Litchfield-terrace, Red Post-lane, East Ham.)

Dr. SMITH (the chairman) said: I see the next item on the programme is a speech by the chairman. I will let you know exactly what I feel on this matter and then we can discuss what steps to take. I read here, in a quotation from the circular sent out by the promoters of this charity, "All critical and difficult cases are placed in the hands of fully qualified nurses." All I can say is that in my opinion a more gross insult to the medical profession never was put into the public prints before. Certainly as far as my feelings and to a reasonable extent my finances are concerned I can unhesitatingly put them at your disposal. We are all practically of one mind here to-night. We have all been grossly insulted. I myself as a member of the medical profession take it as an insult to myself. But of course to you working in this district it is something more than an insult. There is what I should call a deliberate attempt to rob you. I have not one word to say against memorialising the General Medical Council except that it does not act quickly enough. We should have another string to our bow. The alternative that has just occurred to me is, Can we get public opinion on our side? You see the thing flourishes apparently on the guineas of the so-called charitable people who really do not appreciate the condition of things in this district. They are told: "Just look at all these wretched people. Won't you give us a few guineas?" and the nurses are sent down here as a consequence. Now the point is this: Can we get their committee discredited in the eyes of the public? In this way we may check the supplies. This seems to me to be a method which would act more promptly than the absolutely constitutional one of sending the memorial to the Direct Representatives. I have been reading the discussion between Mr. Victor Horsley and Mr. Brudenell Carter and I cannot help thinking that the latter has law upon his side—namely, that the Medical Acts have not been drawn up with a view to protecting medical men. We can understand that the Members of Parliament who drew up these laws wished to preserve to themselves the liberty of consulting quacks and bone-setters, but to protect the ignorant from thinking the bone-setters qualified medical men, and it is from this point of view that the laws have been drawn up. I will now ask Dr. Campbell to propose the resolution conferring plenary absolution on this committee and according them encouragement.

Dr. HARRY CAMPBELL proposed: "That this meeting of medical men cordially endorses and approves of the action of the committee and hopes that they will continue their crusade against the abuse of medical charity which is so lamentably on the increase." The first fault he found with those who have endeavoured to establish a branch of the Plaistow Maternity Charity and District Nurses' Home here in East Ham was that the medical men had been entirely ignored. He must believe that it was an oversight and there was every reason to believe that those who were responsible for this movement were acting on philanthropic grounds, but if the medical men were represented on their committee they could enlighten the public in regard to it. He understood that the women who attended midwifery cases for five shillings had a training which might only extend over three months and he was struck by the passage in their own prospectus—"all critical and difficult cases are placed in the hands of fully qualified nurses"—which by implication admitted that the majority of cases were placed in the hands of women who were not fully qualified. Of the facts there could be no doubt and it was plain that there was injustice which could not be supported by any sensible person. What they had was rival practitioners subsidised by the charity of the public. He thought it would be an extraordinary thing if this absurdity could not be remedied. He understood that the medical men of the neighbourhood would be very pleased to have an efficient staff of nurses on whom they could rely, but the medical men must be the first people consulted and they must be fully represented upon any committee which endeavoured to carry out this work.

Dr. BUTLER-HOGAN, in seconding the resolution, wished principally to recommend that light should be let in upon the public mind on this subject. The public would want to know how it affected them. Was such a charity for their good or not? What did it mean to them? It meant that an inferior order of practitioners was established in rivalry with qualified men. This he held was not only detrimental to medical men but also detrimental to the public. If medical men felt diffident after many years of study and experience in hospital and general practice was it not preposterous and presumptuous for laymen to appoint and, as it were, register practitioners of the female sex because they had attended some home in some East-end slum for a few months? He thought that the more light that was thrown on this subject by the public press the better, not only for the medical men of this district and for the medical men of the whole country, but also for the British public itself. He suggested that the omission of medical men from the committee was not an oversight but due to the fact that the clergymen who formed two-thirds of it felt that they were acting in opposition to the medical men. He suggested that these cobblers should stick to their last and should allow the medical men to stick to theirs. He contended that the medical fees in the district were already too reasonable and that medical men were not backward in giving their services for nothing if necessary. Notwithstanding these facts the hard-earned fees were taken out of the pockets of medical men to be given in charity. This kind of charity was degrading to the donors and demoralising to the general public.

The resolution of approbation of the work of the Provisional Committee having been carried unanimously a somewhat lengthy discussion as to the constitution of the society ensued, as a result of which it was proposed by Mr. HOUGHTON and seconded by Mr. BONNEFIN: "That the Suburban Essex Mutual Medical Protection Society be hereby formed and that the provisional chairman and committee be confirmed and given power to add to their number and to act in all necessary matters assured of the support of all the members." This was carried *nem. con.*; and it was then arranged to call a meeting at Stratford on Feb. 8th and to invite thereto all the medical practitioners belonging to the districts covered by the title "Suburban Essex."

A vote of thanks to the chairman for presiding having been carried by acclamation the meeting was adjourned.

ROWTON HOUSES.

THE scheme of building "homes" for poor working men on a self-supporting basis which owed its inception to Lord Rowton and Sir Richard Farrant has long since developed into a limited company for the building of "Poor Man's Hotels," nevertheless we believe that it is one of the most successful attempts to deal with the problem of housing a certain class of London workers.

A new "house," the third of a series, has now been built close to Newington-butts and overlooks the public recreation ground which was formerly the churchyard of St. Mary, Newington. As we have fully dealt with Rowton Houses on two previous occasions there is no need to describe the present building in detail, as it is practically constructed on the same lines as the others. The new building covers an area of 27,850 ft., is eight stories high, and contains 804 cubicles.

A reference to the illustrations in our previous articles will give an excellent idea of the internal arrangements of the buildings, but a personal visit is necessary to realise the good effect which these homes must have upon the tenants who occupy them. In view of the truism that cleanliness is next to godliness, residence in Rowton Houses must seem to be a perfect paradise to those who hitherto have been compelled to resort to cheap but nasty lodging-houses. For sixpence a night the lodger gets a really comfortable bed, a warm dining-room and smoking-room, and, in fact, every convenience. Comparing these luxurious homes (which pay a good dividend) with the disused stables and wretched shanties which have been—and, we believe, are still—converted into night shelters the question forces itself upon us, What profits do these shelters bring in to the body responsible for them?

THE MEDICAL AND DENTAL ACTS.

THE members and friends of the Metropolitan Branch of the British Dental Association to the number of about ninety dined together at Limmer's Hotel, George-street, Hanover-square, on the 27th ult. Mr. SIDNEY SPOKES, the President, occupied the chair, and was supported by Mr. Victor Horsley, Mr. Tomes, Mr. J. Smith Turner, Mr. J. Howard Mummery, Mr. S. J. Hutchinson, Mr. Morton Smale, Mr. F. Canton, Mr. Paterson, and others.

In proposing the toast of "The British Dental Association and its Metropolitan Branches," the CHAIRMAN said at first sight it might seem as if they were practically drinking their own health, but he thought there was another ground for heartily wishing prosperity to the association, for the association not only tended to make better professional men, but it benefited also the public at large, and therefore they might say what was good for the association was good for the public too. He coupled with the toast the names of Mr. Howard Mummery and Dr. Joseph Walker.

These gentlemen having responded,

Mr. CHARLES TOMES proposed "The Visitors." In doing so he said it was in accordance with the fitness of things that remarks in proposing the toast of the visitors should be addressed to that visitor whose name was coupled with the toast, and he was sure that he would have his audience with him in doing so on the present occasion. Everyone present would be aware that an agitation was on foot—an agitation finding voice in the columns of THE LANCET and the *Times*—to give the dental profession a Direct Representative on the General Medical Council. He referred to the work which Mr. Victor Horsley had done on behalf of the registered dentists.

Mr. VICTOR HORSLEY after thanking them for the honour which had been accorded to him referred to a deputation including Mr. TOMES and himself which visited the Board of Trade and interviewed a Minister of the Crown with the object of preventing by amendment of the Companies Act the evasion of the Medical and Dental Acts. The Minister said to them, "What sort of clause do you wish us to put into the Bill?" and when the deputation said they had drafted a clause which they thought was in harmony with the penal section of the Medical Act, and as their legal advisers informed them that their Acts protected only their titles they had so arranged the clause, he replied, "You cannot expect me to go into the House of Commons and to propose to offer you a mere shadow of protection like that. The only thing you can ask me to seriously propose is something that will deal with practice." Here then was a man with no legal bias who looked at the matter from a plain common-sense point of view. His idea of the thing was that they needed an amendment of the Acts which would in this matter of the Companies Acts protect them in the practice of their profession. He (Mr. Horsley) said that that was one of the most important statements ever made by a Minister of the Crown. Speaking of registration, he said the Dental Act had recently suffered the worst attack that had ever been made upon it. It suffered that attack because their branch of the profession had no Direct Representative on the General Medical Council, for if they had had a representative member on the Council he must have been put on the executive committee of that Council. The danger arose from what he believed to be, strictly speaking, an illegal standing order which provided that the Dentists Act should be administered by the executive committee of the Council. Section 9 of the Medical Act, 1858, did provide that the General Medical Council might devolve certain of its powers to the executive committee, but it certainly never meant that a whole Act of Parliament—dated 1879—was to be handed over to a half-dozen men who might or might not be present at a meeting of the committee. At the next meeting he was going to move a resolution that this standing order should be rescinded, and he should further ask that the Dentists Act should be administered by the Council as a whole. He told the dentists that they had more friends on the General Medical Council than they thought, but if they wanted to obtain their rights they must really set to work and ask for them. He thought they ought to ask for the next Crown vacancy without any beating about the bush. This was a public affair. He hoped very much that ere long they would have a Direct Representative on the General Medical Council.

THE MAIDSTONE EPIDEMIC.

THE inquiry into the Maidstone epidemic was resumed on Thursday last, when Mr. Bunting continued his evidence. Mr. S. L. Monckton was also examined.

Dr. James Tew gave evidence corroborating Mr. Adams's conclusion that the Farleigh water was contaminated with alvine matter. Mr. Sidney Stallard, surveyor and inspector of nuisances; Mr. Fletcher, chairman of the rural sanitary authority; Mr. J. Oliver, M.R.C.P. Edin., &c., the ex-mayor of Maidstone, and others were examined, after which the inquiry was adjourned to enable the Local Government Board inspectors to visit the water-springs.

On Tuesday, Feb. 8th, the Local Government Board inspectors again met and Mr. W. Jackling, the sanitary inspector for the borough, tendered evidence as to the accuracy of his yearly reports on the sanitary condition of the town since 1891. He did not consider that the state of the drainage was in any way contributory to the cause or spread of the recent epidemic but he constantly had complaints made to him about the offensiveness of the sewer ventilators.

Mr. S. L. Monckton was recalled and stated that the Maidstone Corporation had been refused permission to borrow money by the Local Government Board for drainage purposes unless they adopted the system of land filtration in the disposal of the sewage. In consequence of the Board's decision the corporation had only repaired what brick, barrel drains absolutely required repair.

Mr. W. J. Ware, manager to the Maidstone Waterworks Company, said the whole of the Farleigh mains were sterilised by the company. The Farleigh water could be pumped into the Cossington and Boarley areas in order to get high pressure in case of fire.

On the resumption of the inquiry on Wednesday a series of analyses made in September last were handed in on behalf of the water company. Mr. Ware, manager of the company, in examination said the filter beds were used only four or five times a year when the water showed turbidity from very heavy rains. They were now being reconstructed upon a new system under the direction of Dr. Woodhead. Replying to a question by Mr. J. S. Davy, witness said the collecting pipes at Tutsham were open-jointed earthenware pipes, placed about 3 ft. below the surface of the ground. The conduit through which the water passed when the filters were in use was not watertight but it was seldom used. The Farleigh supply was about 3,000,000 gallons a week, the other two supplies about 5,000,000 gallons.

Dr. Corfield gave evidence as to the means by which typhoid fever could be communicated and said that in his opinion the state of the drainage in Maidstone, as described, would be sufficient to cause the epidemic. He was confirmed in that view by the fact that nearly one-fifth of the cases had occurred after the water had been cut off. The evidence being finished Mr. Dickens, Q.C., replied on behalf of the water company and the inquiry was adjourned till Thursday.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Report on the Topographical, Geological, and Sanitary Conditions of Havant in relation to the Portsmouth Water-supply.—This report, which covers some thirty pages of printed matter, has been prepared by Dr. Theodore Thomson on behalf of the Local Government Board, with the assistance of Mr. William Whitaker, F.R.S., of the Geological Survey Office. It takes cognisance of a large number of important conditions within the Havant urban and rural districts in so far as these bear upon the public water-supply of Portsmouth, and the inquiry would appear to have been brought about partly by reason of the fact that the death-rate from enteric fever in Portsmouth has been exceptionally heavy, and partly because the War Office became alarmed on behalf of the garrison of that town and neighbourhood. On the first point we may note that whereas the death-rate in Portsmouth was 0·30 per 1000 persons from enteric and continued fever during the period 1886–95 it was only 0·21 during the nearest approach to a comparable period—namely, 1885–94—in the thirty-three large towns and cities of England. The diarrhœa death-rate of Portsmouth also exhibited excess. The surroundings of the sources of the Portsmouth water are dealt with in the report at great length and they are considered in relation to geological and other circumstances, the whole subject being well illustrated by maps and charts. Dr. Thomson, after considering these points, arrives at a definite conclusion that polluting matters of a dangerous sort abound in the neighbourhood of both the Havant and Bedhampton sections of the Portsmouth Company's waterworks, whilst the surroundings of the Farlington section of these works, although less objectionable, are yet far from satisfactory in this respect. Then arises the question as to how far these polluting agencies may be prevented from having access to the water sources and reservoirs of the company owing to the existence of barriers, both artificial and natural, which are interposed between the polluting agencies and the water. This part of the report is dealt with in a manner indicative of much care, and the judgment to be formed hangs largely upon the relative position of beds of gravel and of clay to each other and to the water sources. Mr. Whitaker's views on this point necessarily take precedence; but after all there is some doubt in his mind as to the precise situation of one border of a mass of underlying clay immediately to the north of the Havant works. If the boundary line is at one point then it follows as a consequence that the fouling of a gravel bed by sewage excrement and other refuse matters involves a risk of water pollution so grave that it should preclude the further use of the sources of water in question for human consumption. If, on the other hand, the border of the clay be at another point then the sources probably escape pollution. But other considerations had also to be taken into account, such as the movement of certain underground waters, the influence of varying pressure of water from below upwards, the results of pumping in increasing the base of the cone of exhaustion of a well and hence of the area from which water is drawn. These points are here discussed in detail. The bearing on the point at issue of such questions as the turbidity of the water at times, the varying chemical characters of the water, and the degree of prevalence of certain water-borne diseases on the populations using the water are also considered, and as the outcome of the study of a very laborious piece of work we may draw the following inferences. The quality of the water delivered by this company differs materially in its different sections; the proximity of houses to springs and collecting basins on the unprotected chalk tends to raise suspicion as to one of its sources; the pollution by sewage matters of a sheet of gravel and chalk near the waterworks enclosure emphasises the possibility of danger; the skirting of the waterworks enclosure by two streams fouled by sewage and like sources of pollution cannot be dismissed as harmless merely by reason of a puddle trench around the works; and the indirect confirmation of risk of real mischief which is afforded by other conditions, such as the occasional turbidity of the water and the excess of enteric fever amongst its consumers, is distinctly disquieting. Indeed, it is clear that it behoves the company either to put beyond question the possibility of their being at times obliged to deliver a water which is contaminated by means such as those referred to or to discontinue the use of the suspected and suspicious sources. We have not attempted to discuss all the many aspects—chemical, etiological, geological, &c.—from which the question has been viewed by the investigators, but we would observe that at a time when the subject of the wholesomeness of water-sources is prominently under consideration by sanitary authorities such a report may well form a guide to other investigators as to the lines of inquiry which need to be followed out in such cases. From this point of view we regret that it is not placed on sale, as is the custom with so many of the reports issued from the Medical Department.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Maldon and Chelmsford Rural Districts.—Dr. Thresh has devoted much attention to the water-supply of these two districts during 1897 and it is refreshing to read of the progress which is being made in this direction. Water-supply thereabouts, where the London clay prevails, is by no means a simple matter, owing partly to the thickness of the clay in question—some 300 ft. to 400 ft.—and partly to the fact that the water obtained from some of the deep wells in that part of Essex is at times so heavily impregnated with sulphate of magnesia as to be unfit for domestic use. Dr. Thresh, who has studied this latter aspect of the question, thinks that the magnesia is derived from the strata of gypsum and Epsom salts which are found in the London clay to the south of the Blackwater. On this view Dr. Thresh suggests that it would be possible by lining the boring to exclude the water from the magnesia-yielding strata, and he refers to certain instances which seem to support this thesis. Fortunately, in the Chelmsford district there are springs at Danbury which are, it appears, able to furnish over 100,000 gallons daily, and hence a large area in a thinly populated district can be supplied from this source. In the case of one of these springs there would seem to be opportunity for chance specific pollution and hence, acting on Dr. Thresh's advice, the district council is erecting an unclimbable fence around the spring, leaving a clear area of fifteen feet all round. In the Maldon district the presence of the Blackwater, which practically divides the sanitary area into two parts, necessitates the appointment of two inspectors of nuisances, and Dr. Thresh has drawn up some capital forms for the use of these officers by means of which systematic and periodical inspection of water-supplies and sewage-works is guaranteed.

Aston Manor Urban District.—Mr. Henry May, the medical officer of health for this district, was appointed as far back as 1873, and now after twenty-five years' service he passes to a well-earned retirement. Mr. May has seen great changes and fluctuations in the condition of Aston, and in this, his last, report he contrasts the present condition of affairs with those obtaining when he took office. The general death-rate has undergone a considerable diminution, but it is to be deplored that the infantile mortality has increased in a marked degree; the zymotic death-rate has, too, not fallen as much as could have been wished. When Mr. May entered on his duties there were no means of isolation and disinfection, but the sanitary authority is now about to erect what must be regarded as the most modern development of preventive medicine—i.e., a separate small-pox hospital, and Mr. May is to be congratulated on bestowing this as a parting gift to his district. Infantile diarrhœa is one of the greatest blots on the sanitary records of Aston, the mean annual death-rate from this cause having markedly increased during recent years. Why this disease should thus prevail is not altogether clear, but Mr. May is probably not far wrong in urging the abolition of the privy middens with their accompanying soil-pollution.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6483 births and 4133 deaths were registered during the week ending Feb. 5th. The annual rate of mortality in these towns, which had been 20·6 and 18 7 per 1000 in each of the two preceding weeks, rose again last week to 19·2. In London the rate was 21·5 per 1000, while it averaged 17·6 in the thirty-two provincial towns. The lowest rates in these towns were 11·1 in Bolton, 13·4 in Derby, 13 6 in West Ham, and 14·1 in Bradford; the highest rates were 20·4 in Oldham, 21·4 in Birmingham, 21 5 in London and in Portsmouth, and 23·7 in Plymouth. The 4133 deaths included 453 which were referred to the principal zymotic diseases, against 521 and 488 in the two preceding weeks; of these, 141 resulted from measles, 130 from whooping-cough, 79 from diphtheria, 41 from scarlet fever, 37 from diarrhœa, and 25 from "fever" (principally enteric). The lowest death-rates from these diseases were recorded in Croydon, Bolton, Burnley, and Huddersfield; and the highest rates in Birkenhead, Oldham, Leeds, and Cardiff. The greatest mortality from measles occurred in Swansea, Halifax, Sunderland, Bristol, Leicester, and Brighton; and from whooping-cough in Portsmouth, Sheffield, Oldham, Leeds, and Gateshead. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 79 deaths from diphtheria included 42 in London, 7 in Cardiff, 6 in West Ham, 6 in Leeds, and 5 in Liverpool. No fatal case of small-pox was registered during last week either in London or in any of the large provincial towns, and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals on Saturday, Feb. 5th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2964, against 3253, 3149, and 3061 on the three preceding Saturdays; 209 new cases were admitted during the week, against 215, 248, and 244 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 567 and 471 in the two preceding weeks, were again 471 last week, and were 18 below the corrected average. The causes of 38, or 0·9 per cent., of the deaths in the thirty-three towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Bradford, Leeds, Newcastle-upon-Tyne, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Leicester, Liverpool, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the four preceding weeks from 24 3 to 17·4 per 1000, rose again to 18·0 during the week ending Feb. 5th, but was 1·2 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·0 in Leith and 15·3 in Greenock to 18 6 in Paisley and 18·7 in Glasgow. The 543 deaths in these towns included 21 which were referred to whooping-cough, 20 to diarrhœa, 8 to measles, 8 to diphtheria, 6 to scarlet fever, and 3 to "fever." In all, 66 deaths resulted from these principal zymotic diseases, against 64 and 67 in the two preceding weeks. These 66 deaths were equal to an annual rate of 2·2 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had increased from 11 to 27 in the three preceding weeks, declined to 21 last week, of which 15 occurred in Glasgow, 3 in Paisley, and 2 in Edinburgh. The deaths referred to diphtheria, which had been 5 and 3 in the two preceding weeks, rose again to 8 last week, and included 5 in Glasgow and 2 in Edinburgh. The 8 fatal cases of measles exceeded by 2 the number recorded in the preceding week, and included 7 in Glasgow. The deaths from scarlet fever, which had been 9 and 7 in the two preceding weeks, further fell to 6 last week, of which 4 occurred in Glasgow and 2 in Edinburgh. Of the 3 fatal cases of "fever" 2 were registered in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 139 and 92 in the two preceding weeks, rose again to 117 last week, but were little more than half the number in the corresponding period of last year. The causes of 33, or more than 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 33·0 and 28 9 per 1000 in the two preceding weeks, rose again to 32·8 during the week ending Feb. 5th. During the past five weeks of the current quarter the death-rate in the city has averaged 31·5 per 1000, the mean rate during the same period being 22·2 in London and 18·9 in Edinburgh. The 220 deaths registered in Dublin during the week under notice showed an increase of 26 from the number in the preceding week, and included 14 which were referred to the principal zymotic diseases, against 21 and 17 in the two preceding weeks; of these, 7 resulted from "fever," 3 from whooping-cough, 2 from scarlet fever, 2 from diarrhœa, and not one either from small-pox, measles, or diphtheria. These 14 deaths were equal to an annual rate of 2·1 per 1000, the zymotic death-rate during the same period being 2·6 in London and 1·6 in Edinburgh. The deaths referred to different forms of "fever," which had been 8 in each of the two preceding weeks, declined to 7 last week. The fatal cases of whooping-cough, which been 2 and 4 in the two preceding weeks, fell to 3 last week. The 2 deaths from scarlet fever were within one of the number of the preceding week. The 220 deaths in Dublin last week included 40 of infants under one year of age and 51 of persons aged upwards of sixty years; the deaths of infants exceeded those recorded in any recent week, while those of elderly persons showed a further decline. Eight inquest cases and 8 deaths from violence were registered; and 68, or nearly a third, of the deaths occurred in public institutions. The causes of 12, or more than 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

FLEET-SURGEON ROBERT FREDERICK YEO and Fleet-Surgeon Myles O'Connell Macswiny have been placed on the retired list at their own request.

The following appointments are notified: Staff-Surgeons: Alfred M. Page to the *Magdala* and Robert H. Nicholson to the *Brisk*.

Army Medical Staff.

The under-mentioned Surgeon-Lieutenants to be Surgeon-Captains: William S. Harrison, Harry A. L. Howell, Douglas Lawson, Edwin B. Steel, Charles W. Profeit, Frederick Kiddle, Henry E. Staddon, James A. Murison, Samuel J. C. P. Perry, and Arthur F. Heaton.

India and the Indian Medical Services.

The following promotions are made, subject to Her Majesty's approval: *Bengal Medical Establishment:* Surgeon-Lieutenants to be Surgeon-Captains: Charles John Milne, Algernon Francis Stevens, Clement Henry Bensley, Francis Hammond Watling, Arthur Gwyther, Edgar John Morgan, William Carr, and John Archibald Hamilton. *Madras Medical Establishment:* Surgeon-Lieutenants to be Surgeon-Captains: Frank Wall and Charles Montague Matthew. *Bombay Medical Establishment:* Surgeon-Lieutenants to be Surgeon-Captains: Samuel Evans and James Haldane McDonald.

Surgeon-Major G. E. Fooks and Surgeon-Captain J. G. McNaught have passed the Lower Standard Examination in Pushtu.

Militia Medical Staff Corps.

Surgeon-Lieutenant S. Oliver is seconded for service under the Foreign Office.

Volunteer Corps.

Artillery: 1st Sussex (Eastern Division, Royal Artillery): Surgeon-Lieutenant-Colonel W. S. Burrows resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement. 1st Worcestershire and Warwickshire: Surgeon-Lieutenant J. H. Blakeney to be Surgeon-Captain. *Rifle:* 1st Volunteer Battalion the Lincolnshire Regiment: Surgeon-Captain A. E. Odling resigns his commission. 3rd Volunteer Battalion the Prince of Wales's Own (West Yorkshire Regiment): Lieutenant B. G. A. Moynihan, M.B., resigns his commission. 4th Volunteer Battalion the Cameronians (Scottish Rifles): Surgeon-Major J. Macfie, M.D., to be Surgeon-Lieutenant-Colonel. 1st London: Surgeon-Major H. F. Stokes resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement.

The Medical Department of the United States Navy.

In the last report addressed by the Surgeon-General of the United States Navy, Chief of the Bureau of Medicine and Surgery, to the Secretary of State two distinct periods of twelve months each are dealt with, operations of a fiscal nature being referable to the year ending June 30th, 1897, while vital statistics and all other subjects bearing on the health of the *personnel*, naval and marine, are set forth for the ordinary calendar year ending Dec. 31st, 1896. The combined result is embodied in a volume of convenient dimensions containing 330 pages of well-arranged and interesting matter, with an adequate index. In a short opening section the acting Chief of the Bureau, Dr. J. C. Boyd, gives a *résumé* of the administrative work of the whole department, referring especially to the naval hospitals on shore, of which no fewer than twelve are mentioned, including one at Yokohama and another in Alaska. Having briefly described the ameliorations recently effected in these establishments with the satisfactory result of placing them on an equal footing with the leading American civil hospitals "in all that pertains to modern medical and surgical requirements," the Surgeon-General goes on to urge "the necessity of making suitable provision for the equipment of a naval hospital corps." The importance of special training for men who as attendants are entrusted with the care of the sick afloat is immense, but although according to Dr. Boyd careful attention is being paid to this branch of organisation by the principal foreign Governments he is candid enough to admit that the absolute unfitness of United States naval nurses (baymen) under the present system of appointment "is too obvious for serious discussion." Referring to the same subject in his report on the United States ship *Massachusetts*, Surgeon Siegfried says: "The great want is a body of trained baymen or nurses, and these should be better paid and of better stamp and fibre. ...... The bayman, who should be an intelligent, sober man, and well trained in many things pertaining to nursing, dieting, ambulance, and aid to wounded, and have a moderate amount of education, finds his pay at present among the lowest in the ship's company; even the men caring for store-rooms get more per month." The remainder of the volume is largely taken up with the reports from medical officers in charge of naval hospitals and cruising ships, but towards the end a considerable space is devoted to special reports of a very varied description. Another important feature is the publication of "Selected Medical, Surgical, and Sanitary Notes from Ships, Shore Stations, and Hospitals." Statistics and statistical tables do not occupy much space relatively, but the information seems sufficient and is clearly conveyed. The following items are taken from a table entitled "General View of the Effects of Disease and Injury on the Navy and Marine Corps during the year 1896": Average strength, 14,196; total admissions to sick list, 10,708; admissions per 1000 of strength, 777 75; number constantly sick per 1000 of strength, 29·71; average number of sick days per man, 10·87; average duration of each case in days, 13·98; discharges from the service for disability per 1000 of strength, 17·19; deaths from all causes per 1000 of strength, 5·49.

Health of the Navy.

The report of the health of the Navy for 1896 is a Blue-book of 200 pages about one-half of which consists of statistical tables. Sir James Dick, the director-general of the medical department, states that the returns for that year are the most satisfactory of any that have appeared since they were first published in their present form in the year 1856. The total force in the service afloat, "corrected for time," in the year 1896 was 72,620 officers and men, of whom 64,620, or 89 per cent., were between the ages of fifteen and thirty-five and only 1060, or 1·45 per cent., were above forty-five years of age. The total number of cases of disease and injury entered on the sick list was 66,162, showing a ratio of 911 per 1000 of the mean force, the lowest recorded during the last forty years. The average number of men sick daily was 2838. The total number of persons invalided was 1987 (1847 for disease and 140 for injury), of whom 1299 were finally invalided from the service, being in the ratio of 17·9 per 1000 for the whole force. The lowest sick-rate was on the South-East Coast of America station and the highest on the home station. The total number of deaths was 384; of this number 277 were due to disease and 107 to injury. The death-rate from disease alone was 3 81 per 1000 and from injury 1·47 per 1000; the combined death-rate (5·28 per 1000) is the lowest since 1856. Of deaths from disease the largest number under any single heading is 75, these being entered under diseases of the respiratory system. The sickness and mortality attributed to several other classes of disease are as follow: Small-pox, 11 cases, 2 deaths; other eruptive fevers, 620 cases, 6 deaths; enteric fever, 155 cases, 40 deaths; other continued fevers, 2099 cases, no deaths; yellow fever, no case; cholera, 3 cases, 2 deaths; dysentery, 76 cases, 5 deaths; influenza, 1006 cases, no death; mumps, 410 cases; diphtheria, 12 cases, 2 deaths; whooping-cough, 2 cases, no death; plague, 3 cases, all fatal; malarial fevers (including many cases of "Mediterranean fever"), 1402 cases, 10 deaths; primary syphilis, 3571 cases; secondary syphilis, 1852 cases; gonorrhœa, 5608 cases; rheumatism, 2816 cases, 10 deaths; tuberculous diseases, 111 cases, 24 deaths; diseases of nervous system, 659 cases, 14 deaths; mental diseases, 146 cases, 1 death; diseases of the circulatory system, 313 cases, 29 deaths; diseases of the respiratory system, 7601 cases, 75 deaths; diseases of the digestive system, 8848 cases, 18 deaths. The cases of primary syphilis are in the ratio of 49·2 per 1000 and show an increase of 0 68 per 1000 as compared with 1895; secondary syphilis yields a ratio of 25·5 per 1000 and shows an increase of 1·2 per 1000 as compared with 1895. No one was killed in action and only one person was wounded in action—a petty officer of the *Thrush* whose thigh was amputated after having been struck by a shot during the bombardment of the palace of the Sultan of Zanzibar. There were twelve deaths by suicide. The three persons attacked with plague were a Goanese employed as a ship's cook at Bombay and two Chinamen at Hong Kong; the disease was no doubt contracted while the men were on shore.

The Indian Frontier.

According to the best estimates that can be formed of the relative losses on the part of the Afridis and the British in the late action in the Khyber it appears that the number on our side was five officers and sixty men killed or wounded, as against about thirty on the part of the Afridis. It is believed that active operations are about to be immediately resumed by Sir William Lockhart. The Royal Irish Regiment, which it will be remembered was sent down from the front at the beginning of the Tirah campaign, has been since ordered to rejoin the force. The regiment has been in India since 1884 and has suffered greatly from malarious fever. It should by this time be pretty well known that a corps, whether British or native, with a medical history of malarious fever is not likely to render effective service in the field. It is quite clear from the Prime Minister's remarks towards the close of his recent speech in the debate on the Address in the House of Lords that, while deploring the necessity for the frontier campaign, which he regards as having under the circumstances been forced upon the Indian Government, Lord Salisbury is most desirous that it should be brought to a speedy termination and that a moderate and conciliatory policy as regards the tribes should as far as possible be adopted and followed.

THE ARMY SCHEME.

The public generally, as well as the medical staff and other officers of the army, are awaiting with no little curiosity the declaration of the Government proposals for securing the increased strength and efficiency of the army and for amending the present conditions of military service. Meanwhile, newspaper controversy on the subject continues with unabated vigour for the enlightenment as well as the perplexity of the general reader.

THE HEALTH OF THE ARMY IN INDIA.

Lady Henry Somerset has forwarded another communication to Lord George Hamilton withdrawing the proposals put forward in the former one because she considers that restrictive regulations instead of being used as a possibly effective auxiliary to moral efforts seem likely to be always accepted as a convenient substitute.

Correspondence.

"Audi alteram partem."

"THE USE OF MASSAGE IN THE TREATMENT OF RECENT FRACTURES."

To the Editors of THE LANCET.

SIRS,—May I add a word of testimony to the excellence of the advice given by my friend Mr. Bennett in his paper on the Use of Massage in the Treatment of Recent Fractures? Since 1890, mainly as far as I remember from the suggestion made by Mr. Kendal Franks in a paper in the *Dublin Journal of Medical Science* in June of that year and subsequently from conversation with him, I have seldom had a case of fracture in the neighbourhood of a joint accompanied by swelling in which I have not employed massage within a few days of the injury. And I am confident of its value not only, as I believe, in the promotion and hastening of good bony union, but also as I know in the prevention of that stiffness about the joint which is often the cause of trouble and it may be of lasting impairment of movement in many cases of the kind.

Look, for example, at a case of Pott's fracture. Who has not seen the swelling round and about the ankle and does not know how difficult it may be to get rid of it entirely and restore movement in the joint after the limb has been released from splints? The simple reason is that the lymph and blood effused amongst the tissues as a direct result of the injury inflicted upon and near them comes very rapidly to glue the various structures together and when more or less organised cannot be wholly absorbed. Let the parts, however, be subjected to massage within a short time of the accident; the lymph is thereby dispersed and adhesion of neighbouring tissues together is avoided. Day by day the size and natural contour of the limb are restored and abiding after-stiffness is altogether prevented. Furthermore the treatment is eminently grateful to the patient. His limb feels more comfortable, the sense of distension is lessened, and if perchance the massage has been painful on the first occasion pain is rarely induced by it after two or three days. I have never had reason to regret the use of massage under the conditions named and it is singular to note how early it may be begun. I have frequently ordered it as soon as the third day and to do so within a week is almost an ordinary routine of treatment. To recommend it in every case without discrimination is the purpose neither of Mr. Bennett's paper nor of this letter. Each case must be judged by itself; the state of the tissues must in each instance tell when massage may be begun with safety; it must always be carried out with care; but that we have in massage an invaluable remedy in the treatment of most fractures near joints is in my experience a matter of no doubt whatever. The well-nigh universal practice of fixedly securing broken limbs in splints and giving no heed to the contiguous joints, loses sight of the fact that moveable parts which have been injured very often demand systematic movement to restore them to their former state of usefulness, and massage as an aid to it in the early treatment of fractures near joints is an important remedial measure in the hands of the surgeon.

I am, Sirs, yours faithfully,

Feb. 7th, 1898. HERBERT W. PAGE.

To the Editors of THE LANCET.

SIRS,—On reading Mr. Bennett's paper in THE LANCET of Feb. 5th I am induced to speak of the application of the method to sprains and dislocations. For a good few years I have used almost the identical methods in both. There is no doubt that stiff joints in both those conditions are as great bugbears as after fractures. Since I have used the procedure so ably described by Mr. Bennett it is a very rare circumstance that I have any worry about sprains or dislocations and, what is more, I have no fear of bone-setters interfering with my work.

It is remarkable how quickly pain and swelling disappear in a joint although the injury may have taken place very shortly before. Even where the capsule is badly torn, as sometimes happens in the ankle, I have no fear in movement from the very first. The space fills up as well as when the joint is kept immoveable and there is no after-weakness. Let the ankle-joint be taken as an example so that the procedure may be explained. Perhaps we see the case an hour after the injury. The joint is very painful, swelled, and without motion. Immediately very slight massage is used and after a few minutes the patient is asked to move his toes. Gradually as massage is being employed he is encouraged to move his joint and within a quarter of an hour he can generally extend and flex his joint pretty freely. He is later encouraged to put his foot to the ground and to try to walk.

The above can be carried out by the patient's friends after the surgeon's visit each day. Very few cases are not almost entirely better within a week; most of them are within a few days. The last case I had happened on a Sunday night. There was a tear in the outer side of the capsule with a well-marked depression and the man was at his work on the Tuesday with only slight lameness.

The same treatment is employed in recent dislocation; from the very first the joint is moved. I have only seen half-a-dozen cases of dislocation of the shoulder within the last six years and all have been treated as above without any bad consequences. None have recurred and no weakness has been left in any of them. No bandaging is employed, but a sling may be used for a few hours if the pain is great. There is no troublesome stiffness and the cases give no bother. A restaurant keeper a month ago had a subglenoid dislocation which I reduced with a little difficulty. He walked home about a quarter of a mile without any sling and was told to move his arm gently if it was painful. Next day he moved it quite freely, although I did not let him put it above his head. The only pain he had was in the pectoral muscle and it was very slight. When I saw him next day he moved it in every direction and was at his work frying fish.

I am, Sirs, yours faithfully,

Galashiels, Feb. 5th, 1898. WM. DOIG, M.D. Edin.

"LEGISLATION AS A REMEDY FOR MEDICAL GRIEVANCES."

To the Editors of THE LANCET.

SIRS,—Assuming for the moment for "those who wish to deal earnestly with the problems of medical reform" that Mr. Horsley's interpretation of the present Medical Acts is the correct one and that the man in the street is not entitled to practise, and further that the obvious inference to be drawn from Section 6 of the Medical Act, 1886, is that any person not on the Register should be prosecuted, one is at once driven to look through the Acts for the penal clause or clauses to insist upon the fact, if possible, that such person shall not practise, and what do we find? Section 40 of the Act of 1858 which in effect provides that a man can be prosecuted who fraudulently represents himself to be what he is not. Inferences may be drawn and one may contend that a practice or a procedure is wrong in the abstract even by statute, but unfortunately an Act of Parliament is hardly a problem of Euclid and unless there exists some concrete means of suppressing the evil such philosophic contentions become a mere ploughing of the legal sands.

Mr. Horsley admits that it is most difficult under present conditions to obtain a conviction; indeed, judicial decisions seem to indicate that "a legally qualified practitioner" means a person registered under the Act privileged to recover fees, to claim immunity from serving on juries, &c., to hold public medical appointments, and—the irony of it—to sign death certificates, but not a person alone privileged to practise medicine. Undoubtedly "all that is apparently wanted is a slight re-arrangement of words," making it penal for anyone other than a registered person to practise for pay medicine, surgery, or midwifery. It is gratifying, therefore, to observe that the Council of the British Medical Association have appointed a sub-committee, in which Mr. Horsley is included, to draft a new Medical Bill. If the General Medical Council itself will not move in the matter and seek the aid of a Government Bill to provide it with the powers to carry to its logical conclusion its recent action in suppressing unqualified practice within the ranks to the suppression of a worse kind of practice outside the profession, it will remain for some private member to introduce a Bill; and in such case the rank and file of the profession, independent of its supposed corporate representation, will have to back it in the various constituencies; for it may be pointed out that Members of Parliament having had their attention drawn to a private Bill (even though giving no pledge) would be more likely to attend the House and hear what is to be said for a private Bill on which they have information than for one of which they have no knowledge.

Those who, like Mr. Carter, take up the position of *laissez-nous faire* seem to assume that the ardour of medical reformers is solely due to the idea of financial gains to the practitioner, whereas it is the chief contention of reformers that a State recognition for its own purposes only—i.e., to hold Poor-law appointments—is a very tardy recognition of an honourable and hard-working profession wherein it is no uncommon occurrence for its members to be informed by their own patients that they have been, are, or intend going to some unqualified person or so-called specialist on the eye, ear, or bones—such is the popular ignorance on the subject. Medical reform is no party question; it is a cause common to both political parties—to the one side which claims so many suggestions as reform and to the other as a conservation of all that is good and true, purged from the shameful degradation of unscrupulous quackery, in the art and science of healing.

I am, Sirs, yours, faithfully,

Leeds, Feb, 5th, 1898. J. H. Wigham.

"THE LEGAL POSITION OF THE GENERAL MEDICAL COUNCIL AND THE MEDICAL DEFENCE UNION."

To the Editors of The Lancet.

Sirs,—I gratefully acknowledge the kind things said by Dr. A. G. Bateman about myself, but I must point out that his defence of the practice of the Medical Defence Union is a quibble. That the General Medical Council is a court of law, whatever be its peculiarities, whatever its special and wholly unparalleled powers may be, has been fully decided by judges on appeal. If we grant that it meets Dr. Bateman's definition, a "domestic forum," that only establishes its "forensic" position, as Dr. Bateman may see if he turns up Smith's Dictionary. Such institutions were not unknown in this country before the establishment of this medical law court. A consistory court is a purely "domestic forum," so is the court of a diocesan chancellor, so is a bishop's inquiry, so is the Court of Arches—and for that matter so is the Divorce Court. Before all these bodies persons may conduct their own cases; but wise men employ professional assistance. In the days of my presidency of the Medical Defence Union, when, it seems, many wise and good things were done, a standing counsel was appointed and he has never been removed from his office so far as I have heard. I submit that it is his right to appear before the General Medical Council in such cases as have of late been conducted by the secretary of the Union; and as the Union is acting so stringently in the suppression of irregular medical practice I again appeal for its more considerate and more just behaviour to a sister profession, in which the evils of over-crowding are even more bitterly felt than in our own.

I am, Sirs, yours faithfully,

Birmingham, Feb. 5th, 1898. Lawson Tait.

To the Editors of The Lancet.

Sirs,—By a clerical error a whole sentence and part of another were left out of my letter in The Lancet of Feb. 5th. The last sentence should have read: "It was considered by the Council of the Medical Defence Union some years back—Mr. Lawson Tait being president—that the charges of 'covering' and unprofessional conduct could be presented before the General Medical Council better by a medical man than by a solicitor and the experiment was tried in a notorious case, and having succeeded I was directed by the Council to continue to appear 'on behalf of the Union.'" To those conversant with the procedure of the General Medical Council at penal inquiries the disadvantages of appearing by either counsel or solicitor are at once apparent. Lawyers require certain weapons which they are accustomed to use in the courts and without these they are almost powerless. The policy thus initiated by the Union during Mr. Tait's presidentship has been continued up to the present time and will be continued as long as these "inquiries" are made before a "domestic forum." If in a future Medical Act the General Medical Council should obtain authority to turn itself into a "legal tribunal" and possess all the attendant rights and privileges peculiar to a court of law, then it will be, of course, necessary to instruct either counsel or solicitors to appear in support of the charges incidental to these penal cases.

I am, Sirs, yours faithfully,

A. G. Bateman,

Devonshire-street, Portland-place, W., Feb. 9th, 1898.

"THE PATHOLOGY AND TREATMENT OF GOUT."

To the Editors of The Lancet.

Sirs,—Dr. A. P. Luff, in his exceedingly able and interesting article read before the Harveian Society of London on Jan. 6th and published in The Lancet of Jan. 15th, states that the condition called *gout* is due to a deposit of biurate of soda in the connective tissues of the body. This compound is derived from the union of sodium quadriurate with some of the sodium carbonate of the blood. The sodium quadriurate is a salt circulating abnormally in the blood owing to deficient excretion of uric acid by the kidneys. Dr. Luff writes as follows: "(1) In all cases of kidney disease (not associated with gout) in which the blood has been examined for uric acid that body has been found present, showing that when the excretory function of the kidneys is interfered with absorption of uric acid into the general circulation occurs; (2) uric acid deposits are frequently found in the joints at the post-mortem examination of subjects of kidney disease who have never been known to suffer from ostensible gout during life." This was the case in 20 out of 26 cases of granular contracted kidney disease in which no ostensible gout was observed during life, as stated by Dr. Luff in his Goulstonian Lectures of last year.

Now, if in numerous cases of kidney disease uric acid is found during life in the blood and if further in such cases uric acid deposits are frequently discovered in the joints after death, how is it that no ostensible gout is observed during life? Surely this discrepancy goes to prove that something more than the presence of uric acid in the blood and its settling in the joints is necessary in order to produce gout. What this further condition is it is not for me to theorise, but Dr. Luff's premises certainly to my mind strengthen the theory held by many that uric acid in the blood and connective tissues is merely a by-product of the obscure condition of the system called gout.

I am, Sirs, yours faithfully,

Toronto, Jan. 26th, 1898. R. D. Rudolf, M.D. Edin.

AN INSIDIOUS FORM OF "COVERING."

To the Editors of THE LANCET.

SIRS,—Much has been said and written of late respecting the abolition of the unqualified assistant and also the act of "covering" unqualified practitioners by qualified men. There is to my mind yet another phase of this question which it would be well for the General Medical Council to consider—that is, the covering of unqualified practitioners under the name of midwives by qualified men. A case has recently come under my care by being asked to call at once to a house. On my arrival I found it to be a case of labour and, to use the midwife's expression, "her patient was having a difficult time." This unqualified woman had been in attendance for three hours and had succeeded in pulling off one arm of the child, and it was only after having done this that she discovered it was not a leg and this caused her to send for me. It was with some difficulty that I was able to deliver the patient of a full term male child minus one arm and of course dead from hæmorrhage. Although I have attended this case without any hope of fee or reward I feel conscious of having violated one of the laws of the General Medical Council and rendered myself liable to be struck off the Register, for it is entirely by the aid of other qualified practitioners and myself in the neighbourhood that this unqualified woman is able to continue to carry on the practice of midwifery for gain and I have no hesitation in saying that she gets a good living at it. I am not in favour of the employment of unqualified assistants, but I do think that the time has arrived when unqualified practitioners of midwifery should be abolished as well as those of medicine and surgery.

I am, Sirs, yours faithfully.
Portsmouth, Feb. 7th, 1898. RICHARD EMMETT.

THE EPIDEMIC AT HATTON ASYLUM.

To the Editors of THE LANCET.

SIRS,—In reply to your letter concerning the epidemic at Hatton Asylum I herewith submit to you the following facts:—

All the food used at the ball was cooked on the asylum premises. No tinned food of any description was used. All the meat and poultry came off the asylum farm and was all slaughtered on Jan. 18th and 19th. The rabbits, of which only thirty were used, were shot during the four days prior to the ball and were cooked by the housekeeper, remaining for twelve hours in earthenware pans and seasoned prior to being made into pies on the 20th. The following is a list of various articles of food on the supper tables: Beef, ham, tongue, rabbit-pie, pork-pie, goose, chicken, tipsy cake, jelly, blancmange, mince-pies, beer, lemonade, tea and coffee and bread. Of 61 attendants and servants who have had the disease 5 ate beef, 23 ate ham, 10 ate tongue, 10 ate rabbit-pie, 7 ate pork-pie, 21 ate goose, 23 ate chicken, 17 ate tipsy cake, 30 ate jelly, 18 ate blancmange, 12 ate mince-pies, 37 drank beer, 35 drank lemonade, 26 drank tea and coffee, 39 ate bread.

Presuming that the epidemic was due to ptomaine poisoning it is evident that all the food was in a diseased state, even to the jelly and blancmange, as some of these sixty-one attendants ate no meat whatever and three of them were not at the ball and had no food from it. The outbreak commenced on Jan. 13th and has continued up to yesterday, Feb. 7th. Fourteen cases occurred prior to the 21st, on the 22nd there were 29 cases, on the 23rd 47, on the 24th 21, on the 25th 23, on the 26th 12, on the 27th 13, since which date there have been 26. The medical staff of the asylum have attended 185 cases, of which 85 were lunatics, the remainder being employed in various departments, some residing at their own homes.

The disease has been remarkably sudden in its onset. Vomiting and diarrhœa have been present in nearly all cases (some, however, have had no abdominal symptoms whatever), severe rigors, pains in the back and limbs, high temperature (reaching 103° and 104° F.). Sudden crises, in many cases accompanied by profuse perspiration, have been the general characters of the disease; among other symptoms may be mentioned coryza, pains at back of eyes, severe headache, and sleeplessness. The vomited matter has in nearly all cases contained bile and a marked icteric tinge has been noticed in many cases. The duration of the disease has been about a week, but some of the earlier cases have not yet recovered. All have complained of feeling great weakness and lassitude after the attack. For some hours after the crisis the majority of temperatures have been subnormal to the extent of 1° to 2°. I hold abundant proof of the infective nature of the disease. I know it existed here and at a neighbouring asylum prior to the 21st ult. and I also know that influenza of a marked type was in the room on the night of the ball. I know of similar cases in other parts of the country.

The above-mentioned facts have led me to form the opinion that the disease is influenza. Gastric influenza is reported from the Continent but personally I have not seen what I have thought to be cases of this disease prior to the outbreak. In fairness to myself I should like it stated that with the exception of the editor of one local paper who applied to me for information per telephone and the editor of one medical journal who made full inquiry here concerning the outbreak, neither myself nor my assistants have been asked to state anything concerning the disease whatever it might be; all the news which has been supplied to the public has been fabricated in Warwick and elsewhere. Asylums and their officials are never treated fairly by the lay press and I am never foolish enough to expect it. The present case is no exception. I have had the law (per the coroner) and the press have the profits.

I am, Sirs, yours faithfully,
ALFRED MILLER,
Hatton Asylum, Feb. 8th, 1898. Medical Superintendent.

⁂ We are much obliged to Dr. Miller for this letter, which seems to us to dispose of the view that the epidemic was due to ptomaine poisoning.—ED. L.

CORONERS AND MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—That you deserve thanks for calling attention to the remarks made by the coroner over the case at Attercliffe Common everyone connected with the profession will admit. Too often this is the tone adopted by coroners towards medical men and were it only the particular medical man concerned who suffered this would be bad enough; unfortunately this is not the case, the evil is far reaching, for these remarks are made in open court, where a large proportion of the people are perhaps uneducated, and therefore such opinions have greater weight than if expressed before an audience the majority of whom are persons of education and refinement. Hearing a man express such views, can we wonder that bone-setters and herbalists are so largely resorted to by the working classes? And if such insults as that offered by the coroner in this inquiry to the medical profession be allowed to pass unnoticed, is it any wonder that the profession generally fails to occupy the status that it deserves? That it does not do so is a fact which none will, I believe, challenge.

With regard to the inquiry at Attercliffe Common itself, surely it cannot be regarded as settled—i.e., if the object of the inquiry really be to determine the cause of death—for here we have a man qualified to give a scientific opinion stating his belief to be that the cause of death was phthisis, this opinion being deliberately set aside by the coroner for that of some women absolutely uneducated and unskilled in medicine, surgery, and pathology. Surely a proper representation to the Home Secretary or the Lord Chancellor would be quite sufficient to cause the inquiry to be reopened and so a proper conclusion as to the cause of death arrived at.

I am, Sirs, yours faithfully,
Feb. 9th, 1898. FREDERICK BROOKE.

"THE WHOLE QUESTION OF NURSING."

To the Editors of THE LANCET.

SIRS,—In justice to the Incorporated Medical Practitioners' Association, I must ask your permission to make a short reply to the letter which appeared in your columns on Feb. 5th over the signature of G. B. Hudson. I learn from his letter that he is a Member of Parliament—a fact which, if I may quote his own words, "is quite unknown to the general public."

Your readers doubtless wondered what was the object of his communication to your columns. I would venture to cast a little light upon the obscurity by expressing my humble opinion that Mr. Hudson would be acting more wisely if he persuaded certain members of the staff of the Middlesex Hospital to meet at once the demand which has been publicly made and reiterated during the last six months for a public inquiry into their mismanagement of the Royal British Nurses' Association, a body which he goes out of his way to eulogise.

In your Editorial note to this letter you, Sirs, state that the views of the leaders of the Medical Practitioners' Association "must be received with caution." Those views have been clearly set forth on many occasions in print, and are as follows: That nurses should be properly trained for the responsible duties they are required to fulfil; that they must work under the direction and control of medical men and not as independent practitioners; that at present nurses and midwives are, to a large extent, untrained, and are almost entirely uncontrolled; and that this state of affairs is dangerous to the public and most detrimental to medical practitioners. I much regret to find that you consider that these "views must be received with caution."

I am proud to know that the Association of which I have the honour to be president is slowly but surely arousing the medical profession to the great truths that in self help and union are to be found the best, the most manly, and therefore the most certain remedies for the many difficulties and drawbacks from which medical men suffer. The Association has never yet claimed to speak for the "whole of the profession." I cannot, therefore, consider it generous upon your part to deny our right to a claim which we have never made. At the same time I may assert with some confidence that recent events have proved that the Association—even at this early stage of its career—possesses the support and the confidence and expresses the views of a very considerable section of the profession.

I am, Sirs, yours faithfully,
HUGH WOODS,
President of the Incorporated Medical Practitioners' Association.
Highgate, N., Feb. 8th, 1898.

*** We desire to point out to Dr. Hugh Woods, that, firstly, we have *not* made the general statement he attributes to us and that, secondly, we have *not* denied the right of his Association to any claim, whether made or not by the Association. Mr. G. B. Hudson, M.P., asked us a definite question—if we considered the Incorporated Medical Practitioners' Association "entitled to speak authoritatively in the name of the medical profession." To this we gave the only truthful answer, and no one who takes the trouble to read Mr. Hudson's letter intelligently can possibly see anything ungenerous in our statement. Dr. Hugh Woods would better consult the dignity of his position and the welfare of his Association by infusing a colder accuracy into his accusations.—Ed. L.

THE ACCIDENTS OF VACCINATION.

To the Editors of THE LANCET.

SIRS,—A distressing case of post-vaccinal erysipelas which has just come under my observation prompts me to ask once more in the columns of THE LANCET whether it is not desirable and practicable to take some further steps to lessen the chances of similar disasters? The State ordains that for the good of the individual and the community a certain inoculation should be practised. The operator satisfies himself that the inoculation is successful, but after that the State takes no further interest in the matter and the wounds are left to heal up as best they may subject to the chances of various contaminations. No doubt these disasters are infrequent, but when they occur they make an indelible impression on a more or less considerable section of the community. It is useless to explain that the vaccination was not the direct cause but that the erysipelas might just as well have followed a cut or a scratch. It is these preventable accidents which are responsible for very much of the feeling against vaccination and very naturally so too.

Is it not the duty of the State, having carried out the operation, to see that the wounds heal up under proper conditions? I am, Sirs, yours faithfully,
T. COLCOTT FOX.
Harley-street, W., Feb. 5th, 1898.

DR. CLIFFORD ALLBUTT'S "SYSTEM OF MEDICINE."

To the Editors of THE LANCET.

SIRS,—Might I venture to make the suggestion to Professor Clifford Allbutt that he should bring out a tropical edition of his great "System of Medicine"—that is, one volume which would contain all the articles on tropical diseases? Such a book would have a ready sale among men in tropical countries who shrink from adding five or six heavy volumes more to their book box, already heavy and costly enough to carry about on frequent transfers.

I am, Sirs, yours faithfully,
CIVIL SURGEON.
Buxar, India, Jan. 13th, 1898.

THE ARTIFICIAL LIGHTING OF HOSPITAL WARDS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers give us advice with regard to the artificial lighting of the two wards of a small hospital? There are in each ward five beds ranged along one wall; the fireplace is in the centre of the opposite wall and at present there is a two-arm bracket with ordinary batswing burner over the fireplace. The windows are at either end. The wards are about fourteen feet across, lofty and well ventilated. It has been proposed to fix two brackets with incandescent burners on the wall against which the beds are ranged, but there is some doubt as to the healthiness of these burners. Unfortunately electricity is out of the question.

I am, Sirs, yours faithfully,
H. P. H.
Feb. 7th, 1898.

*** Our opinion on the Welsbach Incandescent Gas patents was based on exhaustive trials[1] and was very favourable to this system of lighting. Our experiments showed the illuminating power of the mantles to be very high and the fouling of the atmosphere trifling—much less than is usually caused by lighting with gas. After-events have proved the accuracy of our report to which we refer our correspondent.—Ed. L.

THE PLAGUE IN INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

THE municipality of Bombay is still strongly supporting the inoculations of M. Haffkine. Further stations have been opened and large numbers of people of all classes are being daily inoculated. There is still, however, the same passive opposition on the part of the Plague Committee to these measures. The chairman of the committee has recently written stating that the committee cannot undertake to encourage inoculations for the purpose of exempting persons from detention in quarantine or segregation camps. It is difficult to understand the opposition of the Plague Committee. If there were any mistrust that bribery might interfere with legitimate inoculations there are now plenty of British medical men to perform and record the inoculations. The statistics already published showing the result of M. Haffkine's prophylactic measures have not been questioned and the observations establish the preventive power of inoculation beyond any possible doubt. The municipality has had an offer from Professor Lustig for his assistant to visit Bombay and employ his curative serum. This has been accepted. It will be remembered that the serum claims to be curative rather than prophylactic like the serum of M. Haffkine. From a cultivation of plague bacilli in agar of which the virulence is known a substance can be procured which, inoculated into animals in small quantities, makes them refractory to the most dangerous forms of infection. From animals thus two or three times vaccinated we can obtain a serum with, it is said, a decidedly curative and preservative action. Of seven very serious cases treated in Bombay six patients recovered and only one died. At Lanouli sixteen cases were treated and twelve patients recovered. These figures are much too limited to be of any value. What the details of the preparation of Professor Lustig's serum may be is not stated, but that of M. Yersin, which was tried without success last season, takes many months to prepare. It is understood that M. Haffkine abandoned the preparation of a curative serum and subsequently devoted his attention to the production of the prophylactic serum which has now passed its trial. Considerable interest, therefore, attaches to the proposed remedy, but it must be admitted that with only these few facts about the new serum before it the municipality has taken a step in the dark. The weekly death-rate of Bombay has risen from 1307 to 1540. The mortality is now more than double the normal. Six hundred and fifty-one deaths were registered as due to plague. The plague mortality was distributed as follows :—

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[1] See Report of THE LANCET Special Analytical and Sanitary Commission on the Incandescent System of Gas Lighting, THE LANCET, Jan. 5th, 1895.

			Ratio of mortality.
Mahomedans	88	......	115 per 1000
Jains	51	......	185 ,,
Low-caste Hindoos	49	......	145 ,,
Brahmins	40	......	88 ,,
Hindoos of other castes	379	......	87 ,,
Parsees	23	......	69 ,,
Other various	21	......	—
Total	651		

There has been a curious omission to notify deaths from relapsing fever. It has been undoubtedly prevailing for some weeks past in an epidemic form, because one of the contagious diseases hospitals has a hundred beds occupied with these cases. The usual mortality is said to be from 8 to 12 per cent. The registration returns are so faulty that very little reliance can be placed upon them. The hospital returns, however, are accurate. Deaths from relapsing fever must be returned, therefore, under a wrong and misleading head. It is highly undesirable that such a very infectious and wide-spreading disease as relapsing fever should be absolutely disregarded in registration. It is, moreover, very questionable whether a plague hospital is the most desirable place for the treatment of relapsing fever.

Jan. 21st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Liverpool Royal Infirmary.

MR. RALPH BROCKLEBANK, the honorary treasurer, in presenting his annual statement to the trustees at their recent meeting said that the most noteworthy feature of the year was the increased amount of work in all the departments, but chiefly in that devoted to surgical casualties. An average of 248 beds had been occupied, which exceeded the average of previous years. During the later months the demand for admission had been so great as to tax to the utmost the resources of the hospital. Financially the position had not materially changed; the expenses had exceeded the income by £2000 and they again commenced the work of the year indebted to their bankers. Not more than one-fifth of the expenses had been derived as income from invested securities. The President deeply deplored the fact that so little fresh support was obtained for the maintenance fund, which was gradually diminishing and which could not last much longer, even with the most careful management. That the hospital was worked on the most economical lines was shown by the fact of its occupying the lowest average per bed of any other provincial hospital having a medical school attached with the exception of one. Allusion was also made to the new horse ambulance which was being provided by the City Council to serve the district of which the infirmary was the centre.

Liverpool Infirmary for Children.

The forty-sixth annual report stated that the number of patients treated during the year 1897 amounted to 1196 in-patients and 14,211 out-patients. The financial condition of the charity was unsatisfactory in that the income from all sources had fallen short of current expenses by £540. The deficiency had been met to some extent by drawing on the suspense account and instead of a debit balance of £802 16*s*. 1*d*., as there otherwise would have been, there remained a debit of £242 16*s*. 1*d*. All legacies having been expended there remained now no reserve to meet pressing needs. 194 children had been sent to convalescent homes during the year.

Birkenhead Borough Hospital.

The report for the past year showed that increasing usefulness characterised the work of the institution. In the year 1837, when there was no building and with a borough population of 6000, the subscriptions only yielded £68, whereas last year the subscriptions from a population of 120,000 amounted to £973. The expenditure reached £3246 and the number of separate cases dealt with were 10,581, of which 792 were in-patients, with an average stay of eighteen days each. The treasurer deplored the decrease of subscriptions which had once more fallen below £1000 and that both ordinary and workmen's contributions were lower than last year, a fact which might be accounted for by reason of the engineers' strike. Sympathetic reference was made to the late Mr. John Laird, who was one of the warmest supporters of the charity.

Feb. 9th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of the Governors of the Royal Infirmary, Newcastle-upon-Tyne.

AT a largely-attended meeting of governors held in the library of the Royal Infirmary on the evening of Thursday, Feb. 3rd, at which the Right Worshipful the Mayor presided, the report showed a considerable increase in the amount of work done, more especially in the special and out-door departments, and an excess of expenditure over income of £3414, notwithstanding the fact of there having been an increase in income of nearly £400. In seconding the adoption of the report Mr. Alderman W. D. Stevens drew attention to the large excess of expenditure over income, which certainly is a serious condition of things, particularly in view of the contemplated addition of 120 beds in the new building. It is evident that the working-classes, for whose benefit the infirmary mainly exists and who are taking every year a more active part in its administration, will have themselves to a large extent to provide the funds for carrying on the work of the infirmary on the larger scale proposed. The working-classes are well able to support the infirmary themselves unassisted, and if a very small proportion of their money which is frittered away in strikes were devoted to the purpose they would do so. Speaking of the new infirmary Mr. Stevens said he had been told by an experienced man that the cost of a new infirmary need not be more than £300 per bed. Exception was taken to this by Mr. Riley Lord, who pointed to Liverpool and Birmingham and gave it as his opinion that a first-rate infirmary, such as Newcastle meant to have, could not be built for any such sum. Mr. Stevens further remarked that a Newcastle architect would be as competent to build the new infirmary as any in the country—an opinion that is shared by a very large number of the subscribers to the Riley Lord Fund.

The Infirmary Nurses' Home, Newcastle-upon-Tyne.

Mrs. Albert Lord, an ex-mayoress of Newcastle, on Thursday, Feb. 3rd, formally open the new home in Ravensworth-terrace. For the furnishing of this home the nurses and the infirmary are indebted to Mrs. Lord and a committee of ladies, who raised nearly £400 for the purpose. In declaring the home open Mrs. Lord made some kind and sensible remarks upon nurses and their arduous calling.

The University of Durham and its Penal Powers.

The university has not been long in putting into operation its lately acquired power. On Tuesday, Feb. 1st, Convocation revoked the degrees in arts, medicine, and science conferred upon a graduate who had been convicted of a crime and whose name in consequence had been removed from the Medical Register by the General Medical Council.

Dearth of Subjects for Dissection.

Great inconvenience has been experienced lately at the University of Durham College of Medicine on account of a dearth of subjects for dissection. Formerly the supply used to be ample but for some reason or other it has fallen off. Owing to the exertions of the professor of anatomy, Dr. R. Howden, the Unions of Tynemouth and South Shields have consented to hand over the bodies of unclaimed paupers dying in the respective workhouses to the college authorities in accordance with the provision of the Anatomy Act which empowers them to do so. An application made to the Sunderland Union of a similar character to that addressed to Tynemouth and South Shields on Thursday, Feb. 3rd, has been refused by the guardians. If the difficulty in obtaining subjects should continue not only here but at the medical schools generally it would seem to be desirable to take the power to dangerously interfere with the education of the medical profession out of the hands of guardians and by procuring an alteration of the Anatomy Act compel them to carry out its intention.

Feb. 8th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow University.

THE financial statement for the session 1896–97 shows the following sums as paid to the respective occupants of the chairs in the Faculty of Medicine: Medicine, £800; Natural History, £806; Forensic Medicine, £600; Clinical Surgery, £320; Clinical Medicine, £432; Chemistry, £1300; Physiology, £1100; Anatomy, £1645; Materia Medica and Therapeutics, £780; Botany, £830; Surgery, £800; and Midwifery, £700. The number of students matriculated during the session was 1871, including 249 women.

Dr. McCall Anderson on Hospital Abuse.

At the annual meeting of the subscribers to the Royal Hospital for Sick Children, Glasgow, held on the 19th inst., the adoption of the report was moved by Dr. McCall Anderson, who spoke at some length upon various questions of hospital policy. He expressed a very decided opinion that there were a not inconsiderable number of instances in which patients who were in good circumstances received at the hospitals gratuitous advice and treatment and he urged that more care should be taken to inquire into the position of those applying to the medical charities. To admit these comparatively well-to-do persons was to act against the interests of the poor for whom the hospitals were really provided. In dealing with the question of subscribers' "lines" Dr. Anderson argued that these were inconsistent with sound hospital policy and that the only recognised claims for admission should be illness and poverty. He was glad to know that the distribution of "lines" in connexion with the Sick Children's Hospital was a declining quantity and he trusted that ere long they would be entirely abolished. The report announced a considerable increase in the number of students attending the practice of the hospital, a fact doubtless due, at least in part, to a recommendation by the University Senatus to medical students to attend a practical course on the diseases of children. Another feature of the report not without interest is the statement that for six vacancies in the nursing staff there were no less than 162 applications. The accounts for the year show a deficit of £1639.

University of Aberdeen.

At the last meeting of Aberdeen University Court the Lord Rector, the Marquis of Huntly, reported that an anonymous donor had offered to subscribe £10,000 to the university buildings extension fund, on condition that Government give a further grant of £20,000, and that if in any way possible the older portion of Greyfriars Church shall be retained. The court agreed for their part to accept the offer and to communicate it to the Executive Committee. It was also resolved to communicate the offer to the town council of Aberdeen, at the same time expressing the strongest hope that they will fall in with the donor's wishes and agree to give the old building of Greyfriars Church to the University with a view to its restoration and incorporation for academic purposes. It was also stated that the Chancellor of the Exchequer has consented to receive a deputation early—probably next week—on the subject of an additional grant from the Treasury. The Executive Committee have since met. Objections were urged as to the condition respecting old Greyfriars Church, but no definite resolution has yet been arrived at by the committee. The Senatus has resolved that the wearing of a scarlet gown with velvet collar and a trencher shall in future be obligatory in the case of arts students. The Students' Representative Council has agreed to this regulation as to "academic costume" and it has also been arranged between the two bodies that the Lord Rector's address shall be delivered in November next.

Aberdeen Royal Infirmary.

The report for 1897 shows that the cost of the Jubilee extension scheme has been £70,955 19*s.* 6*d.*, while that of the new convalescent hospital has been £4706 14*s.* 6*d.* The enlarged hospital provides accommodation for about 230 patients. The total number of in-patients treated last year was 2177 and the cost per bed £51 14*s.* 5*d.* The out-patient department shows a large increase—5557 as compared with 3249 in 1896. The total income for the year was £7954 and the expenditure £9176, but the debt on the building account has been reduced by £1907 from special payments. The numerous changes in the staff are also referred to. The number of patients admitted to Lochhead House and the new convalescent hospital during the year was 175, the same as in 1896.

Aberdeen Hospital for Sick Children.

The number of patients treated last year in this hospital was 678 and about £1000 are required to complete the nurses' home now in course of erection and to extend the washing and laundry accommodation. Miss Katharine M. Lumsden, honorary superintendent, has organised a bazaar for October next with a view to raising this sum.

Death of J. C. G. Duffus, M.A., M.B., C.M. Aberd.

Much regret is felt in professional circles in Glasgow at the unexpected death of Dr. Duffus who only a few months since left the city with a view to practise in London. Dr. Duffus was a graduate of the University of Aberdeen, where he took his degrees both in arts and medicine with first-class honours. Shortly after commencing practice in Glasgow he was appointed one of the assistant surgeons to the Royal Infirmary and the value of his teaching in the outdoor clinic was highly appreciated. Both by his patients and his professional brethren he was highly esteemed.

Feb. 8th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Surgeons in Ireland.

A NUMBER of candidates, including three ladies, have entered their names for the examinations for the Fellowship of the College to commence on Feb. 21st. There is at present but one lady Fellow of the College—E. Winifred Dickson, M.D. R.U.I.

The Memorial to the late Mr. Stamer O'Grady, F.R.C.S. Irel.

A meeting of the promoters of the memorial to Mr. E. S. O'Grady was held on Feb. 2nd at the Royal College of Surgeons, Dublin, Sir George Duffey filling the chair. The report of the executive committee appointed in November last was read, and Dr. Edward Hamilton, in moving the adoption of the report, stated that several suggestions had been made as to the particular form the memorial should take, including one in favour of a public ambulance, another for the establishment of a prize in the College, and a third for the construction of a public fountain in the city. Mr. D. B. Sullivan, Q.C. seconded the motion, which was adopted. After some discussion it was unanimously resolved that the erection of a public fountain in some suitable situation would best indicate the benevolent character of the late Mr. O'Grady, and hand down to posterity the appreciation of the community of his services to the poor and to his profession.

Mercer's Hospital, Dublin, again in Trouble.

At the quarterly meeting of the Dublin Corporation held on the 7th inst. the town clerk read a letter from the registrar of Mercer's Hospital stating that the governors regretted their inability to elect as governors the three representatives of the corporation nominated by the council. A resolution that the matter be referred to the Finance and Leases Committee, with a recommendation that the grant to the hospital be withheld until the nominees of the corporation be elected governors, was proposed and seconded and after some discussion adopted. If this resolution be acted upon the institution will lose the annual grant of £350 from the corporation.

The Ulster Medical Society.

At the monthly meeting of the Ulster Medical Society, held on Feb. 3rd (Dr. J. A. Lindsay, president, in the chair), Dr. Calwell showed a girl with a peculiar nervous affection of the arm. Professor Byers showed a multilocular ovarian tumour, one cyst of which was dermoid and contained a pultaceous mass of epithelium, hair, fat, and sebum. Dr. John Campbell showed a specimen of malignant disease of the uterus. After the exhibition of specimens an interesting discussion on appendicitis was opened by Dr. Darling (Lurgan), who related particulars of a recent case. The following members took part in the debate: Professor Sinclair, Dr. John Campbell, Dr. Calwell, Dr. McKisack, Professor Byers, Dr. Mitchell, Dr. Gaussen, and the President. The general tendency of the discussion was to show that the great majority of cases recovered under medical treatment, but that when an abscess formed, or in recurring cases, surgical interference was demanded, although the results of operation in cases in which during an attack of appendicitis there was sudden perforation into the abdominal cavity were not sufficiently good to warrant this plan being recommended as a routine practice. The next meeting of the society will be a pathological one to be held in the laboratory of Queen's College.

The Belfast Maternity Hospital.

The annual meeting of this hospital was held on Feb. 1st, and from the report it appears that during the last year 302 patients were delivered in the hospital and 173 in their own homes. Owing to the large number of patients and the crowded state of the house the question of rebuilding the hospital is being considered. Financially, there is a balance on the debit side. A new maternity hospital would cost £6000, and it is said that there are already promises of £1000.

The Royal Victoria Hospital, Belfast.

The City Corporation of Belfast are at present promoting a Bill to enable them to grant a site—a portion of the present asylum grounds—to the new Royal Victoria Hospital, and at their meeting on Feb. 1st a resolution was proposed that there should be inserted in this Bill an additional clause to grant the sum of £5000, being equivalent to the value of the site of the new Mater Infirmorum Hospital, to that institution. This, however, was not carried, those opposing it doing so on the ground that the Mater Infirmorum Hospital was denominational while the Royal Victoria Hospital was for all classes, with a board of management representative of all creeds and with doctors of all religions. Further, it was thought that if this grant were made to the former hospital all the other hospitals in the city would demand to be subsidised. A small sub-committee has been deputed by the executive committee of the Royal Victoria Hospital to consider the question of the choice of an architect for the new hospital and to report on this question to the central committee. It has been decided that the architect shall not be selected by open competition.

Public Bacteriological Examinations in Belfast.

The Corporation of the City of Belfast have taken a very judicious course (on the recommendation of the Public Health Committee) in appointing Dr. Lorrain Smith, of Queen's College, Belfast, to conduct examinations for the Public Health Department when required on typhoid fever, diphtheria, tuberculosis, &c., the total payments for one year not to exceed £100.

Influenza in the North of Ireland.

The epidemic of influenza is still very prevalent in Belfast and the north of Ireland. A great many of the cases, especially in young people, are of the gastro-intestinal type, the onset being very sudden with vomiting and sometimes diarrhœa, and accompanied with high fever. There are also cases of the ordinary broncho-pneumonic type, but the severe nervous cases are much less frequent than in former epidemics.

Death of Dr. Ringrose Atkins.

The almost sudden death of Dr. Ringrose Atkins, medical superintendent of the Waterford Lunatic Asylum, was heard of with great regret not only by medical men, but by the general public of the South of Ireland. Last Tuesday he was apparently in his normal health and went to visit a patient. Before leaving the house of the patient he became suddenly attacked by violent pain and with difficulty was able to return to his residence. He was promptly seen by Dr. Mackesy and Dr. Friel and later by his brother, Dr. Thomas G. Atkins, of Cork, but in spite of all their anxious and assiduous care he gradually sank and expired on Friday morning. His death was caused by kidney disease and obstruction of the bowels. Dr. Ringrose Atkins was a distinguished student of the Queen's College, Cork, and afterwards obtained his M.A. degree as well as his degrees in Medicine and Surgery at the Queen's University of Ireland. In the year 1873 he was appointed assistant resident medical superintendent at the Cork District Lunatic Asylum and five years later was promoted to the important post of resident medical superintendent of the Waterford Asylum. The pathology of the various brain diseases had a great fascination for him. He was a frequent contributor to the medical journals and as he had come to be regarded as an authority on alienist subjects he was always listened to with great attention when he took part in the debates in the psychological section at the annual meetings of the British Medical Association. He was also well known and highly appreciated as a popular lecturer. He travelled abroad every year, took photographic views of various places of interest, and on his return delivered lectures illustrated by lantern exhibitions. He attended the International Medical Congress at Moscow and only a few weeks ago lectured in Cork before a very large audience giving his impressions of the manners and customs of the Russian people. A thoughtful observer of men and things he was ever ready to devote his talents to bettering the position of his neighbours. He was a warm advocate of the temperance movement, and it was well known that he took the kindliest and most zealous interest in the poor mentally afflicted creatures in the asylums over which he presided with such distinguished ability. He died at the comparatively early age of fifty, and the large and representative gathering at his funeral testified to the great esteem in which he had been held.

Feb. 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Vaccines of Definite Chemical Composition.

M. PHYSALIS, an account of whose work appeared in my letter in THE LANCET of Jan. 1st, gave some more particulars of his researches at the meeting of the Academy of Medicine on Jan. 31st. He had already shown, he said, that cholesterine and biliary salts when inoculated had a preventive action against the toxic effects of the poison of the viper. But it had been suggested that these products were perhaps not quite pure and owed their action to the presence of ferments. So he had repeated his experiments with vegetable cholesterine and with biliary cholesterine specially prepared by Professor Arnaud, of the Museum. Identical results were obtained. He had also made experiments with pure re-crystallised tyrosine (*a*) from the carrot, (*b*) from dahlia tubers, and (*c*) from albuminoid animal matter. In all three cases protection from the effects of serpent venom was complete, and the juices of the dahlia acted in the same way. He considered that it was evident, therefore, that vegetables contained prophylactic "vaccinal" substances and that in many instances these "vaccines" were bodies of definite chemical composition.

Action of the Toxin from Eel Serum.

M. Mosso has established the poisonous qualities of the blood of the eel, and in addition M. Richet has shown that it is possible to "vaccinate" an animal against these effects if one begins with a very small dose of blood and gradually increases it until a dose which would have been fatal if injected at first is reached. At the meeting of the Academy of Sciences held on Jan. 31st M. Camus and M. Gleyout showed that the toxicity resides in the serum and that it acts in the following way: it breaks up the blood-corpuscles and causes the hæmoglobin to be extravasated into the tissues. This action takes place even *in vitro*, but in the blood of animals immunised by M. Richet's method the hæmoglobin was retained by the corpuscles both in the vessels and *in vitro*.

Repair of the Walls of the Bladder.

At the meeting of the Academy of Medicine held on Feb. 1st, M. Cornil showed two dogs in which he had been able to verify the mode by which repair takes place in the wall of the bladder after an operation wound. In the first dog, an incision five centimetres in length had been made in the bladder. Ten days later the edges of the linear wound were so well united that there remained only the faintest scar but the great omentum was adherent in the line of the suture. In the second dog a portion of the bladder had been completely removed by a circular incision and the great omentum was united with catgut to the opening in the bladder. At the end of ten days the wall of the bladder in this case also was completely restored by the peritoneum. M. Cornil concludes that as wounds of the bladder heal with such extraordinary rapidity in these animals they would under equally healthy circumstances do so in the same way in man.

The Treatment of Tuberculosis of the Genito-urinary Organs.

It is true, said M. Desnos, at the meeting of the Therapeutical Society held on Jan. 25th, that local treatment must not be forgotten in tuberculous affections of the genito-urinary tract and that it is a useful and even indispensable adjuvant, but the really important thing is the general treatment. As a part of this hygiene occupies the first place, for all patients placed under favourable climatic conditions show great improvement. If the case is one of those showing a tendency to hæmorrhage a high altitude is most suitable. The seaside is suitable for those cases where the genital apparatus is affected, but is harmful for those where the urinary organs are chiefly involved. In congestive forms arsenical waters are useful. As to diet everything which tends to irritate the urinary tract must be avoided, so no beer or other alcoholic liquors should be taken. A milk diet is useless except in the case of acute cystitis. Over-feeding gives good results, and from a therapeutic point of view creasote and guaiacol are the best drugs to use.

Re-opening of the Pasteur Laboratory at Constantinople.

The bacteriological laboratory founded by Pasteur at Constantinople by request of the Sultan has just re-opened its doors after a long interval of idleness due to the incompetency and carelessness of the State officials and from want of funds. The French Chargé d'Affaires, M. de la Boutiniere, protested from his point of view, while the Imperial Society of Medicine addressed a strong protest from their point of view, to the Palace. In this way the attention of the Sultan was drawn to the precarious state of an institution in which he has always taken the greatest interest. Orders have been issued that Dr. Nicolle shall want for nothing in future and every possible guarantee has been given to him that such shall be the case. It is therefore considered that the work of the institution will be greatly developed.

Feb. 8th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Government and the Privat-Docents.

THE Government intends to modify the position of the *privat-docents* at the universities. Hitherto the practice has been that young men who have already distinguished themselves by scientific work have to ask their respective faculties to be admitted as *privat-docents*. They have to present to the dean an essay on a special subject (the so-called habilitations-schrift), and in the event of the faculty deeming them fit to become members of the teaching staff they are authorised to lecture. There is nothing exceptional in either their rights or their duties and they are under the jurisdiction of the university in cases of ethical misdemeanour without any interference on the part of Government officials. In this way men of the most diverse political opinions become permanently attached to the universities and *privat-docents* have sometimes been prominent in opposition to the Government. Although no inconvenience has arisen from the present state of things the Government is now endeavouring to obtain a power of control over the *privat-docents*. It has been induced to take this course by the fact that a *privat-docent* of the Faculty of Philosophy in Berlin has proved to be one of the most fervent Social Democratic leaders in this city. The Government endeavoured to remove him but the attempt was foiled by the firm attitude of the faculty, which rightly believed that Social Democratic opinions did not prevent a man from being an able teacher of mathematics or medicine. Although the *privat-docents* are not State officials at all the new Bill proposes to deal with them as if they were appointed and paid by the Government. The faculties will continue to have jurisdiction over them, but the Public Prosecutor, if not satisfied with the decisions of the faculties in cases where complaints have been made against the *privat-docents*, may appeal to the high court, which decides questions of discipline affecting State officials. In this way the *privat-docents* will be brought into a position of dependence on the Government to the great prejudice of academical liberty. The Bill has therefore met with general disapproval among university men. Nearly all the professors of the four faculties of the Berlin universities have petitioned Parliament to reject it and the rectors of the universities will meet in Berlin to discuss the measures to be taken under the circumstances, fearing, as they do, that this act of aggression may be followed by others which will in course of time have the effect of destroying the old-established self-government of the universities.

Resignation of Professor Esmarch.

Professor Esmarch, of the University of Kiel, is about to resign the chair of Surgery, which he has occupied since 1857. He is known throughout the world by his treatise on military surgery, which has been translated into nearly every civilised language, and by his invention of artificial anæmia. He is one of the most experienced military surgeons, having taken part in no less than four great wars—in 1848, 1864, 1866, and 1870. He began his academical career as *privat-docent* at the University of Kiel and assistant to the late Professors Langenbeck and Stromeyer. As he had been a surgeon in the Revolutionary army of Schleswig-Holstein in 1848 the Government of Denmark, to which Kiel then belonged, refused for some time to appoint him professor at the university, but his nomination was eventually consented to in 1857.

The Congress of Internal Medicine.

This congress will meet this year in Wiesbaden under the presidency of Dr. Schmidt, the well-known laryngologist of Frankfort. The principal subjects of discussion will be: Clinical Education, by Professor von Ziemssen, of Munich, and Professor von Jaksch, of Prague; Intestinal Auto-infection and Intestinal Antiseptics, by Professor Müller, of Marburg, and Professor Brieger, of Berlin; Treatment of Diabetes, by Professor Leo, of Bonn; the Bacillus of Syphilis by Dr. van Niessen, of Wiesbaden; Artificial Dilatation the Stomach, by Dr. Weinhand, of Wiesbaden; Chronic Muscular Affections of the Heart, by Dr. Schott, of Nauheim Medical men desiring to become members or to take part in the proceedings should apply to Dr. Pfeiffer, permanent secretary to the congress, at Wiesbaden. The congress will open on April 13th.

The International Congress of Hygiene and Demography.

The German branch committee of this congress, which will meet in Madrid from April 10th to 17th, has recently been formed. Besides a great number of hygienists, statisticians, sanitary engineers, &c., the following prominent medical men have been elected members of the committee: Dr. Pistor, of the Royal Prussian Government medical department; Dr. von Coler, general-staff-surgeon of the Army; Professor Baginsky, Professor Günther; Professor Guttstadt; Dr. Köhler, president of the Imperial Health Office; Professor Lassar, Dr. Strassman; and Dr. Wehmer, chief medical officer to the Berlin police. All the foregoing are members of the profession in Berlin. The committee will also include: Dr. von Esmarch, of Königsberg; Dr. C. Fränkel, of Halle; Dr. Loeffler, of Greifswald; Dr. Wolffhügel, of Göttingen; Dr. Aub, and Dr. Buchner, of Munich; Dr. Gaffky, of Giessen; Dr. Reineke, chief medical officer to the town of Hamburg; and many others. The congress will no doubt be attended by a large number of German hygienists and medical men.

Feb. 7th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The English-speaking Practitioner in Italy.

THE Santini Bill for the exclusion from Italy of all practitioners who do not possess an Italian diploma was on the 2nd inst. brought before the Chamber of Deputies in an interpellation from its promoter, who asked Signor Arcoleo, Under Secretary of State for the Home Department, whether the Government had not given an assurance to certain of these practitioners that none of the steps contemplated in the Bill would be taken against them. To this Signor Arcoleo replied that the number of foreign physicians practising in Italy is no more than 108; that the Government intends either to rescind or partially to restrict, according to circumstances, the right of these to practise; and, in any case, to make provision that in foreign countries Italian physicians shall have facilities for practising similar to those hitherto enjoyed by foreign physicians in Italy. In other words, "rather than limit the right to practise heretofore accorded to foreign practitioners, he would secure a reciprocal privilege in favour of Italian physicians practising in other countries." Dr. Santini expressed himself as not satisfied with this answer. One hundred and eight do not represent the number of foreign practitioners in Italy. Fifteen hundred would be nearer the mark, though (he alleged) not more than one hundred of these "sono muniti di regolare diploma" (are furnished with a proper qualificaticn). He deplored what he stigmatised as the Government's apathy in a matter affecting the interests of the profession in Italy. In other states, he continued, medical practitioners of foreign nationality have, before they can practise, to pass "serii esami nella lingua del paese" (serious examination in the language of the country), "while with us they can attend patients without let or hindrance," and moreover "non pagano la imposta di ricchezza mobile" (do not pay income-tax). Dr. Santini, in his zealous advocacy of "protection for Italian medicine," forgets many things; he also makes an egregious blunder in asserting that the foreign practitioner does not pay income-tax. The contrary is the fact, the English-speaking practitioners paying income-tax on annual receipts arbitrarily fixed by the Ricchezza Mobile Office, contributing thereby to the Italian exchequer more money in the form of income-tax than all the Italian practitioners put together. It is this consideration, coupled with others familiar to the readers of THE LANCET, that explains the exceedingly guarded and, from Dr. Santini's point of view, "unsatisfactory" answer given to interpellations like the above by successive leader-secretaries of State like Signor Arcoleo and Signor Serena before him. Indeed, the Santini Bill session after session appears to be relegated to the Greek Kalends and English-speaking practitioners establish themselves in Italian winter cities as if it had never been brought before the Chamber of Deputies.

The Maragliano Serum in Tuberculosis.

On Saturday, the 5th inst., was opened in the Piazza Capranica an institute for the supply of this serum gratuitously to the poor. Its chief promoter is Dr. Silla Passarini who, on a tour of the Italian centres of population where tuberculosis is most frequent, had his own convictions as to the efficacy of the serum confirmed by leading practitioners in those centres and accordingly found the time ripe for such a dispensary in Rome as would place the prophylactic and curative virtues of the preparation within reach of the humblest. Dr. Passarini with a staff of assistants will undertake the consulting practice of the institute and be responsible for the diagnosis of the cases in which the serum is specially indicated, while Professor Maragliano volunteers the gratuitous supply of the serum in whatever quantities it may be called for. The initiative thus taken is a noble one and at the inaugural proceedings the large attendance of leading consultants, teachers, and practitioners attested the due appreciation of it on the part of the profession. Its extension to other Italian cities can hardly fail to follow and with the experience thus to be obtained Professor Maragliano anticipates a still further advance on the lines he has worthily laid. Nowhere more than among his compatriots has he found severer critics, but the rise of the Institute in the Piazza Capranica may be taken as significant that opposition has passed its acute stage and that, to use Baccelli's words, the Maragliano serum has at length vindicated "its right to citizenship" in the medical commonwealth.

The Third Italian Geographical Congress.

Your readers should know that on April 12th will commence in Florence the Third Congress of the Geographical Association throughout Italy. The programme is a highly interesting one and will be especially rich in the experiences of Italian explorers, medical and other, in the Dark Continent. The occasion will be utilised to celebrate the quatercentenary of the two great geographers, navigators, or discoverers, Toscanelli and Vespucci, of whom some novel and striking relics will be on view in the museum attached to the congress. Festivities lasting till the 27th will also be set on foot, adding a further attraction to the city of Florence at a season when she usually shows to best advantage.

Feb. 6th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Action Against a Medical Man.

ON Dec. 17th, in the Supreme Court of Victoria, was concluded an action of great interest to the profession. Mr. Richard Lethbridge attempted to recover £5000 damages from Dr. Hugh Boyd, of Bendigo, for alleged unskilful treatment. On April 26th, 1896, the plaintiff had a fall from a bicycle and injured his shoulder. He at once consulted a medical man, who administered an anæsthetic and placed the arm in a sling, saying that it had been dislocated and that he had reduced it. The plaintiff, being of opinion that his arm was broken, was not satisfied and went to Dr. Hugh Boyd, who also gave an anæsthetic and said there was a fracture of the surgical neck of the humerus. He distinctly felt crepitus and the patient's sister also heard the crepitus. The arm was put up as a fracture. On May 26th a consultation was held with Dr. Atkinson and the arm was examined under chloroform. The bone had united in good position. There was no dislocation and no sign of any other abnormality. The reason for having a consultation was that it had been stated that the patient had a dislocation which had not been treated. Dr. Boyd said the last time he saw the plaintiff's arm was on June 1st, when he removed the bandages, and his account was only made out to June 6th. The plaintiff said he had seen Dr. Boyd several times between June and December and complained of pain in the shoulder and Dr. Boyd had told him to use it. Between June and December he had used it, riding a bicycle and using dumb-bells. He also had massage, of which Dr. Boyd approved. Dr. Boyd said that subsequently to June 6th he only saw the plaintiff casually and in the course of conversation about mining reference was made to the arm. On Jan. 7th the plaintiff came to Melbourne and consulted Mr. O'Hara, who diagnosed a sarcoma of the upper end of the humerus and amputated at the shoulder-joint. The plaintiff claimed that Dr. Boyd ought to have diagnosed the sarcoma and that had he done so earlier the plaintiff would have been saved much suffering; he did not claim that the arm could have been saved. An examination of the specimen showed that the whole of the surgical neck was occupied by a mixed cell sarcoma and the medical witnesses called on both sides admitted that it was impossible to say whether the neck had been fractured or not, but that a fracture might have occurred and united and the evidence of it been obliterated by the invasion of the sarcoma, as it was maintained for the defence had actually been the case. Counsel for the plaintiff insinuated that the medical evidence was biased in favour of Dr. Boyd and made capital out of the fact that several of the medical witnesses were members of the Medical Defence Association and that one of them, Professor Allen, had refused to lend a specimen from the Museum at the Melbourne Medical School for use in the preparation of plaintiff's case, asserting that he regarded the case as an iniquitous one. The judge in summing up said the jury must be guided by the evidence of the medical experts and he thought the jury would say that the leaning that the medical witnesses would have to a brother practitioner, whom they might, rightly or wrongly, consider unjustly attacked, would not warp their judgment, and that their sense of honour was not so dull and their self-respect so poor that they would say what they believed to be false because they thought a brother practitioner unjustly assailed. The judge further charged the jury that Dr. Boyd was not answerable for the occurrence of a disease which might have been latent at the time of the fracture or might have been caused by it, but if he was called upon to observe the patient and was informed of symptoms which should show a trained mind that there was something wrong in addition to the fracture, then he could not get rid of his liability by saying that his last charge for professional attendance was on June 1st. The jury returned a verdict for Dr. Boyd.

Unusual Case of Poisoning by Sewer Air.

In driving a tunnel in connexion with the sewerage works now in progress in Melbourne foul air was met of such a deadly character as to cause the death of five workmen. The tunnel was through soft silt and sand on the bank of the river, which has been soaked with drainage for years. Some time ago the contractor and foreman of the works were nearly suffocated by the gases escaping from the soil, and Dr. Charles Bage, who attended them, described the symptoms produced in a paper in the November number of the *Intercolonial Medical Journal.* He concluded that the gases present were marsh gas, sulphuretted hydrogen and carbonic acid. On the present occasion the contractor had forbidden the men to go down, but three of them went to get some tools left in the tunnel and the other men went to rescue them. Several rescue parties of firemen in smoke jackets were beaten back by the gases in attempting to remove the dead bodies. Finally, the tunnel had to be flooded with water and the bodies were brought out by divers. At the inquest Dr. Neild, who made the post-mortem examination, said that death was due to suffocation from breathing irrespirable gas which was, he thought, chiefly carbonic acid.

Maintenance of Border Hospitals.

The hospitals on the border between New South Wales and Victoria receive patients from both colonies but are maintained by the colony in which they are situated. Correspondence has recently taken place between the respective Governments of the two colonies with a view of more equally distributing the cost of maintenance. It has been decided to leave things as they are, as it appears that while patients from Victoria are treated in the hospital at Albury, in New South Wales, quite an equal number of patients from New South Wales are treated in the hospitals at Swan-hill, Echuca, and Bendigo in Victoria.

Jan. 1st.

Obituary.

EDWARD LUND, F.R.C.S. Eng.

Mr. Lund, of Manchester, who died on Feb. 4th at his residence in Victoria-road, Whalley Range, must be reckoned among the most distinguished of contemporary surgeons and had the further good fortune to bear a part in raising the Manchester Medical School to its present high position. Although he had lived in Manchester for fifty years and had done all his important work there, so that his name was associated with that of the city in the minds of those who knew him mainly by reputation, he did not belong to a local family, but was the ninth son of Mr. Thomas Lund, of Peckham, in Surrey. He was born on May 23rd, 1823. When he arrived at an age to make choice of a profession he was apprenticed to Dr. William Parker Hoare, of Faversham, in Kent, and subsequently entered as a student at Guy's Hospital in 1842. On the completion of his medical course he became qualified in 1847 as M.R.C.S. Eng. and L.S.A., and in 1848 he came to Manchester, where his surgical talents found ample opportunity for their development and ultimately obtained a gratifying recognition. In 1849 Mr. Lund married, his wife being Charlotte, youngest daughter of Mr. D. W. Webster, of Kirby, Northampton. In 1850 he was made anatomical demonstrator in the medical school which was at that time established in Pine-street. In this capacity and in his subsequent appointment as lecturer on anatomy at the same school his high qualifications as a teacher were so conspicuous that he contributed materially to the success of the institution. Not only had he the invaluable faculty of imparting knowledge, but his personal characteristics rendered him so popular with the students that they made him a presentation in the middle of February, 1854, at the Queen's Hotel, Piccadilly, Manchester. An account of the proceedings is given in The Lancet of Feb. 25th, 1854. Mr. T. Turner, the founder of the school, and at that time one of the lecturers, presided, and among the other lecturers present were Dr. Renaud and Dr. Browne, Mr. Heath (who acted as vice-chairman), Mr. Childs, and Mr. Smith. Mr. J. Done, on behalf of the subscribers, including some old as well as present students, presented to Mr. Lund a handsome twenty-three days' timepiece and an address engrossed on vellum. Upon a plate affixed to the timepiece was the following inscription: "Presented to Edward Lund, Esq., M.D., M.R.C.S., L.A.C., by the students of the Royal School of Medicine and Surgery, Manchester, as a slight testimonial of their esteem and regard." The address referred to Mr. Lund's uniform kindness, urbanity, and indefatigable exertions in his capacity as lecturer; to the self-sacrificing spirit be continually manifested by devoting very much time, other than that occupied by his lectures, in order to urge the pupils forward and to facilitate their progress; and to the deep interest he evinced in the students' private affairs and his anxiety to aid them on every possible occasion with his advice and counsel. In 1855 he was elected dispensary surgeon to the Manchester Royal Infirmary with care of a district and applied himself with the utmost assiduity to his new duties, which included the treatment of out-patients and the instruction of students in the details of minor surgery as exemplified in the cases which came under his hands. In 1857 the arduousness of the work was lightened by an arrangement which relieved the dispensary surgeons from visiting patients at their homes. In 1863 he became F.R.C.S. Eng. by examination. When the Pine-street and Chatham-street schools were amalgamated Mr. Lund became a member of the teaching staff of the Manchester Royal School of Medicine and with characteristic energy laboured to advance its interests and give it prestige, a work in which he had the coöperation of Mr. Turner, Mr. Smith, and Mr. Southam. In 1868 he became full surgeon to the Royal Infirmary on the retirement of Mr. Ransome and shortly afterwards he took an active part in bringing about the union in 1872 of the Medical School and Owens College, which had the effect of giving a great impetus to medical education in Manchester. When the amalgamation took place he and Mr. Southam became joint professors of surgery and in 1874 he was admitted to the Senate of Owens College. After Mr. Southam's death Mr. Lund was in 1877 appointed sole professor of surgery in Owens College, discharging the duties of the chair until his resignation in 1888. His power of exposition, his indomitable energy, and his wide practical experience combined to render his lectures extremely valuable and to enhance the reputation of Manchester as a centre of medical education. Mr. Lund had the great merit of having been one of the first to recognise the immense practical importance of Lord Lister's employment of antiseptics in operative surgery. Those whose recollection extends back for five-and-twenty years will remember the sarcasm and denunciation which many surgeons thought it not unbecoming to shower on the new system, but in Manchester Lord Lister had an adherent whose reputation and influence were very valuable in bringing about the acceptance of antiseptic surgery in that part of England. Mr. Lund's skill as an operator and his ingenuity in devising methods of treatment contributed largely to his success both as a teacher and a practitioner.

Mr. Lund was a member of the Council (Section V., Surgery) of the International Medical Congress held in 1881 and in the same year he was chosen to be the President of the Lancashire and Cheshire Branch of the British Medical Association. In 1881 he was also elected a member of the Council of the Royal College of Surgeons of England and in 1885 he was appointed Hunterian Professor at the College and also one of the examiners. His examinership and his seat on the Council were resigned in 1887 on account of the weak state of his health. In 1882 he resigned his position as surgeon to the Royal Infirmary and was thereupon appointed consulting surgeon. In 1883 he delivered an address before the Medical Society of London on "The Present Aspect of the Antiseptic Question."

Mr. Lund was the author of a number of articles on surgery and allied subjects. The first of his various contributions to our own columns was on "A New Method of Injecting Subjects for Anatomical Purposes." It was commenced in The Lancet, June 24th, 1854, p. 659, and was continued in a subsequent number. In 1877 he published "Internal Urethrotomy, with its Modern Improvements." Of late he suffered from pulmonary congestion and cardiac dilatation, which compelled him to abstain from work for the last three months and resulted fatally, notwithstanding the devoted attention of his friend, Dr. J. Dixon Mann, and other kindly sympathisers. Mr. Lund leaves three sons and a daughter. The funeral took place at the Southern Cemetery and was very largely attended both by acquaintances and friends and by representatives from various institutions with which the deceased had been connected.

Medical News.

University of London.—The following candidates were successful at the Intermediate Examination in Medicine in January:—

Entire Examination.

First Division.—Thomas Crisp English and Lawrence Jones, St. George's Hospital; William Henville Lowman, King's College; and Hackworth Stuart, University College.

Second Division.—Frederick Cecil Edgar Atkinson, St. George's Hospital; Percival George Albert Bott. St. Mary's Hospital; David Leighton Davies, University College; Frederick Walter W. Dawson, Westminster Hospital; Louis Edington Dickson, University College, Liverpool; Harold Augustus Easton, St. Thomas's Hospital; Sarah Louise Fraser, London School of Medicine and Birkbeck Institute; George Henry James Hooper, Charing-cross Hospital; Francis Musgrave Howell; St. Bartholomew's Hospital; Joseph Klein, St. Mary's Hospital; Charles James Izzard Krumbholz, University College; Richard Horace Paramore, St. Bartholomew's Hospital; Hilda Mallinson Rowntree, London School of Medicine and Royal Free Hospital; Harry Scholefield, Owens College; Charles Duncan Soutter, Mason College; William Lumsden Stuart, King's College; John Tattersall, St. Mary's Hospital; Herbert Terry, Owens College; Robert Cyril Turnbull, London Hospital; John Ernest Utley, Owens College; Kathleen Olga Vaughan and Blanche Elinor Walters, London School of Medicine for Women; and Sydney Rice Williams, Bristol Medical School.

Excluding Physiology.

Second Division.—James Connor Maxwell Bailey, St. Bartholomew's Hospital; Anthony Birch, St. Mary's Hospital; Robert Harrison Birtwell, B.A., London Hospital; Hans Frederick William Boeddicker, Mason College; Robert Culverwell Bowden and Allen Bathurst Brown, St. Bartholomew's Hospital; William Collings Dawson, Mason College; Alice Debenham, London School of Medicine for Women; Sydney Hunt, St. Thomas's Hospital; Ernest Thomas Jensen, Guy's Hospital; Ambrose Hilton John, St. Bartholomew's Hospital; David Thomas Cadvan Jones, University College; Ernest Williams Jones, Mason College; John Tyley Montgomery McDougall, Guy's Hospital; Annie Mooney, London School of Medicine for Women; Daniel Leigh Morgan, Guy's Hospital; Eugene Michael Niall and Thomas Massey Pearce, St. Bartholomew's Hospital; Arthur Pearson, Guy's Hospital; Mary Elizabeth Phillips, University College, Cardiff; Mary Ariel Stewart, London School of Medicine for Women; Frederick George Thompson and William Arthur Trumper, St. Mary's Hospital; Ernest Wetbered, St. Bartholomew's Hospital; Percy Walter White, Bristol Medical School; and Gisela Wilmersdoerffer, London School of Medicine and Birkbeck Institute.

Physiology Only.

First Division.—Alfred John Vernon Betts, Westminster Hospital; John Ellis Chapman, University College, Sheffield; Lewis Cook, Westminster Hospital; Alfred Gordon Ede, St. Bartholomew's Hospital; William Ferris, St. Mary's Hospital; Brinley Richard Lloyd, Cardiff Medical School; David Thomas Price, Bristol Medical School; Arthur Tregelles Pridham, St. Bartholomew's Hospital; and Percy Taylor H. Stedman and Charles Wynn Wirgman, University College.

Second Division.—Josephine Brown, London School of Medicine for Women; Walter Seymour Danks, St. Bartholomew's Hospital; Margaret Bernard Dobson, London School of Medicine for Women; Charles Edward Etheridge, Middlesex Hospital; Cecil Scarlett Frost and Thomas Hall Gandy, St. Bartholomew's Hospital; Alfred Jones, London Hospital; Patrick Thurburn, Guy's Hospital; James Cole Marshall, St. Bartholomew's Hospital; Michael Foster Reaney, London Hospital; William Edward Ruttledge, University College; Mary Ethel S. Scharlieb, B.A., London School of Medicine for Women; Francis Williams Sheppard, St. Bartholomew's Hospital; Nigel Frampton Stallard, University College; and Alfred Bertram Vine, Middlesex Hospital.

The Odontological Society of Great Britain.—The usual monthly meeting of this society was held on Feb. 7th at Leicester-square. The minutes of the previous meeting were read and confirmed.—The Curator showed a piece of an Elephant's Tusk which had a leaden bullet embedded in the substance of the ivory. The lead and ivory were in close contact.—Mr. F. W. Barrett showed a Skull of an Indian from the region of Vancouver's Island. The teeth showed signs of much attrition, the mandibular molars on the left side having the pulp chambers laid bare by the destruction of tissue proceeding at a greater rate than the formation of secondary dentine. In the majority of the teeth, although they were worn down below the level of the pulp chambers, secondary dentine had formed and so protected the living pulps.—Some discussion ensued, in which Mr. Baldwin, Mr. H. Lloyd-Williams, Mr. Ashley Barrett, and Mr. F. J. Bennett took part, the point in question being the probable cause of the extensive loss of the tooth tissue.—Mr. Albert read a paper on the Sulpho-cyanide of Potassium in Saliva, which we shall publish in an early issue.—The paper was discussed by Dr. Buckmaster, Mr. Kenneth Goadby, and Mr. F. J. Bennett.—The meeting was then adjourned.

The Queen has sent a present of game for the use of the patients in the City of London Hospital for Diseases of the Chest of which Her Majesty is Patron.

Typhoid Fever in the Thornbury Rural District.—At the meeting of the Thornbury Rural District Council held on Feb. 4th Dr. Bond, the medical officer of health, informed the council that seventeen cases of typhoid fever had occurred at Tytherington since Jan. 21st. It was decided to have the isolation hospital at Alveston made ready for the reception of cases.

Dramatic Performances at Clifton.—The week commencing April 18th has been selected for the second "amateur week" at the Prince's Theatre, Clifton. The Bristol Amateur Operatic Society will produce *The Gondoliers* and *The Mountebanks*, giving two performances of each. Dr. Lionel Weatherly will arrange for two performances of *Arrah-na-Pogue*. The profits will be divided between the following Bristol medical charities—Infirmary, General Hospital, Children's Hospital, Eye Hospital, and Dispensary.

Freemasonry.—*Rahere Lodge, No. 2546.*—An ordinary meeting of this Lodge was held at Frascati's Restaurant, Oxford-street, W., on Feb. 8th, the Worshipful Master Bro. W. J. Walsham being in the chair. Bro. Morrison was admitted to the second degree. Messrs. Edward Carnall and S. S. Hoyland were initiated into Masonry and Bro. G. W. Micklethwaite, of the Isaac Newton University Lodge, No. 859, was elected a joining member. The Lodge voted a sum of thirty guineas to the forthcoming Royal Masonic Institution for Boys' festival of the centenary.

Literary Intelligence.—A series of finely coloured drawings of various skin diseases is at present being published under the superintendence of Dr. Martin Chotzen of Breslau. The full title of the work is "Atlas der Syphilis und Syphilisähnlichen Hautkrankheiten für Studirenden und Aerzte" (Atlas of Syphilitic Skin Diseases and Affections which Resemble Them, for Students and Practitioners). It will be completed in twelve monthly parts, the sixth of which has just appeared, and it will contain 109 drawings arranged in 72 plates (77 drawings of syphilitic and 32 of non-syphilitic conditions). The price of each monthly part consisting of six plates and the explanatory letterpress is three marks (3*s.*). The publishers are Leopold Voss, of Hamburg and Leipzig, and Max Nessel, of Neue Schweidnitzer Strasse, Breslau.

Roentgen Society.—At a meeting of this society held on Feb. 1st the secretary read a communication from Mr. Marsh (Northwich) drawing attention to a small round spot the size of a shot over the head of the fifth metacarpal in a radiogram he had taken. He had taken the same hand seven months previously and at that time thought the mark due to a defect in the plate.—Mr. Baker had observed a similar appearance and other members pointed it out on various radiograms. No explanation was given.—Dr. Walsh read a paper on Periosteal and Other Soft Tissue Shadows. He described a series of experimental exposures from the soft tissues of the tibia and ankle of the ox. Periosteum differed in density from various parts of the same bone and was especially dense over strong muscular insertions. It was relatively a very opaque tissue. Thus a strip of the thickness of ordinary brown paper threw a shadow equal to that of half an inch of tough tendon. A photograph of a forcibly fractured caudal vertebra showed the periosteum stripped from the free ends for several millimetres. Obviously such a record where obtainable must have a surgical value. The ligaments of strong joints were specially dense to the rays.—Dr. Walsh also discussed the "Singing Anode," which he thought might be traced to two causes—one a mechanical rattle and the other a molecular hum due to the passage of an alternating current through the tube.—Mr. Mackenzie Davidson demonstrated his Localisation Apparatus and Methods, which have been already published. He gave the results of some valuable and suggestive researches into the definition of tubes. By placing a chequered wire screen in front of a pencil of focus-tube rays he showed that the dark shadows ran in the direction parallel to the pencil, while those transverse to the latter were either obscured or altogether blotted out. It is difficult to estimate the possibilities unfolded by this observation of what Mr. Davidson has named the "astigmatic shadow."

THE APOTHECARIES' HALL OF IRELAND.—The following candidates have passed at the January examinations and completed their First Professional Examination: John Thompson, Francis G. Adye-Curran, and Lewis Farrell. Second Professional Examination: William P. Harding (passed in Materia Medica and Physiology).

BRISTOL HEALTH COMMITTEE.—At a meeting of the Bristol Health Committee held on Feb. 1st the sub-committee appointed to consider the appointment of an assistant medical officer of health decided to recommend the council to appoint a medical superintendent of hospitals distinct from the medical officer of health or an assistant. They recommended that the appointment of the latter should be deferred for the present.

BRITISH DENTAL ASSOCIATION.—The British Dental Association will hold its annual meeting in Bath on Saturday, May 28th, when the retiring President, Mr. R. T. Stack, M.D. (T.C.D.), F.R.C.S. Irel., of Dublin, will deliver his address. The President-elect is Mr. W. A. Hunt, M.R.C.S. Eng., L.R.C.P. Lond. The mayor will give a reception in the Roman Promenade in the evening and other features have been arranged for the meeting, which will conclude on the following Wednesday.

ROYAL INSTITUTION.—At a general monthly meeting of the members of the Royal Institution held on Feb. 7th, Sir James Crichton Browne, M.D. Edin., F.R.S., treasurer and vice-president, presiding, the special thanks of the members were returned to Mrs. Tyndall for her donation of £1000, presented "for the promotion of science" in the name of the late Dr. John Tyndall, D.C.L., F.R.S. Thanks were also returned to Sir Frederick Abel, Sir Andrew Noble, and Professor Dewar for donations to the fund for the promotion of experimental research at low temperatures. It was announced that the centenary of the Royal Institution would be celebrated next year.

NORTH OF ENGLAND GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY.—The annual meeting of this society was held at Owens College, Manchester, on Jan. 21st, the senior vice-president, Dr. Lloyd Roberts, being in the chair until the election of Dr. J. W. Martin, of Sheffield, as president, who then took the chair. The following gentlemen were elected office-bearers for the year:—President: Dr. John W. Martin, Sheffield. Vice-presidents: Dr. T. A. Helme, Manchester; Dr. D. Lloyd Roberts, Manchester; Dr. John Wallace, Liverpood; Dr. T. B. Grimsdale, Liverpool; Dr. Jas. Braithwaite, Leeds; Mr. Chas. Richardson, Leeds; Mr. G. E. K. Thorpe, Sheffield; and Mr. J. Benson, Sheffield. Hon. treasurer: Mr. J. Nelson Oregeen, Liverpool. Council: Mr. Owen Bowen, Liverpool; Mr. H. Briggs, Liverpool; Dr. Archibald Donald, Manchester; Mr. Richard Favell, Sheffield; Dr. W. E. Fothergill, Manchester; Mr. D. L. Hamilton, Manchester; Dr. H. Harvey, Wavertree; Dr. Arnold Lea, Manchester; Dr. H. A. Lediard, Carlisle; Mr. T. D. Leigh, Liverpool; Dr. T. W. Napier, Egremont; Dr. J. J. O'Hagan, Garston; Dr. Benjamin Scott, Manchester; Dr. W. Japp Sinclair, Manchester; Dr. David Smart, Liverpool; Dr. A. Stookes, Liverpool; Mr. E. W. Thomson, Sheffield; Dr. A. J. Wallace, Liverpool; Dr. W. K. Walls, Manchester; Dr. W. Walter, Manchester; Dr. A. E. L. Wear, Leeds; and Dr. R. E. Williamson, Leeds. Honorary general secretary: Dr. J. E. Gemmell, Liverpool. Honorary local secretaries: Dr. John Scott, Manchester; Mr. W. Fingland, Liverpool; Mr. Edward O. Croft, Leeds; and Dr. Hugh Rhodes, Sheffield.—Dr. Walter (Manchester) showed: 1. A Fibroid the size of a pigeon's egg removed on Jan. 17th from the anterior lip of the cervix uteri. The patient, aged forty-eight years, had suffered from menorrhagia for eight months, until which time the catamenia had been regular. 2. A Fibroid removed from the fundus uteri by vaginal hysterectomy on Jan. 10th from an unmarried patient, aged thirty years, who for eighteen months had been losing flesh and strength consequent on metrorrhagia and excessive pain. Anterior colpotomy was first performed and the front wall of the uterus divided from the cervix upwards with a view of removing the tumour by *morcellement* and then closing the uterus. Owing, however, to the tumour being firmly embedded in the fundus and great difficulty in traction being experienced on account of extreme narrowness of the vagina it was found necessary to resort to hysterectomy. This was rendered possible by bisecting the lower two-thirds of the posterior wall of the uterus as well as the anterior. Part of the tumour was then removed by *morcellement*, the remainder by enucleation. The uterus being now divided into separate halves was removed after ligation of each broad ligament. The wound and vagina were packed with iodoform gauze and the after-progress of the case was uneventful.—Dr. Alexander (Liverpool) read a paper on the Enucleation of Multiple Uterine Fibroids, and Dr. Lloyd Roberts, Dr. Walter, and Dr. Donald took part in the discussion which followed.

SHEPTON MALLET DISTRICT HOSPITAL.—The annual meeting of this hospital was held on Jan. 29th under the chairmanship of Sir R. H. Paget, Bart., President. The report showed a deficit of £56 as against £17 on the previous year. There were 141 in-patients treated against 140 in 1896, and there were also 111 out-patients. It was stated that the income from all sources was £433 and with most careful economy there was a permanent expenditure of about £460 per annum.

UNIVERSITY OF CAMBRIDGE.—G. Elliot Smith M.D. Sydney, advanced student of St. John's College, has been approved by the Degree Committee for the B.A. degree in virtue of his original researches on the anatomy of the brain. Dr. Arthur Willey has been re-elected to the Balfour Studentship for another year. Mr. H. E. Durham has been appointed a representative of the University at the International Congress of Hygiene and Demography to be held in April at Madrid. Lord Lister has been appointed an Elector to the Professorship of Surgery, Dr. J. F. Payne an Elector to the chair of Pathology, Sir William Turner an Elector to the chair of Anatomy, Professor Schäfer an Elector to the chair of Physiology, and Lord Walsingham an Elector to the chair of Comparative Anatomy and Zoology.

THE CORPORATE AND MEDICAL REFORM COMMITTEE.—A meeting of the Executive Committee was held on Saturday, Feb. 5th, Dr. T. Granville Hockridge being in the chair. The committee passed resolutions thanking the Parliamentary Bills Committee of the British Medical Association, and particularly Mr. G. Brown, Dr. Shuttleworth, Mr. Victor Horsley, and Mr. Parkinson, for the action taken on the memorial of this committee inviting the association to take the lead in measures to secure the reforms desired by the profession, but that a letter be written to point out that the chief object (the coördination of the action of the profession) is not dealt with and to suggest that the sub-committee invite the coöperation of all the Direct Representatives and of public bodies in the profession obtaining power, if necessary, for the purpose. It was resolved also to invite the Direct Representatives to take steps by way of requisition to convene a special meeting of the General Medical Council to consider the matters dealt with in Mr. Victor Horsley's report to the registered practitioners of England and Wales.

THE WATER-SUPPLY OF BISHOP AUCKLAND.—This populous town in the county of Durham is supplied with water from the River Wear. The county council some months ago represented to the Local Government Board that the water was impure and that it was very dangerous to continue its use. The board has declined to take any action. Within the last five years the board have had several public and other inquiries with regard to the water-supply in consequence of complaints. "In 1891–92 the Local Government Board sanctioned the application of the urban sanitary authority for the borrowing of £12,000 for increasing the supply from the Wear, which at that time was, and still is, grossly polluted by rain-sewage within a few miles of and above the intake. In July, 1893, the county council as a result of a report of their medical officer of health on an epidemic of typhoid fever in Bishop Auckland, which he attributed largely to the polluted water-supply, made a representation to the Local Government Board as to the dangerous quality of the water-supply to the town." This led to an inquiry by the board but nothing resulted. In June, 1896, after another public inquiry, the board refused to sanction further expenditure and advised that the district council should cease to draw its water-supply from the River Wear and procure it from the Shildon Water Company. The district council refused to follow this advice. Two applications have since been made by the county council to the Local Government Board asking it to exercise its compulsory powers but the board declines to do so. On Wednesday

Jan. 27th, at the quarterly meeting of the Durham County Council, the position was discussed on a consideration of the report of the Health Committee, during which discussion Lord Ravensworth remarked: "Evidently the warning they once received and the frightful examples of Lynn and Maidstone did not concern the local authority. The Local Government Board had the power to compel the local authority and why did they not exercise that power?"

DORSET COUNTY HOSPITAL.—The annual meeting of the subscribers of the Dorset County Hospital at Dorchester was held on Feb. 3rd under the presidency of Captain Acland. The report showed that during 1897 there had been 367 in-patients admitted, against 326 in 1896, and 972 out-patients had been treated, against 993 in the preceding year. The income during the year was £2452 and the expenditure £2411.

DIPHTHERIA IN LONDON.—There has been sensible and continued diminution of diphtheria prevalence in London during the first four registration weeks of the current year ended on Jan. 29th as compared with preceding periods of like duration. The 1119 notified cases during the period ended on Dec. 4th fell to 1064 in the four weeks to Jan. 1st, but the 198 deaths in the former increased to 230 in the latter period. In the four last weeks of 1897 the 1064 cases and the 230 deaths yielded a case mortality of 21·6 per cent.; and whilst all districts save one in London were invaded eight had each 50 attacks and upwards with an aggregate of 515, or nearly half the total. On the other hand, other eight districts had only 30 cases in all. But during the period ended Jan. 29th all the sanitary areas of London were invaded, yielding, however, only 901 attacks; the 163 registered deaths furnishing a case mortality of 18·1 per cent. Only three districts had 50 cases and upwards each, with an aggregate of 201 attacks; and other four districts had only 8 cases in all. Thus the amount and fatality of diphtheria in London in January alike favourably compare with the data of the closing weeks of last year. The decline was fairly uniformly distributed. In the December period the successive weekly totals of cases were 294, 277, 212, and 281, showing an average of 266 weekly; in January the totals were 231, 192, 200, and 278, or an average of 225, with a distinct upward tendency at the close of the month. The deaths registered weekly in the December period were 58, 63, 56, and 53, and averaged 57; and in January 50, 44, 33, and 36, an average of 41 weekly. The deaths registered from diphtheria in London in the week ended Feb. 5th numbered 42. In the outer ring the registered deaths in the successive weeks of the December and January periods have been 20, 16, 17, and 13 in the former, amounting to 66; and 15, 10, 7, and 15, in January, amounting to 47. So that here also the decline has been a substantial one.

THE SHEFFIELD MEDICAL AND CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 20th, Mr. Reckless, ex-President, being in the chair. Dr. Gwynne showed a case of Hodgkin's disease. The patient, a girl, aged nine years, had been suffering from the disease for three and a half years. It came on after whooping-cough. The glands on the right side of the neck became enormously enlarged and as the breathing became embarrassed from the pressure they were excised on two occasions, there being an interval of two and a half years between the operations. The spleen, which was noticeably enlarged about a year and a half ago, now filled most of the abdominal cavity in front. An examination of the blood in a specimen taken after a meal showed 4,800,000 red and 11,000 white corpuscles per cm. The hæmoglobin was reduced below normal. The ordinary remedies did no good in this case. Some temporary improvement followed a course of bipalatinoids of ferrous carbonate and red marrow.—Mr. Pye-Smith showed a Papillomatous Growth which he had removed from the bladder.—Mr. Archibald Cuff showed a specimen of Malignant Growth of the Kidney obtained by operation; also a Renal Calculus which he had removed.—Mr. Lee showed the following specimens: (1) Heart with Patent Foramen Ovale and Diseased Aortic and Mitral Valves; (2) Sarcoma of the Kidney with Secondary Growths causing Fractures of the Humerus and Dorsal Vertebra; (3) Cancer of the Lung; and (4) Aneurysm of the Aorta, which had ruptured.—Dr. Arthur Hall showed a case of Ringworm of the Scalp which appeared analogous to the Kerion of Celsus.—Dr. Wearne Clarke showed a Fœtus with Craniorhachisis.—Dr. Birmingham read a paper entitled a New Mode of Treatment applicable to many of the Major Affections of the Respiratory System.—Mr. Reckless, Dr. Porter, Mr. Pye-Smith, Mr. Cuff, Dr. James Martin, Dr. Sweeten, Dr. Gwynne, Dr. Addison, Dr. Richards, and Dr. Wearne Clarke made remarks.

MEDICAL MAGISTRATE.—Mr. John A. Robertson, M.B., C.M. Edin., of Matjesfontein, Cape Colony, has been appointed a Justice of the Peace for the District of Worcester, Cape Colony.

ROYAL UNITED HOSPITAL, BATH.—The annual meeting of this institution was held at the Guildhall, Bath, on Jan. 31st under the presidency of the mayor. The report showed that the total expenditure was £6225, being £430 less than in 1896. The medical report showed that during the year 1264 in-patients had been admitted as against 1348 in 1896. The out-patients numbered 8987 as against 9698 in 1896. The committee alluded to the great loss the hospital had sustained by the deaths of Mr. T. G. Stockwell, F.R.C.S. Eng., who had been connected with the institution for thirty-three years, and Mr. H. W. Freeman, F.R.C.S. Irel., who for sixteen years had been on the staff. The Rev. E. Handley was elected president for the tenth time.—As the result of the late amateur theatrical week in Bath, due to the energy of Dr. Lionel Weatherly, the Royal United Hospital has benefited to the extent of £300.—Sir Squire Bancroft's recent reading produced £112 for the institution.

ABUSES IN NEW YORK HOSPITALS.—The annual report of the Visiting Committee of the State Charities Association Department has recently been issued and reveals the fact that the management of some of the hospitals in New York City is not by any means satisfactory. This is particularly the case with the Children's Hospital on Randall's Island. At the Foundling Hospital, indeed, the death-rate amongst its inmates has been so high that the public press of New York has taken the matter up and is agitating for reforms in the present methods of management. The mortality among the children in the Infants' Hospital, not including children over two years of age, according to official reports, for the year ending Oct. 1st, 1896, and the year ending Oct. 1st, 1897, was as follows: Foundlings: 1896, 78 per cent.; 1897, 80 per cent. Other infants received without their mothers—1896, 60 per cent.; 1897, 59 per cent. Children received with their mothers—1896, 14 per cent.; 1897, 13 per cent. But a truer impression of the fate of the children cared for by other than their own mothers in the infants' hospital is gained from the statement that of 366 infants admitted when under six months of age twelve remained alive on April 15th, 1897—a death-rate of 96·7 per cent. The average duration of life of the 354 children who died was between five and six weeks. Of the twelve surviving children two were bottle-fed and ten were nursed.

TYPHOID FEVER AT CAMBORNE.—At a meeting of the Camborne District Council held on Jan. 28th the chairman of the Special Sanitary Committee stated that Dr. Bruce Low had informed the committee that he was decidedly of opinion that the outbreak of typhoid fever at Boswyn was due to the contamination of the water-supply and he showed by diagrams that when there was a heavy rainfall a communication was established between Boswyn water-tank and a cesspool. Dr. Low also found that among 116 typhoid fever patients in Camborne district there were only four who lived outside the water-supply area, and three of these admitted drinking the suspected water. He also found that houses were attacked in an equal degree whether they were provided with proper water-closets and drains or with privies and cesspits. The general sanitary conditions were also much the same in the unaffected as in the affected areas, all which facts indicated that the disease was propagated by the water-supply. Dr. Low had visited the watersheds at Cargenwyn and Boswyn and had pointed out certain risks of contamination which were now being guarded against. He had, moreover, established that there was no foundation for the statement that this was the second outbreak of typhoid fever in the district during 1897. Mr. J. Telfer Thomas, the medical officer of health, reported that only three cases of typhoid fever had been notified since the last meeting and strongly urged the adoption of the Infectious Diseases Prevention Act.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Opening of the Session.

The Houses of Parliament, which had been in recess since Friday, Aug. 6th, opened a new session on Tuesday, Feb. 8th. The opening ceremony took place as usual in the House of Lords, where, in the presence of the Speaker and many members of the House of Commons, the Royal message calling Parliament together was read by the Lord Chancellor.

Prospective Legislation.

Among the measures mentioned in the Queen's Speech were a Bil for the amendment of the Vaccination Law, a Bill for the constitution of a teaching university for London, a Bill for dealing in part with the subject of secondary education, and a Bill for preventing the adulteration of drugs and food.

Plague and Famine in India.

The following reference to these subjects was made in the Queen's Speech—viz., "The plague which appeared more than a year ago in Western India returned in the autumn, and although the mortality is less alarming than it was at this time last year it is still such as to cause anxiety. No effort will be spared by my Government in the endeavour both to limit its extent and to mitigate its effects; and I am confident that they will receive the loyal assistance of my Indian subjects in this arduous task. I rejoice, on the other hand, to inform you that the famine which prevailed for many months over several large districts may now be said to be at an end excepting within a small tract in Madras, and that there is reason to anticipate a prosperous year, both for agriculture and commerce, throughout my Indian dominions."

Adulteration of Food Products.

The Parliamentary Committee of the Central and Associated Chambers of Agriculture held a meeting on the day of the opening of the session, at which they passed a resolution expressing satisfaction with the assurance that it is the intention of the Government to introduce a Bill dealing with the adulteration of food products and, in the belief that the Bill will propose to give effect to the recommendations of the Select Committee of the House of Commons and thus satisfy the repeated demands made by the Chambers of Agriculture, urging the Government to proceed with the measure as soon as possible as a matter of urgent importance to the agricultural community.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Anning, George Paul, M.R.C.S., L.R.C.P. Lond., has been appointed an House Physician to the General Infirmary, Leeds.

Bakewell, R. T., M.B., M.R.C.S., L.R.C.P., has been appointed Anæsthetist to the National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen-square, Bloomsbury, vice Dudley W. Buxton.

Beatty, W. J., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed a Certifying Factory Surgeon for the Stockton District, vice J. Dale.

Bennett, J. M., L.R.C.P. Irel., has been appointed Medical Officer for the Ruddington Sanitary District of the Basford Union, vice M. Carnelly.

Bonstead, R. J., L.R.C.P., L.R.C.S. Edin., D.P.H., has been re-appointed Medical Officer of Health by the Hexham Rural District Council.

Bullock, H. M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Heston and Isleworth Urban District, vice T. W. Bullock.

Buxton, D. W., M.D., B.S., has been appointed Consulting Anæsthetist to the National Hospital for the Paralysed and Epileptic (Albany Memorial), Queen-square, Bloomsbury, London.

Carter, W. St. Leger, L.R.C.P., L.R.C.S. Edin., has been re-appointed an Honorary Surgeon to the Liskeard Cottage Hospital.

Cullin, G. R., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Harrington Urban District, vice J. Dick.

Elliott, C. N., M.B., M.Ch. Dubl., has been re-appointed Medical Officer of Health by the Thrapston Rural District Council.

Figgis, S. B., M.B., C.M. Edin., has been appointed an Honorary Medical Officer for the Northern Branch of the Brighton, Hove, and Preston Dispensary.

Gardner, William, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Nunney District of the Frome Union.

Green, G. R., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health by the Ripon City Council.

Haigston, R., L.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Surgeon to the Liskeard Cottage Hospital.

Hammond, Wm., L.R.C.P. Edin., M.R.C.S., has been re-appointed an Honorary Surgeon to the Liskeard Cottage Hospital.

Harland, G. R., L.R.C.P. L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed an Assistant Medical Officer for the Workhouse of the Gateshead Union.

Hollinshead, F., M.D. St. And., M.R.C.S., has been re-appointed Medical Officer by the King's Norton Rural District Council.

Hyatt, James Taylor, M.R.C.S., L.R.C.P. Edin., D.P.H. Cantab., has been re-elected Medical Officer of Health by the Shepton Mallet Urban District Council.

Ilott, A. T., L.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Surgeon to the Liskeard Cottage Hospital.

James, Fitzgerald, B.A., M.B., C.M., has been appointed House Surgeon to the Edinburgh Royal Maternity and Simpson Memorial Hospital.

Jones. J. F., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer by the Llansilin District Council.

Lyne, W. H., L.S.D., R.C.S., has been re-appointed an Honorary Dental Surgeon to the Liskeard Cottage Hospital.

Maples, R., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Kingsclere District Council.

Morcom, A., L.R.C.S. Edin., has been re-appointed Medical Officer of Health by the Dunstable Urban District Council.

Morgan, G. F. C., L.R.C.P. Lond., M.R.C.S., D.P.H., has been appointed Honorary Physician to the Hartlepool Hospital.

Nettle W., M.R.C.S., has been re-appointed an Honorary Surgeon to the Liskeard Cottage Hospital.

Owen, Arthur Dunley, B.Sc., M.R.C.S., L.R.C.P. Lond., has been appointed Government Surgeon at Enkeldoorn, Rhodesia, S. Africa.

Porritt, Ernest E., M.B., C.M., has been appointed House Surgeon to the Edinburgh Royal Maternity and Simpson Memorial Hospital.

Pronger, C. E., F.R.C.S., L.R.C.P. Lond., has been appointed a Medical Officer to the Harrogate Cottage Hospital.

Race, J. Percy, L.S.A. Lond., has been appointed Junior House Surgeon to the Ancoats Hospital, Manchester.

Rimell, A. T., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health for the Tydd St. Mary District of the Holbeach Union.

Smith, T. Wilson, M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Honorary Physician to the Royal United Hospital, Bath, vice T. Cole.

Sutherland, G. A., M.A., M.D., M.R.C.P., has been appointed Assistant Physician to the North-West London Hospital, Kentish Town-road.

Theobalds, A. J. A., M.B., C.M. Edin., has been appointed Medical Officer for the Wargrave Sanitary District of the Wokingham Union.

Thomas, Thomas Morrell, M.B., M.S. Lond., F.R.C.S. Eng., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Ophthalmic Surgeon to the Newport and Monmouthshire Hospital, vice H. C. Ensor.

Wilkinson, J. B., M.D. Edin., D.P.H. Vict., has been appointed a Medical Officer by the Oldham Town Council.

Wood, W. B. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Bromsgrove Cottage Hospital.

Young, F. C., M.B., B.C. Camb., has been appointed Medical Officer for the Twyford Sanitary District of the Wokingham Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bristol Hospital for Sick Children and Women.—House Surgeon. Salary £100 per annum, with rooms and attendance (not board).

City of Liverpool Infectious Diseases Hospital. Park-hill.—Resident Medical Officer at the City Hospital, Park-hill, unmarried. Salary £120 per annum, increasing £10 per annum to £140 (subject to certain conditions). Applications to the Town Clerk, Town Clerk's Office, Liverpool.

East London Hospital for Children and Dispensary for Women, Glamis-road, Shadwell, E.—House Surgeon for six months. Board, residence, &c. are provided, and an honorarium of 15 guineas, conditionally.

Flintshire Dispensary. Resident House Surgeon. Salary £120 a year, with furnished house, rent and taxes free, also coal, light, water, and cleaning, or in lieu thereof £20 per annum. Applications to the Secretary, Board-room, Bagillt-street, Holywell, North Wales.

Frome Union.—Medical Officer for the Coleford Medical District. Salary £30. Midwifery, 10s. per case. Certifying lunatics, 10s. per case. Application to the Clerk, Public Offices, Frome.

General Hospital, Birmingham.—Two Assistant House Physicians for six months. Residence, board, and washing provided

General Infirmary at Gloucester and the Gloucestershire Eye Institution, Gloucester.—Surgeon.

Great Northern Central Hospital, Holloway-road, N.—Anæsthetist.

Joint Counties Asylum, Carmarthen.—Resident Clinical Assistant. Board, &c., and honorarium.

London Temperance Hospital, Hampstead-road, N.W.—Assistant Resident Medical Officer for six months. Residence in the hospital, board, and washing provided, and an honorarium given conditionally.

New Hospital for Women, 144, Euston-road, London.—Medical woman as Clinical Assistant in the Out-patient Department for one year.

Oriolet Cottage Hospital, Loughton. — Honorary Pathologist. Hororarium £10 to cover travelling expenses.

Royal Lancaster Infirmary.—House Surgeon, unmarried. Salary £80 a year, with residence, board, attendance, and washing.

Royal South London Dispensary, St. George's-cross, S.E.—Honorary Surgeon.

Sheffield Royal Hospital.—House Physician for one year, unmarried. Board (exclusive of wine and beer) and lodging provided, and an honorarium of 25 guineas given.

St. Mary's Children's Hospital, Plaistow.—Junior House Surgeon for six months. Salary at the rate of £40 per annum, with board, lodging, and laundry.

Stockport Infirmary.—Assistant House and Visiting Surgeon. Salary £70 per year, with residence, board, and washing.

Suffolk County Asylum.—Second Assistant Medical Officer, unmarried, for three years. Salary £100 a year, with board, lodging, washing, and attendance. Applications to the Medical Superintendent, County Asylum, Melton, Suffolk.

Sunderland Borough Asylum.—Medical Superintendent. Salary £350 a year, with furnished house, board for self and wife (if married), washing, coals, light, two servants, and use of garden. Applications to the Clerk to the Visiting Committee, Town Hall, Sunderland.

Tottenham Hospital.—House Surgeon. Salary £40 per annum, and board, washing, and lodging in the Institution.

Victoria Hospital for Sick Children, Queen's-road, Chelsea, S.W.—House Physician for twelve months. Honorarium £50, with board and lodging in the hospital.

Wallasey Dispensary.—House Surgeon, unmarried. Salary £150 per annum, with furnished house, coal, and gas. Applications to Mr. Wm. Heap, Elm Mount, Penkett-road, Liscard, Cheshire.

West Riding Asylum, Wadsley, near Sheffield.—Fifth Assistant Medical Officer. Salary £100 per annum, rising £10 a year up to £150, with board, &c.

Wisbech Union.—Medical Officer and Public Vaccinator for the first, second (A), and eighth districts of the Union. Salary for the first district £70 per annum, for the second (A) district £10 per annum, and for the eighth district £15 per annum, with the extra fees prescribed by the Local Government Board. Applications to the Clerk, Union Offices, Wisbech.

Births, Marriages, and Deaths.

BIRTHS.

Chawner.—On Feb. 2nd, at Hill House, Clay Cross, the wife of Alfred Chawner, L.R.C.P., M.R.C.S., of a daughter.

Coleman.—On Feb. 4th, at Dudbrook House, Clacton-on-Sea, the wife of Percy Coleman, M.B., B.S., of a son.

Fraser.—On Jan. 31st, at Sandown Lodge, Brixton-road, the wife of E. Fraser, M.D., of a son.

Murray.—On Feb. 8th, at Aindyke, Beckenham, the wife of Percy Hope Murray, M.B., of a son.

Sumpter.—On Feb. 9th, at Hunstanton, Norfolk, the wife of Berners George Sumpter, M.B. Durh., M.R.C.S., of a daughter.

Wood.—On Feb. 7th, at Elm House, Ipswich, the wife of Arthur T. Wood, M.R.C.S., of a son.

MARRIAGES.

Fairweather—Weldon.—On Feb. 5th, at St. Michael's, Bowes-park, David Fairweather, M.A., M.D., to Jeanie Miller, widow of W. Urquahart Weldon.

Humphris—Hesketh.—On Jan. 20th, at the Church of the Resurrection, Brussels, by Rev. N. S. Hodson, chaplain, assisted by Rev. Dr. Ker Gray, incumbent of St. George's Chapel, Albemarle-street, London, and Rev. J. Thompson, F. Howard Humphris, M.D., M.R.C.P., eldest son of F. H. Humphris, J.P., Ilkley, to Ethel Marion, eldest daughter of Colonel Hesketh, I.S.C.,

Pike—Markland.—On Jan. 3rd, at St. Martin's-in-the-Fields, W., Norman Howard Pike, M.B., B.S. (Lond.), of Heckmondwife, Yorks, to Clara, daughter, of John Markland, of Pudsey, Yorks.

Sidebottom—Nowell.—On Feb. 7th, at the parish church, Halifax, Thomas Sidebottom, M.B., C.M., Bardney, Lincolnshire, to Edith, eldest daughter of Thomas Palethorpe, Esq., Milton-place, Halifax.

Wilson—Owen.—On Feb. 8th, at St. John's Episcopal Church, Edinburgh, by the Rev. G. J. Cowley Brown, incumbent, Andrew Robertson Wilson, M.A., M.B., C.M. (Edin.), of Trafford House, Liscard, Cheshire, younger son of the late Charles Edward Wilson, LL.D., H. M. Senior Inspector of Schools, to Alice, daughter of the late Rev. Joseph Owen, D.D., Allahabad, India, and Mrs. Owen, 21, Athole-crescent, Edinburgh.

DEATHS.

Carmalt Jones.—On Feb. 2nd, at his residence, 6, Westbourne-street, Hyde Park, T. W. Carmalt Jones, F.R.C.S. Edin., late Surgeon of the Central Hospital for Diseases of the Throat and Ear, and late of Abchurch House, E.C., in his 51st year; eldest son of the late Thomas Jones, Q.C.

Creasy.—On Feb. 8th, at Bath, after a short illness, James Gideon Creasy, surgeon, late of Brasted, and Wrotham, Kent, aged 68 years. Funeral takes place at Brasted on Saturday at 1.30. Friends please accept this the only intimation.

Lund.—On Feb. 4th, at his residence, Victoria-road, Whalley Range, Edward Lund, F.R.C.S., in his 75th year.

Shepherd.—On Feb. 3rd, at Pau, France, Robert John Shepherd, M.D., eldest son of the late Robert Walter Mexborough Shepherd, aged 51.

Smith.—On Feb. 6th, at the residence of his father, Albert John Smith, M.R.C.S. Eng., L.R.C.P. Lond., eldest son of John Smith, M.R.C.S. Eng., L.S.A. Lond., of 23, Park-road, Plumstead, aged 25 years.

Woodhouse.—On Feb. 2nd, at Park House, Surbiton, John Woodhouse, M.D., in his 90th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 10th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Feb. 4	29·36	N.	0·07	47	42	40	41	42	Raining
" 5	29·81	N.	0·17	65	45	33	32	35	Fine
" 6	29·80	S.W.	0·08	54	48	30	44	45	Raining
" 7	29·76	W.	...	71	47	36	36	37	Overcast
" 8	30·03	N.W.	0·05	67	50	36	37	38	Hazy
" 9	30·21	S.W.	...	58	49	35	35	36	Foggy
" 10	30·28	S.W.	...	65	52	36	43	45	Hazy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (19th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (14th).—**Medical Society of London.**—8.30 P.M. Clinical Evening. Dr. S. Taylor: Case of Innominate Aneurysm.—Mr. S. Boyd: Case of Removal of the Frontal Bone for Tuberculosis.—Mr. M. Ling: Case of Empyema after Operation.—Dr. M. Dockrell: Case of Angeioma Serpiginosa.—Mr. W. H. Evans: Case of Unusual Ricketty Leformity of the Knee.—Dr. R. Maguire: A Demonstration of Palpation and Auscultatory Percussion.—Mr. W. H. Battle: (1) A Patient after the Operation for Removal of the Appendix Vermiformis; (2) Plastic Operation after Romoval of Extensive Rodent Ulcer of the Face; (3) Partial Intrauterine Amputation of Leg.

TUESDAY (15th).—**Pathological Society of London.**—8.30 P.M. Mr. Littlewood: Sarcoma of the Tongue.—Mr. P. Furnivall: An Unusual Cyst of the Tongue.—Dr. C. H. Bond: A Case of Post-mortem Emphysema of the Liver.—Dr. Voelcker: Ulceration of Caseous Gland into a Bronchus, Death from Asphyxia.—Dr. C. Ogle: Ulceration of Caseous Gland in the Trachea with a rapidly fatal result.—Dr. Freyberger: Double Hydronephrosis with Calculi in the Right Kidney. Mr. Littlewood will show several card specimens.

Royal Statistical Society (Royal United Service Institution, Whitehall, S.W.).—5 P.M. Mr. E. Cannan: Demographic Statistics of the United Kingdom, their want of Correlation and other Defects.

WEDNESDAY (16th).—**Royal Microscopical Society** (20, Hanover-square, W.).—8 P.M. Mr. T. C. White: Micro-crystallography (with lantern illustrations). Mr. J. E. Barnard: Exhibition of Miscellaneous Lantern Slides.

North-West London Clinical Society (North-West London Hospital).—8.30 P.M. Discussion on the Beneficial Effect of one Disease upon another (opened by Dr. H. Campbell). Dr. S. Phillips, Dr. J. Taylor, Dr. M. Sibley, Dr. Sutherland, Mr. C. B. Lockwood, Mr. Mansell Moullin, Mr. Templeton, and others are expected to take part.

THURSDAY (17th).—**Harveian Society of London** (Stafford Rooms, Titchborne-street, W.).—8.30 P.M. Dr. S. West: Granular Kidney and the Reasons why it is often Overlooked.

Society of Anæsthetists (20, Hanover-square, W.).—Prof. A. D. Waller: The Dosage of Anæsthetics.

Society of Arts (Imperial Institute, South Kensington).—4.30 P.M. Mr. H. M. Birdwood: The Plague in Bombay (illustrated with lantern views, charts, &c.).

FRIDAY (18th).—Epidemiological Society of London (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Surg-Capt. L. Rogers: The Relationship of Variations of the Ground-water Level to the Incidence and Seasonal Distribution of Malarial Fevers in India.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (14th).—Royal College of Surgeons.—5 P.M. Dr. T. G. Brodie: The Place of Formation and Chemical Properties of the Antitoxins. (Arris and Gale Lecture.)

London Post-Graduate Course.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. H. Tilley: Examination of the Ear, Throat, and Nose.

TUESDAY (15th).—West-end Hospital for Diseases of the Nervous System (73, Welbeck-street).—4.30 P.M. Dr. H. Campbell: On Peripheral Neuritis, with cases.

National Hospital for the Paralysed and Epileptic (Bloomsbury).—3.30 P.M. Dr. Tooth: Cranial Nerves.

Royal Institution.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

London Post-Graduate Course.—Bethlem Hospital, 2 P.M., Dr. Craig: Mania—Acute, Hysterical, Acute Delirious.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Acne and Rosacea.

City Orthopædic Hospital.—5.30 P.M. Mr. J. J. Clarke: The Principles of Instrumental Treatment of Deformities.

WEDNESDAY (16th).—Royal College of Surgeons.—5 P.M. Dr. T. G. Brodie: The Place of Formation and Chemical Properties of the Antitoxins. (Arris and Gale Lecture.)

West London Post-Graduate Course (West London Hospital, W.).—5 P.M. Mr. G. L. Cheatle: Treatment of Infection in Surgical Cases.

London Post-graduate Course.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Refuse Removal and Disposal.

Hospital for Consumption and Diseases of the Chest (Brompton).—4 P.M. Dr. Wethered: Cavities in Pulmonary Tuberculosis.

THURSDAY (17th).—Charing-cross Hospital.—4 P.M. Mr. J. Astley Bloxam: Selected Surgical Cases in the Wards. (Post-graduate Class.)

The Hospital for Sick Children (Gt. Ormond-street, W.C.).—4 P.M. Dr. Barlow: Clinical Lecture or Demonstration of Recent Specimens.

London Temperance Hospital.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students—Cardiac Disease.

London Post-Graduate Course.—Central London Sick Asylum Cleveland-st., W.—5.30 P.M., Mr. J. Cantlie: Treatment of Hepatitis.

FRIDAY (18th).—Royal College of Surgeons.—5 P.M. Dr. T. G. Brodie: The Place of Formation and Chemical Properties of the Antitoxins. (Arris and Gale Lecture.)

Royal Institution.—9 P.M. Prof. L. C. Miall: A Yorkshire Moor.

London Post-graduate Course.—King's College, 3 to 5 P.M., Prof. Crookshank: The Microscope and Methods of Cultivation.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

***Lectures, original articles, and reports should be written on one side of the paper only*, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.**

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of* THE LANCET *should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume, were given in THE LANCET of Jan. 1st.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

A QUESTION OF FEES FOR MEDICAL ASSISTANCE TO THE CORONER.

To the Editors of THE LANCET.

SIRS,—On the 27th ult. I was asked to attend a coroner's inquest on the death of a woman who died under somewhat peculiar circumstances. I attended and gave evidence. The jury not being satisfied were unanimous in declaring that a post-mortem examination should be made. I received formal notice from the coroner to perform the post-mortem examination and give evidence thereon, both of which duties I duly performed. The coroner when paying me said I was entitled to two guineas—one for the "inquest," the other for the post-mortem examination and evidence. On page 211 of Welcome's Medical Diary I find that I am entitled to (*a*) one guinea for inquest and (*b*) two guineas for post-mortem examination and evidence thereon. The coroner would not listen to me when I claimed £3 3*s*. for the various duties. Would you kindly let me know what I am entitled to and if I am entitled to £3 3*s*., how can I act in order to obtain it? I may say I accepted £2 2*s*. from the coroner without prejudice and told him I should look further into the matter. I am, Sirs, yours faithfully,

Feb. 1st, 1898. M.D.

*** The fee for giving medical evidence at a coroner's inquest is £1 1*s*.; that for giving medical evidence and performance of a post-mortem examination is £2 2*s*. Our correspondent holds that he should receive £1 1*s*. for giving evidence on the first occasion, when the jury were unsatisfied, and £2 2*s*. for giving evidence after performing the post-mortem examination. The coroner's view is that a fee of £2 2*s*. covers the performance of the post-mortem examination and *both* attendances to give evidence. It is our opinion that the coroner is right.—ED. L.

"A SURGICAL QUESTION."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 5th "F.R.C.S." asks for cases of recovery without gangrene after simultaneous ligature of both popliteal artery and vein. Here are references to two cases:—Teale: THE LANCET, Jan. 1st, 1887, p. 12; for bullet wound: Centralblatt für Chirurgie, 1897, S. 1181. I am, Sirs, yours faithfully,

Brook-street, W., Feb. 4th, 1898. WALTER G. SPENCER

ODD MAGAZINES.

R. D. desires us to say that he has at the present moment some thirty or forty odd magazines, all dated during the last year or two—*Windsor*, *Strand*, *English Illustrated*, *Cornhill*, &c.—which he will be happy to give to any London charity of any sort where they will be of use. He hesitates to send them off to the nearest hospital as he does not want to have the appearance of emptying the lumber of his bookshelves where it may not be wanted, but he thinks that there may be sick people who would like to have a little light assorted reading. Answers to his offer may be sent addressed, R. D., care of THE LANCET, 423, Strand, W.C.

DISCOVERY OF PYGMIES IN SOUTH AMERICA

It is reported by the *New York Tribune* that a Boston man named Sullivan, who lately returned from South America, has discovered a remarkable race of dwarfs inhabiting the valley of the Amazon. Mr Sullivan gives an account of his discovery in the following words: "I met while on the Rio Negro, one of the tributaries of the Upper Amazon, a race of remarkably small people who were more likely of an Indian than a negro origin judging from their hair and the peculiar colour of their skin, which was a brilliant, livid, reddish-yellow. They are very ugly in shape. Their stomach, which is distended in the back as well as in front, is big and out of all proportion to their tiny, spindling arms and legs. I think this is caused by their anaconda-like practice of gorging. After a hunt they will eat like animals and then lie listlessly in the hot tropical sun for days till hunger again impels them to get more game. Curiously enough, they appear to be metal-workers, and tip their darts with bits of hardened iron made from native ores. These dar are projected from a blow-gun with deadly effect. It appeared, as far as could be ascertained, that their home was at the head waters of the Orinoco or else that part of Venezuela near the Brazilian border or Rio Negro watershed. These people are not more than four feet eight inches in height and the women are less than this. They have tribal marks that cover the upper body and head made by slits in the skin. Their huts are sometimes constructed of mud, in which case they are low and resemble a half egg with an opening at one end called 'masango.' I am informed that some of them have some idea of ugly specimens of clay pottery. They have fetish doctors who perform cures on any disease from which their patient may suffer by applying to a particular god according to a patient's ability to pay." Mr. G. Haliburton, of Boston, a fellow of the Royal Geographical Society, has taken a great interest in Mr. Sullivan's discovery. Mr. Haliburton is a great authority on dwarf races. He thinks it of great value to anthropologists to have the tradition of pygmy races in South America recorded by Humboldt in the first years of this century so strangely verified. Humboldt said these pygmies were supposed to inhabit the country at the head of the waters of the Orinoco, but he did not visit that region and suggested that the rumours of this strange race of men were unfounded. Martins stated that he saw a radical dwarf at Para, but little further has been learned on the subject though Markham gives the names of two dwarf tribes with the list of Indian tribes in the valley of the Amazon published by the Anthropological Institute of London in January, 1895. Mr. Sullivan's observations should go far towards clearing up the subject and confirming the hitherto unauthenticated rumours as to the existence of numerous pygmy tribes in Guiana and Venezuela. It would also appear from Mr. Sullivan's somewhat meagre description of the dwarfs whom he encountered in South America that they resemble in appearance and habits the pygmies met with by Dr. Donaldson Smith in Africa a few years ago.

A QUESTION OF CLIMATE.

To the Editors of The Lancet.

Sirs,—Could any of your readers kindly inform me of any healthy spot in Germany or Switzerland where the climate in winter is mild and in summer not too relaxing and where a European girl, aged eight years, born and bred in Burmah, could live *en pension* with her mother and obtain educational advantages? Any information would be thankfully received.

I am, Sirs, yours faithfully,

Feb. 7th, 1898. A. Z.

YELK OR WHITE?

The following case has been submitted to us. A patient, whom we will call A, who had just recovered from an illness was recommended by his medical adviser to take the yelk of an egg several times a day in preference to the white in order to regain his strength. B, a friend of A, had some time before been ordered eggs by an eminent medical man, but was recommended to take the white in preference to the yelk as the most strength-giving. Both A and B maintain that their respective medical men are right and are anxious for the opinion of The Lancet on this subject or a reference to an authority by which they can settle their dispute. According to Dr. Burney Yeo in his work on "Food in Health and Disease," p. 71, the yelk is of more importance than the white from an alimentary point of view, as it contains a quantity of fat as well as a peculiar form of albumen, whereas the white is chiefly a simple solution of albumen. Possibly, therefore, it has been thought desirable to exclude an excess of albumen in A's diet and an excess of fat in B's.

THE DEFINITION OF PUERPERAL FEVER.

To he Editors of The Lancet.

Sirs,—I should be glad to know whether all cases of peritonitis occurring at childbirth are to be reported as cases of puerperal fever under the Notification Act, from whatever cause arising? I have had a case recently where there appeared to have been inflammation before the labour came on and where, as a consequence of having to detach an adherent placenta, unmistakeable peritonitis set in with great severity *immediately* after.

I am, Sirs, yours faithfully,

Feb. 8th, 1898. Inquirer.

THE FLOORING OF A COTTAGE HOSPITAL.

To the Editors of The Lancet.

Sirs,—Will any of your readers who have had experience in the matter kindly state in your columns what they consider the most suitable material for flooring the wards of a small cottage hospital?

I am, Sirs, yours faithfully,

Watton, S.O., Norfolk, Feb. 7th, 1898. H. Mallins, M.B.

PROTECTION FROM THE HEAT OF THE SUN.

We have received particulars of a little invention known as "Sewell's Head and Spine Protector," which will be appreciated by pedestrians and cyclists when walking or riding under the rays of the sun. It consists simply of a gauze shade intended to be worn over an ordinary hat and weighs only 2½ oz. Besides serving the purpose of protecting the head and spine of a cyclist from the sun's rays we should think that it would also afford some protection against the inconveniences and dangers of wind and dust. The address of the inventor is Heavitree, Exeter.

TINEA TONSURANS IN AN ADULT.

Tinea tonsurans in the adult is an event of great rarity. At a recent meeting of the Dermatological Society of London Dr. Aldersmith presented a man, aged twenty-three years, who had contracted the disease from a hairbrush used by a younger brother who had ringworm. There was only one patch and the majority of the hairs grew healthily and firmly but scattered here and there were numerous black dots, and very short stumps, some of which were in the form of little corkscrews. The skin of the patch was smooth. Such a case would probably have been overlooked without a careful examination with a lens. The stumps were so fragile that one could not be extracted entire. They were saturated with a large spore form of fungus—Trichophyton megalosporon endothrix. The modified manner in which the fungus grew in this case as compared with the tinea tonsurans of children is interesting, the unfavourable nature of the soil being evident.

ANATOMY IN THE COUNTY COURT.

A county court judge ought to be a very Solomon for omniscience if he is to give a right decision upon the varied questions that come before him. On Feb. 9th, Judge Lumley Smith, Q.C., at Westminster county court had a very delicate matter before him. The Katerine Spécialité Corset Company represented by Mary Green argued that a firm of dressmakers owed them £4 14*s.* 6*d.* for a pair of corsets supplied to a customer. She met the customer in the street wearing the articles in question. The judge naturally inquired how she knew and the plaintiff replied: "By the special curve in the figuration." The judge and the plaintiff thereupon examined the corsets in question and one of the defendants pointed out the defects. The French fitter said they were not French cut, to which the plaintiff replied that she had studied the anatomy of the English figure and not the French, for there was a vast difference. Eventually judgment was given for the defendants. Anatomy and fashion are, as a rule, in direct opposition; we should like to know upon which ground the judge took his stand.

THE INTERNAL ADMINISTRATION OF IODOFORM.

To the Editors of The Lancet.

Sirs,—I should be much obliged if any of yours readers would inform me of the best way of administering iodoform internally, the dose, and the times it ought to be taken.

I am, Sirs, yours faithfully,
A. G. P. Gipps, Staff Surgeon, Royal Navy.

Craven House, W.C., Feb. 10th, 1898.

◆

"*Seen and Heard.*"—Our attention has been drawn to the paragraph thus headed, but we have also seen, what our correspondent seems to have missed—that the medical man to whom reference was made has written to the paper regretting the appearance of a notice which "though meant in all kindness may be misconstrued." Under these circumstances we are glad to think that there is nothing more to be said.

Fairplay.—We should prefer to hear more before publishing a letter containing grave accusations of "unfairness" and "bullying" on the part of the examiners. Under what circumstances did our correspondent require what reagent?

C. H.—We have decided not to continue the correspondence until some new points arise requiring notice.

Communications not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Eastern Morning News, Bradford Daily Telegraph, Northampton Daily Reporter, Staffordshire Sentinel, Sheffield Telegraph, Western Morning News, Times of India, Pioneer Mail, Birmingham Mail, Builder, Dundee Advertiser, North British Daily Mail, Middlesborough Telegraph, Royal Cornwall Gazette, Architect, Harrogate Advertiser, Liverpool Daily Post, Halifax Guardian, Keighley News, Doncaster Chronicle, Cambridge Express Carlisle Express, Sussex Daily News, Carpenter and Builder Newport Advertiser, Croydon Guardian, Kelso Mail, Market Harboro' Advertiser, Daily Chronicle, Leicester Daily Mercury, South Wales Daily Argus, North Eastern Daily Gazette, Surrey Advertiser Leeds Mercury, Oban Times, Yorkshire Post, Citizen,* Scotsman, *Peterborough Advertiser, Bristol Mercury, Newcastle Leader, Accrington Observer, Kendal Mercury, Hampshire Post, Manchester Guardian, Shrewsbury Chronicle, Kentish Express, Cumberland Advertiser, Berkshire Chronicle, Wigan Examiner, Walsall Observer, Kidderminster Shuttle, Burton Chronicle, Southampton Observer, Essex County Chronicle, Leicester Mercury, Norwich Mercury, Herald of Wales, Portsmouth Times, Surrey Times, Preston Herald, Eastern Daily News, Western Chronicle, Carnarvon Herald, Sanitary Record, Mining Journal, Hertfordshire Mercury, Public Health, Engineer, City Press, Local Government Chronicle, Reading Mercury, Local Government Journal, Lancaster Observer, Weekly Free Press and Aberdeen Herald, Evening Chronicle (Newcastle-on-Tyne), West Middlesex Herald, c&., &c.*

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Remarks

ON

6657 ADMINISTRATIONS OF ANÆSTHETICS CONDUCTED AT THE LONDON HOSPITAL DURING THE YEAR 1897.

In three Clinical Lectures delivered at the Hospital,

BY FREDERIC W. HEWITT, M.A.,
M.D. CANTAB.,

ANÆSTHETIST TO THE LONDON HOSPITAL, CHARING-CROSS HOSPITAL, AND THE DENTAL HOSPITAL OF LONDON.

LECTURE I.

Delivered on Feb. 4th, 1898.

GENTLEMEN,—On Jan. 1st, 1897, a system of recording the anæsthetics administered throughout this hospital was initiated and I propose to lay before you the results of the year's work. I may here say that the system which has been adopted is a very simple one. Throughout the hospital, in the operating theatres, in the out-patient departments, and in the wards record books have been distributed and these have been filled up with brief particulars of each case. In addition to these books special tabular forms, each form being intended for but one case, have been kept in the chief operating theatre and in the out-patient departments to be used under the supervision of Dr. Probyn-Williams or myself by students engaged in the practical part of the anæsthetic course. In looking over these forms, which are furnished with very comprehensive headings, I find a large amount of valuable material and I therefore propose to bring this to your notice. Whilst this clinical work has thus been in progress the physiological aspects of anæsthesia have, as you are aware, been receiving the fullest consideration at the hands of Dr. Leonard Hill and Mr. Barnard, and I shall have occasion to refer subsequently to their investigations. You will see upon the board a condensed statement of the anæsthetics which have been administered.

Anæsthetics Administered in the London Hospital from Jan. 1st to Dec. 31st, 1897.

	Cases.
Ether	2910
Nitrous oxide	1362
*Chloroform	677
A.C.E.	510
*Ether followed by chloroform	293
*Nitrous oxide and oxygen...	240
*Nitrous oxide followed by ether	220
Ether followed by A.C.E.	82
*Nitrous oxide, ether, and chloroform in succession ...	68
*A.C.E. followed by ether	35
Other successions	93
Not stated	167
Total	6657

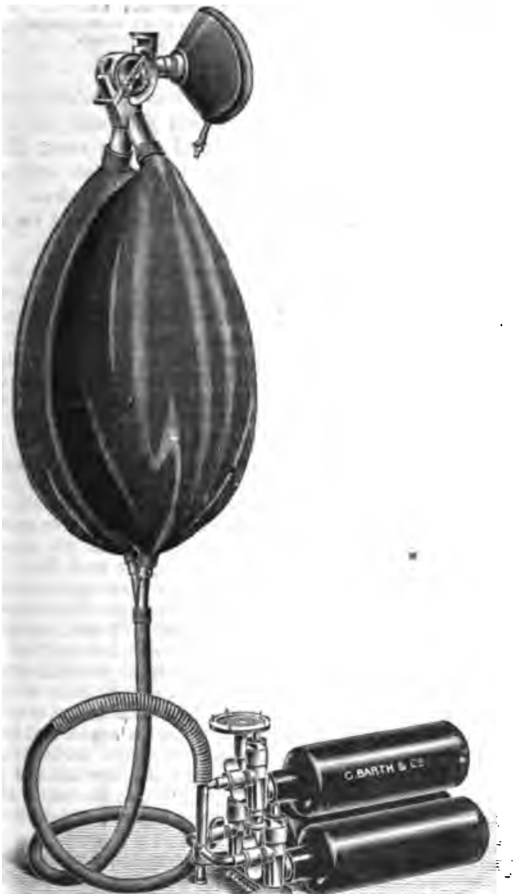
I shall in a subsequent lecture place before you the cases in which dangerous symptoms arose. In the meantime I introduce this preliminary table with the object of directing your attention to certain of the anæsthetics and methods of anæsthetising referred to in it. I shall to-day limit my remarks to the anæsthetics marked with an asterisk in the table—namely, chloroform, ether followed by chloroform, nitrous oxide and oxygen, nitrous oxide followed by ether, nitrous oxide, ether and chloroform in succession, and the A.C.E. mixture followed by ether. Chloroform was administered in only 677 out of the 6657 cases. Several years ago this anæsthetic was in routine use; but experience has tended to somewhat shake our confidence in it for general employment. As to the apparatus required in the administration of chloroform let me in the first place warn you against the attractive but misleading advertisements of certain recently devised chloroform inhalers. If a man cannot trust himself to administer chloroform in graduated quantities from a Skinner's mask there may perhaps be some excuse for him using one of the numerous modifications of Junker's apparatus. But it is better to give to the patient that share of attention which you would otherwise bestow upon your inhaler. Simplicity and cleanliness are of the first importance and a Junker's apparatus should be employed only in midwifery cases and in operations upon the mouth, throat, and nose, where it is useful and essential. For giving chloroform in the ordinary routine way there is nothing better than a Skinner's mask. In the next place let me say a few words as to the general effects of chloroform as an anæsthetic. It is important, as a case to which I shall refer in a later lecture most clearly proves, to carefully examine the chest before giving an anæsthetic; but you will not necessarily be able to tell from the most careful examination of the chest how your patient will behave under chloroform. Experience has shown that more depends upon what I may term the type of your subject than upon the state of his heart or lungs. Certain patients belong to certain types and these patients take anæsthetics in a particular way. I do not mean to say that the presence of this or that form of visceral disease may not have a very material influence in modifying the usual phenomena of chloroform, but the type of the subject is the most important element in determining what course the phenomena of the administration will take. Let us suppose that we have before us two patients in a fair state of health but belonging to opposite types. One of them is a middle-aged man of powerful build with a thick neck, accurately meeting teeth, and a somewhat imperfect nasal air-way. The other is a rather spare woman with defective teeth but a perfectly free nasal air-way. Now although you may give your chloroform in precisely the same way to each of these patients you will obtain a totally different set of phenomena. Had each patient been submitted to a rigorous medical examination at the hands of a physician he could only have reported the absence in each case of any discoverable visceral disease. The stethoscope would not in such patients have been able to predict the phenomena of anæsthesia. In the first case there would probably be a considerable degree of muscular rigidity and struggling, and an intercurrent state of asphyxia, more or less pronounced, would tend to complicate the administration. In the other case the patient would probably pass into a quiet sleep without resistance or the slightest difficulty from the respiratory side. If you had compared the two hearts by means of the stethoscope before the administration you would perhaps have found that the heart of the man was acting more vigorously than that of the woman, and supposing you had taken the relative cardiac states into consideration you might have argued that the patient with the stronger heart action would take the anæsthetic rather better than the other. Experience has shown, however, that the exact reverse is the case. Other things being equal, the stronger the patient the more trouble will you be likely to have with your anæsthetic. By referring to the records of the committee of the Royal Medical and Chirurgical Society and to the observations and figures of Kappeler you will find that deaths from chloroform are most common in the middle period of life when men are most vigorous and that more men die than women under this anæsthetic. You will also notice that chloroform is most lethal during the early stages of its administration and that a very large proportion of chloroform accidents have occurred in connexion with minor operations which, I take it, are most common in vigorous subjects.

Now why should such subjects be the worst? The explanation is, I think, this: that during the passage from imperfect to perfect anæsthesia their muscular systems are thrown into a condition of spasm, and this introduces an element into the case which is wanting in less powerfully developed patients. In many of the cases of which I have notes this point come out clearly. Hill and Barnard have, in their recent researches, again drawn attention to the fact that deaths which take place comparatively early in chloroform administration are usually due primarily to rigidity, struggling, and "holding the breath"; secondarily to a considerable quantity of the anæsthetic being taken in during the succeeding respirations, so that, finally, the right heart, already over full and distended, is paralysed by the chloroform carried directly to it. MacWilliam, Gaskell, Shore, Hill, and Barnard are all in accordance as to the depressing effect which chloroform may produce upon the heart itself. They have shown that varying degrees of cardiac dilatation may be brought about by this anæsthetic and that it is this dilatation of the cardiac cavities which renders chloroform a less safe anæsthetic than ether. Everyone who has carefully followed the controversy between these observers and Surgeon-Lieutenant-Colonel Lawrie will, I think, agree that the ground held so tenaciously by the chief exponent of the Hyderabad doctrines has been irrevocably undermined by the arguments of the opposite side.

Let me here say a few words from a clinical standpoint with regard to respiration under chloroform. There is no doubt that the respiration should be carefully watched throughout and that every breath should be heard or felt. Watching the patient's chest or abdomen, as recommended by the Hyderabad Chloroform Commission, is a fallacious guide, because, as can be demonstrated with the greatest ease, the thoracic and abdominal movements of respiration will persist even though no air is entering or leaving the chest. It is of paramount importance to avoid all obstructions to breathing except that very minor degree to which I shall in a moment allude Speaking in general terms, one may say that obstructed breathing is best relieved by unlocking the teeth and pushing the lower jaw forwards. A minor degree of obstruction, recognised by a softly snoring sound, is, however, rather a favourable element than otherwise, because this slight obstruction keeps the respiratory apparatus freely and audibly working and hence the circulation is well maintained. I need not remind you that free thoracic movement has a very material influence in the maintenance of a good circulation. Very tranquil or almost imperceptible breathing may arise under chloroform altogether independently of an overdose of the agent and may cause the inexperienced anæsthetist some anxiety. Such a condition is most common in patients with perfectly free respiratory passages and is most liable to come on after a phase of respiratory excitement. It is rarely if ever met with in patients with such affections as enlarged tonsils, adenoid growths, catarrhal diseases of the air-passages, emphysema, pulmonary phthisis, &c., because the already present tendency to obstructed or exaggerated breathing increases under the anæsthetic. It is more common under chloroform than ether (although I have notes of its occurrence under the latter) owing to the more irritant effect of ether, to the greater secretion of mucus, and to the necessarily greater extent to which air is withheld during the administration. The tranquil breathing of partial or moderate anæsthesia is of particular importance because, unlike the analogous condition under ether, it is liable to lead to pallor and pulse-feebleness. The explanation, doubtless, is that the heart of the chloroformed patient is less able to meet the strain thrown upon it by the occurrence of feeble respiratory action than the heart of a patient under ether. It is therefore well that we should do our best to avoid extremely tranquil respiration under chloroform even during light anæsthesia. The best way to accomplish this is to endeavour when once snoring breathing has been induced to maintain it by a proper and moderately free use of the agent. If, however, snoring has never come on or has been allowed to disappear it is a good plan to artificially induce it by gently pushing the lower jaw backwards. The breathing will at once increase in force and circulatory depression will be averted. In some cases the administration of rather more of the anæsthetic will have a similar effect, but the plan which I have suggested is of great service. That patients behave very satisfactorily under chloroform when there is a very minor degree of obstruction is beyond all doubt, but great care must, of course, be exercised in artificially inducing stertor. It is quite possible that during snoring breathing carbonic acid is retained in the blood to a greater extent than in perfectly unobstructed respiration and if so this retention may partly explain the improvement in the patient's condition, for, as Waller has shown by experiments on exposed nerves, there is an antagonism between chloroform and carbonic acid, more particularly during the recovery of the nerve from the effects of the anæsthetic.

Now as to the circulation under chloroform from a clinical point of view. A great deal of discussion has taken place, as you are aware, concerning the advisability or non-advisability of watching the pulse. While a great many persons hold opposite views the Hyderabad Commission have distinctly stated that the pulse should be systematically disregarded. For a long time I was unable to understand why the Hyderabad Commission so strongly insisted upon this clinical dogma and it was not until I myself saw Surgeon-Lieutenant-Colonel Lawrie administer chloroform in this hospital that I realised the situation. I then saw that the anæsthesia with which he worked was not so profound as that which we are in the habit of inducing, at all events in most cases. The exigencies of surgery are such that it is necessary, more particularly in abdominal, rectal, vesical, and allied operations, to keep our patient very deeply anæsthetised. Now if chloroform be administered in such a way that the conjunctival reflex is rarely if ever entirely abolished I quite admit that pulse observations are useless in estimating the effects of the anæsthetic. I would even go further and say that in such degrees of anæsthesia the pulse may mislead an inexperienced administrator, for it may become feeble immediately before vomiting, and such feebleness may be taken as contra-indicating more anæsthetic, whereas it should really call for exactly the opposite treatment. But if chloroform be pushed so that the patient is kept free from all traces of conjunctival reflex for a considerable length of time, you will find that observations on the pulse will help you considerably. When chloroform is given in considerable quantities the arterial tension falls and this may be recognised almost as well on the operating table as in the physiological laboratory. You must not expect every patient whom you place deeply under chloroform to have a thoroughly satisfactory pulse. Nor need you be alarmed at the evidences of the low arterial tension which under such circumstances assert themselves. A certain degree of pallor and a slow and rather feeble pulse are not necessarily indicative of danger. But what I wish particularly to point out is that the pulse of a patient in this condition will greatly help you as to the necessity for giving more or less of the anæsthetic. I have been able to demonstrate this over and over again in the operating theatre. Usually if more anæsthetic be given the pulse becomes slower and feebler; if less be administered the exact reverse occurs. It is under such circumstances as these that observations on the pulse are of great use. If the circulation of profound chloroform anæsthesia be not watched a failing respiration may be the first indication that an overdose is being given. In other words, by carefully observing and correctly interpreting pulse changes it is often though not invariably possible to prevent paralytic respiratory failure.

Let me next direct your attention to the use of ether and chloroform in succession. There is a great deal to be said for this plan of anæsthetising. The principal point in its favour is that the stage of rigidity and excitement, which is the dangerous stage under chloroform, is passed over under the stimulant effects of ether. Fatalities during this stage are practically unknown with ether. Having secured a proper degree of ether anæsthesia chloroform may be substituted; and you will find that by this plan you will obtain a better type of chloroform anæsthesia than if you had given this anæsthetic from the beginning. Under such circumstances as these the resulting chloroform anæsthesia seems to leave little to be desired. I have now adopted this principle for several years and by its adoption I find I am able to use chloroform without the occurrence of those untoward symptoms which are bound to occasionally arise when this agent is given from the commencement of the administration. I regard this development in our methods as one of the most important of recent years. Should the operation be a short one and should the administration of ether be attended by no difficulties little if anything is to be gained by changing to chloroform. But should ether cause cough, embarrassed breathing, or the secretion of much mucus, or should the operation be likely to be a protracted one, a change to chloroform is certainly advisable. Care must, however, be exercised in changing from ether to chloroform and some practice is needed to know how and when to effect the change. If chloroform be administered in the usual way to a patient deeply under ether an undesirable quantity of the more potent anæsthetic may be absorbed by the rapid respiration and brisk circulation which has been brought about by the ether. The rule to be followed is that there should always be some evidence of the patient having emerged from ether anæsthesia when the chloroform is applied. Generally speaking the conjunctival reflex should be present when the change is effected. In most cases, and especially in the case of abdominal operations, the change should be made before the operation is begun, otherwise the surgeon may be inconvenienced. After once ether anæsthesia has been properly established very little chloroform will be required to keep up the proper degree of unconsciousness. There is, of course, no objection whatever to the administration of ether being preceded by the A.C.E. mixture or by nitrous oxide in order to spare the patient the taste of ether; but the stage of rigidity should be passed over under the last-named anæsthetic. I have kept notes of a large number of cases in which I have given chloroform after ether. The result of my experience has been that I now use very much less ether than I did and very much more chloroform. By the system under consideration I believe that it is as safe to keep up the anæsthesia of chloroform as that of ether. Indeed, by changing from ether to chloroform the risk of subsequent bronchial and pulmonary complications is undoubtedly reduced, so that taking this point into account we may perhaps be right in saying that we are safer with chloroform than with ether, always supposing that the primary stages of the administration have been conducted under the latter agent. The circulation and respiration are so well maintained that for the past two years I have given chloroform (preceded by ether) to a very large number of patients in the sitting posture and in no single instance have I had to place the patient horizontally to meet undesirable symptoms. Nasal and throat operations, lasting on many occasions as long as an hour and a quarter, have thus been successfully performed.



I next propose to direct your attention to the use of nitrous oxide and oxygen for surgical operations. The apparatus which I show you is one which I have used in a few cases in this hospital and in a good many cases elsewhere. It is, you will notice, similar to the apparatus which I have devised for the administration of these gases for dental operations except that the channels for the oxygen are double the size of those in the dental apparatus and that the bags are about three times as large. The box upon the ground contains two cylinders of nitrous oxide and one of oxygen. By turning the handle of the regulating stopcock the proportion of oxygen may be increased or diminished at will. By this system it is possible to keep up nitrous oxide anæsthesia for an almost indefinite time. Although this method leaves little or nothing to be desired for such short operations as those of dental surgery it cannot at present be recommended for use in major operations save in carefully selected cases. It is quite possible, as our knowledge and experience increase, that further developments may render the use of nitrous oxide and oxygen more satisfactory for long operations than it is at present. The two great recommendations of this plan of anæsthetising are that it is the safest at present known and that by its employment the often distressing after-effects of anæsthesia may usually be avoided. But the anæsthesia induced is not so deep as that following the administration of ether, chloroform, and allied agents. The muscular system does not so readily relax as when these latter anæsthetics are used; nor is it always possible to prevent reflex and other movements during the administration. With the object of determining what the sphere of applicability of the method might be I have used it in several surgical cases, but I cannot say that I have been satisfied with the results in many of them. I have, for example, given the two gases in operations for removal of the breast, varicose veins, Syme's amputation, varicocele, removal of small tumours, clearing out the uterus of its fœtal contents, scraping out and packing a renal cyst, removing forceps and iodoform gauze after hysterectomy, dressing painful joints and wounds, many orthopædic operations, incising and removing necrosed bone from the hip joint, removing nasal "spurs," inferior turbinated bones, &c.

The best results which I have had have been with rather debilitated women or children—the patients whom we should expect to behave best under a comparatively light form of anæsthesia. Robust and vigorous male adults, especially those of alcoholic habit or excessive smokers, are not good subjects. In looking over my notes I find that in my three best cases the patients were children between eleven and thirteen years of age and that the operations were respectively Syme's amputation, incising and removing necrosed bone from the hip, and scraping out and packing a renal cyst. In all three cases the patients had had other anæsthetics on previous occasions and had suffered more or less severely from distressing after effects.

In the case in which Mr. Mansell Moullin removed the breast under nitrous oxide and oxygen he also cleared the axilla and excised a small tumour in the flank. The administration lasted thirty-five minutes, no atmospheric air being given during this time. So far as the effects at the time were concerned the case was quite satisfactory, but a good deal of vomiting followed, connected possibly with the patient having had beef-tea only three hours before the administration. In other comparatively unsatisfactory cases inconvenient reflex movement and rigidity have manifested themselves during the inhalation. As with chloroform and ether, the effects produced depend almost exclusively upon the type of subject.

With your permission I should like to give you notes of one of the three most successful cases (the Syme's amputation), although, strictly speaking, the case should not be included in last year's summary. The patient was a female child aged eleven years. She had been suffering for several weeks with tuberculous disease of the right tarsus. Although her general condition was fair she had had repeated febrile attacks. Her heart's action was rapid, but there was nothing else worthy of note. She was a cheerful, thin, rather flushed child, with light-brown hair. The following notes were kindly taken for me by Mr. J. W. E. Cole whilst I was administering the gases. At 3.20 the administration was begun. At 3.21.30 there was slight conjunctival reflex, the arms were just relaxed, and the colour was good. At 3 22 there was no conjunctival reflex and the operation was begun. At 3.24 the arms were rigid and the colour was good; the indicator was at "10." At 3.24.30 the forehead was moist and the pulse was 140. At 3.26 the arms were more relaxed, breathing was regular, and there was no stertor. At 3.26.30 the arms were quite relaxed. At 3.27 the legs were moving slightly; less oxygen was given. At 3.27.30 the breathing was quicker and the fingers were moving. At 3 29.30 the tibia was being sawn through; there was no reflex movement and no effect on the pulse. At 3.31 corneal reflex was present; there was no conjunctival reflex. At 3.34 the pulse was 148; there was slight leg movement; the patient seemed to do best with the indicator at "7" or "8." With the indicator at "7" breathing was a trifle fast. At 3 35 the pupils were moderately small. Dressings were applied. The face-piece was removed. At 3.35.20 the patient opened and shut her eyes when requested. At 3.36 she said that she had no pain, smiled, and looked happy. She had no headache or giddiness. There were no after effects of any kind.

In the other two cases the results were almost equally satisfactory. With regard to the child with hip disease I may say that he had had anæsthetics on several occasions and had been violently sick afterwards. He had been suffering from pyrexia for several weeks and at the time of operation was thin, very weak and pale, and with a rapid pulse. He had tuberculous disease of the hip and the operation was a severe one considering his condition. It consisted of freely incising, gouging away portions of necrosed bone, and inserting drainage-tubes. A good deal of blood was lost. The administration lasted twenty-six minutes. There was no reflex movement when the incisions were made and both respiration and circulation were well maintained throughout. In the case of the child who had a renal cyst scraped out and drained the administration lasted fifteen minutes. There were slight reflex movements of the arms during the operation but they were not in any way inconvenient. In two or three minutes after the administration was discontinued she was laughing. The after effects of these last two cases were very slight. In each case there was one act of vomiting, but this was occasioned by the patients having had respectively tea and soda-water one hour after inhalation. It is important to avoid all solids and fluids for several hours after.

It is, then, in such cases as these which I have quoted that the use of nitrous oxide and oxygen is to be recommended. The type of subject should be carefully considered, the posture in which the patient must sit or lie must be taken into consideration, and the possibility of slight muscular movement must not be lost sight of. It is also important that a considerable abstinence from all food (five hours) should be enforced. In concluding my remarks on this method I may say that any attempt to systematically employ it in general surgery is, in the present state of our knowledge, to be deprecated. But in certain carefully selected cases such as those to which I have referred there is much to be said in its favour. The use of nitrous oxide before ether has within the last ten or fifteen years come much into vogue and a word of warning is necessary in connexion with the method. Many surgeons imagine that if they obtain the services of an anæsthetist and request him to give "gas and ether" that everything is bound to go well. But the fact is that this plan of anæsthetising, like every other, is applicable and successful in many cases, but highly inapplicable and unsuccessful in others. I have myself come across several patients who have had "gas and ether" given to them with hair-breadth escapes from fatal asphyxia, so that you must not imagine that the plan is suitable in all cases. My remarks more particularly apply to the administration of full doses of nitrous oxide followed by the sudden application of ether. Muscular men, especially men of middle life who have become rather obese, should in my opinion never be anæsthetised by this last-named method. If you wish to employ "gas and ether" in adult male subjects only a small quantity of nitrous oxide should be used and ether should be gradually added to it. The plan of administering a full dose of nitrous oxide and changing to ether is, however, very useful in children and in women provided that there are no contra-indications to ether in the patients.

The use of nitrous oxide, ether, and chloroform in succession deserves your careful attention. Although the method is undoubtedly rather elaborate it is an excellent one from many points of view. It should only be employed, however, by those who have had a good deal of experience in anæsthetising and who fully realise what the objects of the succession are. The initial anæsthetic, nitrous oxide, is given because it is not unpleasant to inhale, because it rapidly destroys consciousness, and because it prevents struggling. The intermediate anæsthetic, ether, is of use because should any rigidity or suspended breathing arise just before deep anæsthesia supervenes the circulation will remain unimpaired by the strain imposed upon it and because the stimulant effects brought about by the ether persist for a considerable time whilst chloroform is being given. And, lastly, the final anæsthetic—chloroform—is administered because of the quiet and deep anæsthesia which it produces, because of its great convenience, and because of the rarity with which bronchial and pulmonary after-effects are met with after its use. Given that no special contra-indications exist I believe that there is no better plan of anæsthetising than this.

The only other sequence of anæsthetics which I shall consider to-day is that of the A.C.E. mixture and ether. Many patients object to the accurately fitting face-piece which is essential in administering nitrous oxide, and, as I have already pointed out, there are certain patients who should not be anæsthetised by "gas and ether." Under such and many other circumstances it is very useful to commence your administration with some of the A.C.E. mixture upon an open Skinner's mask; after a couple of minutes a Rendle's mask with more of the mixture upon it may be substituted; and immediately any rigidity begins to show itself the Rendle's mask may be exchanged for an Ormsby's inhaler charged with ether. By this plan I have been enabled to successfully anæsthetise without any difficulty many so-called "bad subjects," middle-aged and powerfully built men with double-chins and thick necks, the patients sinking into deep anæsthesia without any of those obstructive and spasmodic asphyxial phenomena which are bound to arise in such subjects with "gas and ether."

THE ETIOLOGY AND TREATMENT OF SUPPURATIVE DISEASE OF THE FRONTAL SINUSES.[1]

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The frontal sinuses are two more or less irregularly shaped cavities placed between the inner and the outer tables of the skull in close proximity to the root of the nose. Their size varies immensely, in some cases being quite small and rudimentary, in other cases attaining large dimensions. The external appearances of the part, however, afford no real clue to the size or shape of the underlying sinuses. The two cavities are by no means always symmetrical. Upon one side the sinus may be small while upon the other side it is large, it may be present upon the one side and absent upon the other, or both sinuses may be completely absent. Gallemaerts[2] found that as a rule the right sinus was larger than the left. They are separated from one another by a septum usually bony, sometimes fibrous, and occasionally partly bony and partly fibrous. As a rule this septum is quite complete. It may become perforated as the result of a pathological process, but rarely, according to Killian,[3] is an anatomical perforation found.

The anterior wall of the sinus is the thickest wall, the orbital or inferior the thinnest, while the posterior or cranial occupies an intermediate position. There is no appearance of the sinuses before the seventh year and their full development is not complete until the twenty-first year. The evolution of the frontal sinuses at the seventh year is, as has been pointed out by Wenzel, ascribed to the fact that at this age the brain has arrived at its full size. Up to this time the internal carotid artery is considerably larger than the external, but shortly after full development of the brain has occurred a sensible diminution in its calibre takes place and a rapid and large increase is apparent in the external carotid and its branches. The bones of the face, the teeth, and the outer table of the skull, now grow rapidly and the internal table being at a standstill large spaces occur between these two tables and hence the frontal sinuses.

The sinuses are lined by a mucous membrane in direct continuity with that lining the nasal fossæ—thin, closely adherent to the underlying bone, and pale in colour. In the great majority of cases the sinuses communicate with their respective nasal fossæ by means of an irregularly shaped passage—the infundibulum—opening into the anterior part of the middle meatus just in front of the bulla ethmoidalis. At times, however, they communicate with the anterior ethmoidal cells of the same side and so with their respective infundibula. In all cases they communicate, either directly or indirectly, with the corresponding nasal chamber, the infundibular opening being situated in the middle meatus slightly in front of the nasal opening of the maxillary antrum. the ostium maxillare. The relation of these two openings to one another is not only interesting anatomically but is of the greatest possible importance clinically, for at times the one cavity will be found to be in direct communication with the other by means of a small groove or gutter of mucous membrane. In seven heads examined by Dr. Fillibrown, of Boston,[4] the infundibulum instead of terminating in the middle meatus was continued as a half tube which had a direct termination in the orifice of the maxillary sinus. Should such an anatomical condition be present it is easy to see how pus secreted from the mucous membrane lining the frontal sinus would first of all flow directly into the maxillary antrum and then when this cavity was full to overflowing into the middle meatal fossa. It is also quite possible to imagine how in cases of antral suppuration capillary attraction may draw secretion upwards along this groove and so cause infection of the frontal sinus.

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[1] A paper delivered before the Manchester Medical Society on Feb. 2nd, 1898.

[2] Policlinique de Bruxelles, Nov. 13th, 1896.

[3] Münchener Medicinische Wochenschrift, Aug. 31st, 1897.

On several occasions I have found in mixed cases—by that I mean cases where both the frontal and the maxillary sinuses were the seat of suppurative catarrh and had been opened by way of treatment—that fluid syringed into the antrum came out at once through the opening in the forehead and, *vice versâ*, that fluid syringed into the frontal sinus came out at once through the alveolar opening. This very intimate relation of the two cavities to one another, a fact not very generally recognised, may serve to explain why some cases of antral suppuration prove so resistant to treatment—viz., because there is a contributory flow of pus from an adjacent sinus, either the frontal or the fronto-ethmoidal, possibly in some cases the actual seat of origin of the antral disease, which must thus be regarded as a secondary complication and not as the primary condition. In one case I have actually seen frontal sinus disease produced by a too vigorous syringing of the antral cavity. In this case the patient syringed the antrum (through an alveolar opening) with such force that all at once he felt severe pains in the forehead. The pains became more intense and the discharge from the nose much more copious than it had been, and when seen a few days afterwards the frontal sinus was found acutely inflamed and suppurating freely, although previously to this accident no frontal sinusitis existed.

The exact relation of the frontal sinus to the anterior ethmoidal region is interesting anatomically and is of the greatest clinical importance. At the recent meeting of the British Medical Association in Montreal Dr. J. H. Bryan,[5] of Washington, in discussing this subject said: "Lying between the ethmoidal cells and the frontal sinus there are a series of cells known as the fronto-ethmoidal cells, which properly belong neither to the frontal nor the ethmoidal cavities, but play a very important *rôle* when either of these sinuses is the seat of a prolonged suppurative inflammation; for in nearly all such cases they are to a greater or lesser degree affected, thereby rendering prognosis of these conditions very uncertain. These cells vary in number from four to seven on either side, and in the preparations I have examined I have been unable to find any communication between them and the frontal or ethmoidal cavities proper. The anterior cells are occasionally found unusually developed, projected into the frontal sinus to such a degree as to diminish the size of that cavity considerably. In some frontal sections I have recently made this projecting anterior fronto-ethmoidal cell is well shown. It will be readily seen that in treating chronic empyema of the frontal sinus we must not limit our investigations simply to that cavity but endeavour to ascertain the condition of these cells also; for if affected, and they generally are, they will be the starting point for a re-infection of the sinus after the inflammation has apparently subsided."

Frontal sinus disease in the form in which it usually comes under the surgeon's attention is not by any means a frequent condition. Dr. B. A. Randall,[6] of Philadelphia, reports that in a practice of over 1200 new patients yearly requiring a nasal examination he has not met with one case of frontal empyema that was strictly his own case, and of 2287 nose and throat cases reported last year from the Brooklyn Hospital only three cases of catarrh of the frontal sinus are mentioned. My own observations lead me to believe that its occurrence is considerably more frequent than this, and since epidemics of la grippe have visited these shores its frequency has, I believe, been very considerably increased. No doubt simple acute or semi-acute catarrhal frontal sinusitis occurs frequently in connexion with ordinary head colds. Such attacks come and pass away, their presence being practically unobserved except for the dull and persistent headache which for a time at least they give rise to. The fact that the excretory duct of the sinus opens at its lowest level probably saves many a case from becoming troublesome, no tension being produced. True acute attacks with distension of the sinus are undoubtedly rare, but chronic or latent empyemata with acute or subacute exacerbations are I venture to think not so infrequent as is usually supposed.

Acute catarrhal frontal sinusitis usually arises as an extension of an acute catarrhal rhinitis and more especially as a sequel to an acute specific rhinitis of influenzal origin. The attack may pass off rapidly within a day or two; it may lead to acute distension of the sinus or it may become chronic and purulent. Injuries and the introduction of foreign bodies—larvæ, snuff, &c.—are occasionally exciting factors in its production. When acute the symptoms are severe pain over the sinus and forehead, a sense of fulness and weight in the head, and a marked increase of pain, especially when stooping, coughing, or performing any unusual effort. The attack may suddenly come to an end with a discharge of a clear serous or a sero-sanguineous fluid from the corresponding nasal passage. Such attacks of acute sinusitis are usually unilateral. In the way of treatment rest, warmth, and sedatives are indicated. Locally an ice-bag applied over the sinus will be found useful, as also will an intra-nasal spray of a 5 per cent. solution of cocaine or of a ½ per cent. solution of ichthyol, with the idea of depleting the nasal mucous membrane and so of widening the infundibular passage and promoting more efficient drainage from the sinus. Phenacetin, antifebrin, aconite, and belladonna are all useful in allaying the accompanying headache.

Acute suppurative attacks, although of comparatively rare occurrence, are from a practical point of view of much more dangerous import than are the acute catarrhal. In suppurative attacks the excretory duct of the sinus is prone to get blocked, with the result that distension of the sinus from rapid accumulation of pus takes place, followed by bulging of the bony parietes and occasionally by perforation into one or other of the surrounding cavities. Should distension take place posteriorly symptoms referable to increased intracranial tension will be noted. These symptoms may, however, be very obscure, seeing that in the first instance at any rate the frontal lobes are the parts principally compressed. Should the posterior wall give way as the result of erosion the ordinary symptoms of a suppurative meningitis will supervene or a frontal abscess may result. The inferior or orbital wall being the weakest boundary of the sinus distension most usually occurs towards the eyeball, with the result that it may be displaced or, if perforation has taken place, suppurative orbital cellulitis may supervene. Germann[7] says that primary phlegmon of the orbit is very rare in comparison with that due to perforation of the orbital walls, and that affections of the nasal accessory sinuses play an important *rôle* in the production of these perforations. In addition to certain definite nasal symptoms, such as the presence of a purulent discharge, impeded nasal respiration, &c., deviation of the eyeball downwards and outwards would point to an affection of the frontal sinus or ethmoidal cells, whilst deviation upwards and outwards would point to maxillary antrum disease.

The most common form of frontal sinus disease met with in practice, however, is the latent form of empyema and it is to this that I specially wish to confine my subsequent remarks. With regard to its etiology it may undoubtedly be set up as the result of a previous catarrhal affection of the sinus when for some reason or other drainage has been interfered with and retention more or less complete has taken place. This more especially applies to cases having an influenzal basis. It may arise also in the course of any of the specific fevers or syphilis or it may be secondary to obstructive nasal lesions, to extension of disease from one of the adjoining sinuses, or as the result of traumatism. In my own experience I have found in all but one case that latent empyema of the frontal sinus was associated with latent empyema of either the ethmoidal labyrinth or of the maxillary antrum. Which may have been the first sinus to become affected is not, of course, always possible to say at the time such cases usually come under observation, but the fact as it stands is at any rate very significant. It has been stated by Zuckerkandl that he has never met with a single case of frontal sinus disease where one or other of the nasal accessory sinuses was not similarly involved. Cline[8] also says that in all his cases of frontal or ethmoidal sinusitis the antrum contained pus.

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[4] International Dental Journal, January, 1897.

[5] Brit. Med. Jour., Nov. 13th, 1897.

[6] Medical News, March 6th, 1897.

[7] Annales d'Oculistique, Novembre, 1897.

The symptoms of latent empyema of the frontal sinus are neither numerous nor well marked. Occasionally a dull heavy feeling hardly amounting to actual pain is complained of over the forehead, aggravated by stooping, by any marked mental effort, and by pressure, especially if pressure be made directly upon the orbital wall of the sinus, which, as already has been said, is its thinnest wall. Pains of a neuralgic character and referable mainly to the distribution of the supra-orbital nerve are at times well marked and are frequently mistaken for ordinary neuralgia. In one of my cases these neuralgic symptoms began regularly at about 10 A.M. and lasted until about 1 P.M., when they passed off, only to return, however, the following day. After opening and draining the sinus these pains entirely disappeared and the general health improved correspondingly. Darrack[9] has called attention to a symptom occasionally met with—an intermittent feeling of falling, hardly a vertigo, but rather a sensation of pitching forward with loss of muscular coördination, a symptom relieved by blowing the nose. The most marked symptom, or rather sign, of the disease is the presence of a purulent nasal discharge. This discharge is intermittent, is frequently very fœtid, is thick and creamy and is to be seen oozing, or sometimes actually flowing, from the neighbourhood of the anterior portion of the middle turbinated body. An important indication of frontal sinus suppuration taken in conjunction with other symptoms and signs is the presence of a tumefied or polypoid condition of the mucous membrane covering the anterior end of the middle turbinated body, as also is a tumefied appearance of the septal mucosa opposite the anterior end of this same body. This last-named indication has not been much commented upon but in several of my cases has been well marked.

Even with these various symptoms and signs a definite diagnosis of frontal sinus suppuration is open to doubt and, I believe, is always so until the sinus has been opened and explored. The great practical difficulty in cases of unilateral purulent nasal discharge is to ascertain the exact source of the flow of pus. The sources from which pus may come (I am referring just now to suspected disease of one or other of the nasal accessory sinuses) are the maxillary antrum, the anterior ethmoidal cells, the fronto-ethmoidal cells, the frontal sinuses, the posterior ethmoidal cells, and the sphenoidal sinuses. As pus from the two last-named cavities in almost all cases flows to the posterior nares and is to be seen by posterior rhinoscopy I do not propose to say anything more about it. What we have to decide when pus is seen by anterior rhinoscopy in the region of the middle meatus is from which of the first four named cavities it is proceeding.

By a process of exclusion we may eliminate at any rate the participation or otherwise of antral disease. Thus transillumination may reveal a perfectly translucent antral cavity, while in exceptional cases where the results of transillumination are doubtful we may puncture and wash out the cavity by way of the inferior meatus with a Grunwald's or Lichtwitz's trocar and cannula or we may attempt to wash out the sinus through its natural opening and thus definitely ascertain the presence or absence of any purulent contents. The real practical difficulty is to decide whether the ethmoidal labyrinth or the frontal sinus is the part involved, and I venture to say that with our present means of diagnosis it is not possible to be dogmatic upon the point. It is undoubtedly possible in some cases to wash out the frontal sinus by means of a specially bent cannula introduced through one of the anterior nares with or without resection of the anterior end of the middle turbinated body, but this proceeding is not only difficult and uncertain but is also not free from actual danger. Transillumination of the frontal sinus has also been employed and has been strongly advocated by Vohsen and other observers, but I cannot say that in my own experience its employment has yielded reliable results. For the purpose a Cadwell's electric lamp is used. We are thus left in the position of being unable to say definitely which of these sinuses, the frontal or the ethmoidal, or the two combined, is the real *fons et origo mali*, and the relation of this difficulty to the question of treatment I shall speak of presently.

Latent empyema of the frontal sinus may run an extremely chronic course and may be attended by few symptoms beyond occasional headache or neuralgic pains and the presence of a unilateral purulent nasal discharge. Should, however, obstruction to the outflow of pus take place, symptoms of great gravity may supervene. Such obstruction may be due to the formation of polypoid masses around the walls of the infundibular tract, to an œdematous and swollen condition of the mucosa covering the middle turbinated body, or to the supervention of an acute sinusitis engrafted upon an old-standing purulent affection of the sinus with consequent œdema. Distension of the walls of the sinus may be subsequently followed by erosion (usually the posterior wall) and by the escape of pus into the interior of the cranium followed by an acute basal meningitis or extra-dural abscess. Or, again, an abscess in the frontal lobe may be produced without the occurrence of any bone lesion, just as in the same way as at times in chronic suppurative middle-ear disease temporo-sphenoidal abscess is produced, the pathogenic organisms being carried directly by way of vascular or lymph channels to the interior of the cerebrum. I have myself seen a case of frontal abscess due to frontal sinus disease and also a case of basal septic meningitis and septic thrombosis from the same cause. Similar cases have been recorded by Botey,[10] Blessig,[11] Forrestier,[12] Rafin,[13] and others.

The treatment of frontal sinus suppuration may be divided into the non-operative and the operative, the intra-nasal and the extra-nasal methods. The non-operative treatment consists in simply keeping the nasal cavity as free from all purulent secretion as possible by frequent irrigation with warm antiseptic lotions or in washing out the sinus by means of a specially constructed cannula. The cannula is passed up between the middle turbinated body and the septum as nearly along the infundibular passage as possible and as can be judged by the sense of touch until it is supposed to have entered the sinus. By means of a syringe irrigation is now performed. This method is, however, not only very difficult and uncertain but is a method not altogether free from danger. It is also open to the objection that it is a form of treatment which the patient is unable to make use of, and although it may be regarded by some surgeons as a diagnostic adjunct for establishing the presence or absence of pus in the sinus it cannot be seriously looked upon as a useful therapeutic agent. Chiari,[14] however, it may be stated, has recorded the cure of two cases of chronic suppurative catarrh of the sinus with frontal pains by means of this plan. In all cases where œdematous or polypoid mucous membrane is present in the vicinity of the infundibular opening an escharotic or the electro-cautery should be applied to pin down this redundant tissue, and thus to facilitate intranasal drainage. Antistreptococcic serum has also been employed in the treatment of sinus suppuration, and Boucheron[15] says that when such suppuration is due to pure streptococcic infection rapid improvement has followed its injection. Stoker[16] claims for oxygen gas a place in the therapeusis of this affection, but in the case recorded by him I think it is open to question whether the pus really did proceed from the frontal sinus.

Operative treatment.—Removal of the anterior end of the middle turbinated body has been recommended by many observers with the idea that more room is thereby afforded not only for the egress of all purulent secretion from the sinus but also for the application of remedial agents and for the better carrying out of intra-nasal irrigation. My experience of this method of procedure is such as to lead me to believe that it is of itself rarely, if ever, sufficient and that its only virtue consists in the fact that it at any rate wards off the tendency to obstruction of the duct with consequent distension of the sinus.

Schäffer's method of opening the frontal sinus from the interior of the nose by means of curette or trocar pushed upwards through the floor has very properly, I think, been given up on account of the great risks attending its employment. I need only to refer to the fatal case recorded by Mermod[17] to impress this upon your minds. This method appears to me also to be founded upon an entirely wrong conception. What we should, I think, aim at in the treatment of nasal sinusitis is not to grope about in the dark with probe or cannula but to rest our methods of treatment upon true surgical principles, freely opening so far as is possible the diseased cavity so that none of its recesses escape inspection and radical treatment.

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[8] The Laryngoscope, August, 1897.

[9] Medical News, March 6th, 1897.

[10] Journal of Laryngology, February, 1897, p. 78.

[11] Petersburger Medicinische Wochenschrift, 1897, No. 26.

[12] Archives Internationales de Laryngologie, Otologie et Rhinologie, Juillet, Août, 1897.

[13] Lyon Médicale, Juin 13, 1897.

[14] Journal of Laryngology, January, 1898.

[15] Archives Internationales de Laryngologie, Otologie et Rhinologie, No. 6, tome ix.

[16] Journal of Laryngology, October, 1896, p. 187.

Where it has been decided that free drainage of the sinus must be secured I venture to think that an external operation will be demanded, the main objects of which operation are: (1) to secure a sufficient opening for the inspection and local treatment of the mucosa—in such cases often granular or polypoid, and (2) for the establishment of thoroughly efficient fronto-nasal drainage. Before, however, actually considering the various methods of external operation as at present performed let us pause for a moment and ask ourselves, "What are the indications for operating?" These indications may be summarised briefly as follows: (1) Retention of pus within the sinus unrelieved by simple and intranasal methods of treatment—e.g., leeching, irrigation, &c.; (2) the persistence of a purulent discharge from the region of the sinus after the exclusion of the participation of the other accessory sinuses in the production of this discharge; (3) the presence of symptoms of cerebral irritation or of cerebral compression; and (4) the presence of severe neuralgic pains with accompanying impairment of general health.

The position of the surgeon in these cases is very much the same as is his position when dealing with suppurative disease of the mastoid cells and antrum. In acute cases and in cases where retention of matter has taken place from one cause or another the indications for or against operation are sufficiently clear. In chronic cases where there is no retention of matter but a constant flow of germ-teeming pus we have a much more difficult problem to solve. If we, however, consider the important anatomical relation of the sinus we will, I think, regard with much suspicion any suppurative inflammation going on in a part in close relation to the brain, thereby rendering possible the occurrence of thrombosis of its sinuses, infection of its coverings, and metastatic abscess in its substance, quite apart from the general risks of pyosepticæmia or impairment of general health, &c.

The sinus may be opened from the outside by one of two incisions: (1) an incision along the supra-orbital ridge, or (2) a median incision over the glabella in the mid-line of the forehead. The first incision is the one more usually adopted in cases where the prominent symptoms are eye symptoms, cases usually seen by the ophthalmic surgeon, and the second in cases where the main symptoms are nasal, cases usually seen by the rhinologist. It is not my intention to speak of opening the sinus by means of a supra-orbital incision, as I have no practical experience of its utility or otherwise. In all cases in which I have thought an operation necessary, now numbering fifteen—one subacute and fourteen latent—I have used the median incision so strongly recommended by Mayo Collier[18] and others. The incision is made from the root of the nose upwards in the middle line for from about one inch and a half to two inches and right down to the bone. The periosteum is at once pushed aside and retractors are slipped in, so that a considerable amount of bone is bared and in sight. Some prefer to open the sinus by means of a trephine, the pin being placed in the middle line. In this way a portion of both sinuses is exposed, an advantage in cases of bilateral empyema, but to my mind a distinct disadvantage in cases of unilateral disease. For my own part I have always opened the sinus by means of a gouge and mallet, working carefully and under good illumination, the light being reflected by means of a forehead mirror from a limelight apparatus directly on to the part. After having carefully chipped away sufficient bone to expose an area of mucous membrane about the size of a threepenny piece I pass a very fine and carefully sterilised probe through the mucosa and turn it round and round in the sinus. If pus be present it soon oozes out by the sides of the probe. If present the mucous membrane is cut or scraped away so as to bring the interior of the sinus into full view. Whatever be the method of dealing with the mucosa I believe it to be of paramount importance to aim at securing, and to secure, free fronto-nasal drainage. To attain this it may be necessary and advisable to remove a portion of the floor of the sinus so as to establish a perfectly free communication with the interior of the nose. This is accomplished by means of a small gouge or a sharp spoon and constitutes what is now generally spoken of as the Ogston-Luc method of operation. The mucous membrane of the sinus, if at all granular or polypoid, should be curetted and then swabbed with a solution of chloride of zinc. Luc[19] advises the daily injection during the first week of a 1 per cent. solution of formol followed later by a solution of iodoform in ether to keep the parts in as aseptic a condition as possible. My experience of this plan of procedure is such as to lead me to warn the patient that possibly a second curetting of the mucosa may be required, and my practice has been, if after a few weeks' careful daily attention the mucous membrane shows a tendency to sprout and to become granular, to at once advise a repetition of the curetting.

In the operation as originally performed by Luc[20] a drainage-tube was inserted through the external opening and brought out through the corresponding nasal passage, whilst daily irrigations were subsequently made until all purulency had ceased, when the tube was withdrawn and the external wound was allowed to close. The closure of such a wound is always followed by a certain falling-in of the tissues and by a varying degree of deformity. To obviate this deformity Luc has suggested that the drainage-tube, which should have a funnel-shaped end, should be drawn down into the floor of the sinus and fixed there, thereby allowing of an immediate closure of the external wound. There can be no doubt of the utility of this method in acute and in semi-acute cases, and even in latent empyemata I believe it to be the best plan, although there is an undoubted risk of re-accumulation of pus within the sinus, of a breaking down of the cicatrix, and of the formation of a small fistulous tract. Still the advantages of an immediate closure of the wound and of subsequent intra-nasal treatment make it worth while, I believe, to run these several risks. Kuhnt advises a complete clearing away of all mucous membrane lining the sinus, special care being taken to clear the floor of all redundant portions so as to avoid as much as possible any blocking of the upper orifice of the fronto-nasal drainage tube. Hebinger,[21] on the other hand, not only clears out all the mucous membrane possible but also bevels down the bony parietes of the anterior wall of the sinus until he has formed a sort of cup into which the superficial soft parts are pressed down and kept in position by means of a bandage. In this way a practical obliteration of the sinus is accomplished. In my own series of cases I have been so impressed by the frequency of an accompanying suppurative ethmoiditis that in my latter operations I have made a point of opening into the anterior ethmoidal region, of breaking down a considerable number of cells, and so of forming a large cavity which can be readily inspected and treated intra-nasally if need be.

The question of a suitable drainage-tube is one not to be dismissed too lightly, as much of the success of the operation will depend not only upon the kind of tube which is selected but also upon its being accurately placed and accurately retained in position. I have tried rubber tubes and tubes made of silver wire and have no hesitation in saying that the rubber tubes have been the more efficient of the two. In the first place, they readily take the very peculiar curve of the infundibular tract and, in the second place, they do not get blocked up by granulations which grow between the coils of the silver wire tube. A rubber tube something like a tracheotomy tube upon a small scale with a slight flange to prevent its slipping away from the floor of the sinus into the nose or an ordinary funnel-shaped rubber tube will be found to answer the purpose.

In the first stages of the treatment daily irrigation is necessary. This is done through the open end of the drainage-tube lying in the nasal cavity and must be done gently so as not to break down the frontal cicatrix. My habit is to have a small piece of rubber tubing fixed to the end of the syringe and of a size considerably smaller than the fronto-nasal tube. This is then passed upwards and towards the sinus, and from the fact that a free outflow is provided for no severe pressure in the sinus can be induced.

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[17] Annales des Maladies de l'Oreille, Avril, 1896.

[18] THE LANCET, June 12th, 1897, p. 1609.

[19] Semaine Médicale, 1894, p. 277.

[20] Transactions of the British Laryngological and Rhinological Association, 1895.

[21] Medical Record, Aug. 7th, 1897.

Just as in treating chronic suppurative disease of the maxillary antrum probably no one solution will be found to answer, so in frontal sinus suppuration it is essential to ring the changes upon such drugs as carbolic acid, resorcin, boracic acid, permanganate of zinc, chloride of zinc, peroxide of hydrogen, &c. As suppuration from the cavity gradually decreases the frequency of the irrigations may be diminished, but on no account should the drainage-tube be removed until all suppuration has been completely arrested for at least ten days. I am convinced that too early removal of the tube is a most serious mistake and necessitates reopening of the wound from the outside as it cannot be otherwise satisfactorily replaced.

Of the 15 cases whose histories form the basis of this paper nine of the patients were males and six were females. In 13 cases the sinusitis was unilateral, in 2 cases bilateral. In 5 cases the right frontal sinus was affected, in 12 cases the left. Of the 5 cases of right-sided frontal empyema it was found that the maxillary sinus of the same side was affected in 2 cases, the ethmoidal labyrinth of the same side also in 2 cases. Of the 12 cases of left-sided frontal empyema it was found that the maxillary sinus of the same side was affected in 5 cases, the ethmoidal labyrinth of the same side also in 5 cases. In both the cases of double frontal empyema double suppurative ethmoiditis was also present. In 1 case of right frontal sinusitis the left maxillary antrum was affected, while in 1 case of left frontal sinusitis both maxillary antra were involved. In 2 cases of left-sided frontal sinusitis double suppurative ethmoiditis was also present. In only 1 case was the frontal sinus the only nasal accessory sinus involved, in all the remaining cases other accessory sinuses were similarly implicated. With the exception of the 1 case of subacute frontal sinusitis, which had lasted for about six weeks before the patient came under observation, all the other cases were truly chronic and had lasted for periods varying from two to thirteen years. The youngest patient treated was aged eighteen and the oldest fifty-three years. 6 cases occurred between the ages of eighteen and twenty-five years, 4 cases between twenty-five and thirty-five years, 4 cases between thirty-five and forty-five years, and 1 case between forty-five and fifty-five years.

The conclusions which I have arrived at from a study of these cases and from certain other cases of frontal sinus disease which I have seen in my own experience and in the practice of various friends may be briefly summarised as follows:—1. In cases of acute frontal sinusitis rest in bed, warmth, local depletion, and intra-nasal treatment should first of all be undertaken. 2. In cases of acute frontal sinusitis with obstructed duct and which do not react to local treatment within forty-eight hours external operation should at once be resorted to. 3. In cases of chronic suppurative frontal sinusitis (latent empyema) it is advisable to first of all give intra-nasal treatment a fair trial—e.g., washing out the sinus when possible, destruction of all redundant and polypoid mucosa so as to facilitate intra-nasal drainage, and the performance of an anterior turbinectomy. 4. In cases of latent empyema where local treatment fails and where attacks of subacute sinusitis recur at intervals an external operation should be performed. 5. In cases of latent empyema where any symptoms of ocular or orbital disease supervene opening and thorough draining of the sinus should be effected without delay so as to avoid the risks of septic inflammation of the orbital contents and loss of vision. 6. In cases of latent empyema where symptoms of cerebral irritation or of cerebral compression are present the sinus should be freely opened from the outside, erosions of the bony parietes carefully looked for, and if necessary an opening made into the cranium so as to explore the region of the anterior cerebral fossa.

Manchester.

Bristol Jubilee Convalescent Home.—The Bristol Convalescent Home Committee, acting upon the advice of the Sites Committee, has purchased a handsome and commodious building on Durdham Down, now used as a school, and this will be converted into a convalescent home. The building, which is stated to have cost £20,000, faces the Downs with their 440 acres and has three and a half acres of grounds in the rear. With some slight alterations it will be made capable of receiving from 80 to 100 patients.

THE BACTERIOLOGICAL DIAGNOSIS OF CERTAIN INFECTIOUS DISEASES IN CONNEXION WITH PUBLIC HEALTH WORK.[1]

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(Concluded from page 482.)

IV. Typhoid Fever.

The method of diagnosis I use in the case of typhoid fever differs entirely from those I have described in connexion with tuberculosis and diphtheria. Here it is not for the bacillus we look but for a peculiar property acquired by the blood of patients affected with typhoid fever. This blood, when brought in contact with living and active cultures of the typhoid bacillus, paralyses the bacilli and causes them to run together and form clumps; the two phenomena of immobilisation and agglomeration constitute the typhoid reaction first described by Widal at the end of the month of June, 1896. Immediately on hearing of this discovery I tested its value on hospital cases and at the end of July, 1896, had already obtained full confirmation of Widal's statements. I devised the method which has been in use in my laboratory ever since, and later I had the pleasure of finding that Widal himself considered it most suitable in every respect. Before using the method in general practice I tried it carefully on some fifty hospital patients during the months of September, October, and November, Dr. Marsden, the resident medical officer at the fever hospital, keeping the patients under observation, and Dr. E. Sidebotham assisting me in this second series of experiments.[2] The results were so satisfactory that in January Dr. Niven determined to use this method in connexion with his work. Since then several other public health departments have applied to the college to have the same facilities granted to them. The number of cases which I can record does not therefore correspond to the work of a full year, but to about ten months in Manchester and less in the case of other towns. The arrangement adopted and methods used can be well understood by reading the following documents.

Public Health Office, Town Hall, Manchester, Jan. 8th, 1897.

Dear Sir,—At a meeting held on Wednesday, Dec. 30th, 1896, the Sanitary Committee of this city confirmed a resolution passed by the Hospitals Sub-committee that facilities be afforded to medical men in the diagnosis of cases of typhoid fever. The investigations of Widal, whose results have been confirmed by Professor Delépine, make it certain that by means of a small amount of blood, such that the loss of it can make no appreciable difference to the patient, it is easy to tell by a bacteriological reaction whether the patient is suffering from typhoid fever or not. Now by clinical examination it is often very difficult in the early stages of the disease to say whether an illness is or is not typhoid fever.

In consequence of this difficulty cases are not notified sufficiently early to the public health officer to enable the medical attendant and the sanitary authority to take the most effectual measures for preventing communication of the disease from the sick person to members of the same family and to others. Not only so, but many persons are sent into hospital as suffering from typhoid fever who are really affected with other conditions.

Then, moreover, there is no doubt that if the circumstances of the sick are such that they ought to be treated in hospital it is much better for them that they should be removed from home early in the course of their illness.

All these considerations make it matter for great congratulation both to the medical attendant and to the public that bacteriology should lend effectual aid in clearing up doubtful cases of this most difficult malady; and the Sanitary Committee have therefore made a similar arrangement with the Council of Owens College and with Professor Delépine to that which has worked so well in the case of diphtheria.

A number of pipettes are kept at the Public Health Office in the town-hall by means of which a small amount of blood may be obtained from a suspected case for transmission to the pathological laboratory at Owens College. Accompanying each pipette is a paper containing instructions for the obtaining of material and particulars requiring to be filled in.

Medical men are requested to be careful to fill in the particulars asked for as no bacteriological examination will be made in the absence of sufficient information.

Should the bacteriological examination indicate that the case is not one of typhoid fever the fee of 2*s.* 6*d.* for notification will be paid just as if no bacteriological examination had been made.

On the other hand, if no bacteriological examination is requested this will be regarded as a proof that the case reported admits of no doubt. Applications for pipettes must be made to the Public Health Office. The pipettes must afterwards be forwarded direct to Professor Delépine at Owens College. The diagnosis again can only be obtained from the Public Health Office.

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[1] A paper read at the Conference of Medical Officers of Health at the Sixteenth Congress of the Sanitary Institute, Leeds, on Sept. 15th, 1897.

[2] See The Lancet, Dec. 5th and 12th, 1896.

It is, however, the aim of the Sanitary Committee to shorten as much as possible the period between the first report of the case and the receipt by the medical attendant of the bacteriological diagnosis.

If the medical attendant will telephone to the Public Health Office from the nearest police-station a request for a pipette this will be at once sent by messenger to his residence or to the address of the patient, as the medical attendant may desire. If he is prepared at once to take a specimen for diagnosis the messenger will wait to receive the pipette from him charged with the matter to be examined, and will convey it forthwith to the laboratory. The diagnosis will be given to the medical attendant only on the following day. It will be necessary, however, that the pipette reach the laboratory by 1 P.M. on any one of the days Monday to Friday and on Saturday by 10 A.M., otherwise the diagnosis will be delayed by one day. No diagnosis will be given on Sunday.

The expense of the bacteriological examination will be defrayed by the Corporation, and it is hoped that full advantage will be taken of the opportunities thus afforded at the earliest possible period of the illness.

As the bacteriological diagnosis is more difficult during the first week of the disease, a second tube should be sent after the first week if a negative result has been obtained within the first seven days after the beginning of symptoms.

In order that medical men may familiarise themselves beforehand with the procedure which they will require to adopt a copy of Professor Delépine's instructions for taking material is enclosed.

JAMES NIVEN, Medical Officer of Health.

[*Enclosure.*]

DIRECTIONS FOR TAKING A SAMPLE OF BLOOD FOR PURPOSES OF SERO-DIAGNOSIS.

1. The skin of the back of the index or middle finger is first washed with soap and water and then with alcohol when possible.[3]

2. Meanwhile the finger can be prepared by causing congestion in one of the usual ways—e.g., by tying a piece of tape, not too tightly, round the root of that finger.

3. Whilst the finger is being cleaned the case containing the pipette is opened by lifting one of the plaster lids and the pipette is removed. About $\frac{1}{16}$ of an inch of the sealed point is broken off with a pair of forceps or otherwise. The point is sterilised by passing it two or three times through the blue flame of a spirit lamp, or for a few seconds *just above* an ordinary gas, candle, or match flame. (A deposit of soot on the glass should be avoided.)

4. The patient should be made to flex the finger as much as possible. The tightened congested skin, just above the root of the nail, should now be sharply pricked with the mounted sterilised needle, which is provided with the pipette. A pretty deep puncture can be made with a sharp needle without the patient feeling it much.

5. A large drop of blood is allowed to accumulate over the puncture; the portion of skin which has been pricked must, of course, be kept as horizontal as possible.

6. With the pipette which is now cold, and without removing the cotton plug from the mouthpiece, as much blood as can be obtained is aspirated gently, or allowed to run into the pipette held horizontally. By squeezing the sides of the finger, a second and sometimes a third large drop of blood may be obtained.

7. After driving the blood away from the broken point of the pipette by aspiration or gentle shaking, the end of the pipette is sealed by holding it in a gas, lamp, candle, spirit, or match flame, so as to heat to redness not more than one-sixteenth of an inch. The point should be held in the flame till it is quite closed.

8. The constricted part of the pipette is then sealed in the same way after being broken across.

9. The tube containing the blood and the mounted needle are replaced in the case, which is again closed with the plaster lid.

10. All particulars are now entered on the label pasted on the case and the case is enclosed in a stamped envelope, addressed: "Bacteriological Laboratory, Owens College, Manchester."

I will now describe the so-called "typhoid outfit" (Fig. 2) as used at Manchester and will explain the apparatus and its use. The wooden case (A) in which the pipette (4) is transmitted by post has already been described in reference to Fig. 1. The guarded needle is made of an external sheath of glass (5) with a special flat needle (6) having an obtuse cutting point projecting $1\frac{1}{2}$ mm. beyond the rounded end of the glass sheath and fixed at the other extremity (7) by means of hard sealing wax; these needles can be thoroughly sterilised by heat and set by holding the needle with sterilised forceps whilst the wax is still soft. The following is a *résumé* of the directions given above for the collection of blood. The pipette is removed from the case and the sealed points are broken and one of them passed through a flame. The finger having been thoroughly washed with soap and water—complete sterilisation of the skin is unnecessary except for experimental purposes—the skin over the back of the last phalanx of one of the fingers is pricked sharply with the guarded needle about a quarter of an inch above the border of the skin covering the root of the nail. A drop of blood being obtained, the sterilised point of the pipette held horizontally is plunged into the drop, the blood runs freely into the pipette (B) (by lateral pressure on the finger it is easy in most cases to obtain enough blood to fill one-third, one-half, or even a greater part of the pipette). When enough blood has been collected the pipette is slightly shaken so as to free as far as possible the point from blood. This point is then sealed in a flame, the constricted part of the pipette (9) being then broken across and sealed also. When the sealed pipette containing the blood (C) reaches the laboratory it is scratched with a file or the edge of a slide at some distance from the blood (12) and the tube is then easily broken across. If desired the blood may be centrifugalised before the pipette is opened. The sterilised platinum loop[4] (D) measuring 1 mm. (internal diameter) can then be introduced through the opened end of the pipette and a drop of serum, or serum mixed with blood corpuscles, can be removed from the pipette and deposited on a sterilised cover-glass (F). It is on account of this part of the manipulation that I use a pipette of a certain diameter and not any kind of capillary pipette; much time is saved and chances of contamination are avoided by this arrangement. The twenty-hours' culture of typhoid bacillus in *neutral bouillon*[5] is poured into a glass capsule (E). Drops of the culture are taken with the sterilised loop as shown in the illustration; the loop must just touch the surface of the fluid and then be brought in contact with the cover-glass in a very slanting position as shown (F). In this way it is easy to obtain perfectly equal drops.[6] After four, nine, or nineteen drops of culture and one drop of serum have been placed on the cover-glass they are mixed together *very rapidly and thoroughly* and the cover-glass is placed film downwards on a sterilised slide. If all these steps are observed absolutely accurate results will be obtained, the proportions of serum being $\frac{1}{5}$, $\frac{1}{10}$, or $\frac{1}{20}$. When smaller

The following is the label on which particulars are entered and which is sent to the laboratory with the specimen:—

Name of Doctor *Lab. T. No.*
Address
Name of Patient
Address *Age* *F.—M.*
Date of Collection of Specimen *Hour* A.M. / P.M. | *Date of onset of illness*
Any previous attack of Typhoid Fever? Yes—No. *When?*
Rose Spots? Yes—No. *Spleen enlarged?* Yes—No. *Diarrhœa?* Yes—No. *Delirium?* Yes—No.
Temperature during fastigium? Maximum °F days ago. Minimum °F days ago.
Pneumonia? Yes—No. *Hæmorrhage?* Yes—No. *Albuminuria?* Yes—No.
Other complications?

N.B.—Simply scratch out either "yes" or "no" when a positive answer is possible; when in doubt leave them as they are. Enter Temperature and days in spaces left before and after "°F." Fastigium to extend from observed onset of fever to crisis or lysis.

Directions.—1. Wash the back of the index or middle finger (and dry it carefully). 2. Cause congestion of the finger by constricting it at the root. 3. Remove pipette from case, break the sealed points with a pair of forceps, sterilise one of the broken points by passing it rapidly 2 or 3 times through a flame. 4. Prick skin sharply with the sterilised guarded needle provided (after asking the patient to flex the finger as much as possible), the prick should be made $\frac{1}{4}$ inch above the root of the nail. 5. Allow a large drop of blood to accumulate over the prick. 6. The sterilised point of the pipette (which is now cold again) is placed in the drop of blood, which is allowed to run into the pipette held horizontally. 7. Seal this point of the pipette after driving the blood away from it by gentle shaking. *Only the very end of the pipette must be heated in the flame* (so that the blood be not heated). 8. Seal the other point in the same way. 9. The tube containing the blood and the mounted needle are then replaced in the case, which is closed again. 10. All particulars are entered on this label. The case is enclosed in an envelope addressed—BACTERIOLOGICAL LABORATORY, OWENS COLLEGE.

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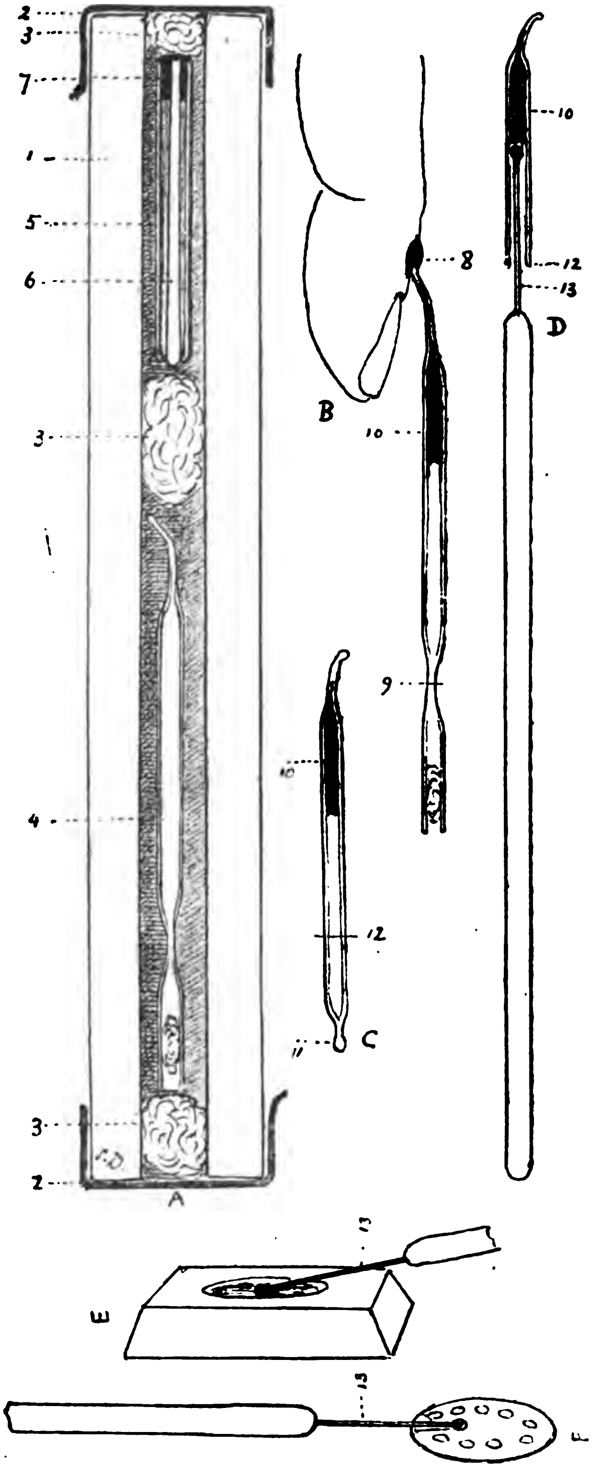
[3] In the first 500 cases, in order to obtain samples suitable for lengthy experiments, I asked that the skin should be thoroughly sterilised. This is not necessary in ordinary routine work. For the same reasons the form of pipette used has now been simplified; it consists simply of a narrow tube drawn to a point at each end, the ends being sealed.

[4] The platinum wire I use is 0·34 mm. thick.

[5] I have on several occasions used emulsions prepared with dead bacilli, but found that living cultures were much better.

[6] The drops of serum removed from the pipette in the way just described are a little smaller than those taken from the surface of the same fluid placed in a capsule or on a glass slide.

FIG. 2.



The so-called "Typhoid Outfit." A, Section of case (1); 2, 2, Antiseptic adhesive plaster; 3, 3, 3, Pads of cotton-wool to prevent damage to pipette (4) and to the glass sheath (5) of the guarded needle (6), held in position by sealing-wax (7). B shows method of collecting blood (8 and 10); 9, Constriction of pipette. C, Pipette as received at laboratory; 11, Where constriction (8, 9) has been broken and the tube sealed; 12, Where tube is opened for examination. D shows extraction of blood from pipette by platinum loop (13). E, Glass capsule containing twenty-hours' culture of typhoid bacillus; 13, Platinum loop. F, Sterilised cover-glass showing method of placing drops on cover glass by means of the platinum loop (13). The first form of pipette used is here represented; in the one now used both ends are alike drawn to a fine point.

proportions are wanted the blood must first be diluted by the same method with neutral bouillon. To obtain drops of serum quite equal to those of culture it is necessary to blow the serum out of the pipette on to a glass slide. In most cases when typhoid fever has reached the end of the first week clear indications of the reaction will already be apparent at the end of one minute and after five minutes will be unmistakeable. In some cases, however, the reaction takes place slowly, so that the preparation has to be again observed at the end of half an hour and two hours. It is then possible to give a positive or negative diagnosis. We make it, however, a rule to examine again the specimen on the following day for our own information. We invariably prepare control specimens to prevent any error. I do not enter here into further details. as I have done so fully in various papers easily accessible.[7]

Between Oct. 10th, 1896, and the beginning of September, 1898, 413 samples of blood have been tested in the laboratory. In 201 cases a positive reaction was obtained and in 198 a negative one; in 14 the reaction was not clear and had to be reported as doubtful; these doubtful reactions were almost always observed in cases in which the blood had been collected before the seventh day of the fever. It may therefore be said that in about 3 per cent. of the cases we failed to obtain definite results. There remain 399 cases, say 400, in which the reaction was evident or absent. Roughly speaking, in 50 per cent. of these the reaction was positive and in 50 per cent. negative. The negative or positive diagnosis was entirely confirmed in cases which were closely followed in hospital; some cases remained doubtful clinically, but whenever symptoms of typhoid fever or of some other disease were unmistakeable the bacteriological diagnosis was found to be correct. We had a total of 115 cases thus controlled in Manchester. I have taken special care to control negative as well as positive results. Since writing on this subject in THE LANCET I have examined the blood of many patients not affected with typhoid fever and have not yet found a single disease which produces in the blood properties similar to those acquired with the blood of typhoid fever patients. I have tested the blood in various septic affections, in tuberculosis, scarlet fever, measles, influenza, carcinoma, sarcoma, &c. Owing to some remarks published by another observer I have tested the blood of several patients affected with jaundice, also placental blood and fœtal blood, and in no case have I seen anything which could be mistaken for Widal's reaction when my method was used.

The cases observed in general practice gave us also very satisfactory results. I need not speak of the positive reactions which were generally accepted. But with regard to our negative results some medical men expressed doubts whilst others wrote afterwards expressing their satisfaction. Out of 108 letters received 88 agreed with our results and 20 disagreed; so that out of a total of 320 cases observed in Manchester and on which we gave a definite opinion in only 20 cases was the clinician in opposition to us. If I admit, as in the case of diphtheria, that the clinicians were right (which we have no special reason to admit in all these 20 cases) and that we were wrong (which is quite possible in a small proportion of cases), the error of bacteriological diagnosis would, on this basis, be 20 in 320—i.e., a little more than 6 per cent., which compares favourably with 50 per cent. doubtful cases as observed clinically. I may say that Dr. Niven has expressed himself highly satisfied with the results already obtained in Manchester.

(Since this paper was read 428 more cases have been investigated in the laboratory, this bringing the number of cases of suspected typhoid fever to 841. The results have continued to be satisfactory; in a number of cases where the clinical symptoms seemed to be at variance with our results the further course of the case has justified the bacteriological diagnosis. Several medical men have undoubtedly refused to accept our negative reports on the ground that the symptoms were absolutely typical of typhoid fever. These, however, have been very few and there has been a marked diminution in the number of dissenters. What is more to the point, however, is that, so far, post-mortem evidence has always proved the bacteriological diagnosis, *whether positive or negative, to be correct* with the exception of a complicated case on which I am not prepared to give a definite opinion, even after hearing the results of the post-mortem examination. I am convinced therefore that the method I have adopted as a modification of Widal's original method gives extremely reliable results.)

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[7] THE LANCET, loc. cit. Brit. Med. Jour., April, 1897.

V. GENERAL CONSIDERATIONS ON THE ORGANISATION OF BACTERIOLOGICAL LABORATORIES IN CONNEXION WITH PUBLIC HEALTH WORK.

I have now given an idea of ways in which bacteriological diagnosis can be made to assist public health work and of the gain of accuracy which may be obtained. I have purposely left aside certain administrative questions which will be of special interest to those who have to consider carefully all questions of management. I think it will be evident that work of the kind I have described requires not only constant but also timely attention; delay of any kind is fatal and unless material submitted for examination be attended to punctually as soon as it reaches the laboratory diagnosis will be delayed considerably and sometimes rendered impossible. I am strongly convinced that several conditions are essential to the success of such work.

1. The men undertaking it must be able to devote daily a part of their time to it, they must be able to do so without hurry or flurry, and in large districts they must be ready to sacrifice several of the best hours of their working-day. I doubt whether a medical officer of health, however experienced a bacteriologist he may be, can, when in charge of a large district, be master enough of his own time to attend to work of this kind when he should.

2. Though a fully equipped bacteriological laboratory is not absolutely necessary, the keeping of typical cultures in a state of activity, the testing of these cultures from time to time, the preparation of media of uniform composition, the looking after animals, &c., are so essential to successful continuous working that, in the absence of the facilities offered by a convenient laboratory and good attendants, the task rapidly becomes a painful and tedious load. When the work is not continuous and is taken up only in time of epidemics, the expense is increased and the training resulting from daily routine is lacking, so that the investigations become extremely troublesome.

3. Even when work such as I have described is carried out in a well-fitted laboratory it is necessary that there should be in that laboratory several bacteriologists capable of undertaking the examination of morbid products and that this should be done under the direction of a man who is not likely to leave his post at the end of a few months or even years. So much depends on the care with which examinations are made that to obtain absolutely comparable results it is necessary that the same precautions be uniformly taken. To obtain uniformity in my laboratory has been one of my greatest cares. Fortunately I have been helped in this by my friend, Dr. E. J. Sidebotham, who, struck with the importance of the work, and, free to devote the whole of his time to investigation, has consented to become my assistant, or rather colleague, at the Owens College. For nearly two years, whilst my scheme was developing, and when funds were not available to obtain further assistance he shared with me all the responsible work. At first he worked jointly with me for many months till at last we found that our results were absolutely similar. Since then we have obtained the assistance of several gentlemen working in the laboratory, more especially of Dr. Brindley, who were able to relieve us of part of the work when the absence of one of us made this necessary. Yet even now all results which are not absolutely clear are checked by Dr. Sidebotham or myself or, when there is the slightest need, by both of us. In such a way absolute continuity and uniformity are secured in our work.

4. I doubt whether it would be possible for any corporation to obtain the entire services of a bacteriologist, and at the same time to get satisfactory results, without increasing very considerably the working expenses of the sanitary department. If the post were offered to a junior man with an inadequate salary, laboratory, and attendance, this man, if at all an able bacteriologist, would soon find a better post, and, if not capable, his results would be unreliable. But even if, by extremely careful selection, a series of young men holding office for periods of from twelve to eighteen months were obtainable, how could continuity of work be secured? The apprenticeship of each man would certainly cause variations in the results which would vitiate them all.

5. It was considerations of this kind and the desire which I had to give opportunities for a study of practical applications of bacteriology to the men working in my bacteriological laboratory at the Owens College which led me to make four years ago a scheme for associating my department with the various public health departments in Manchester and its neighbourhood. This plan received the sanction of the College council owing greatly to the interest taken in it by the Principal, Dr. A. Ward, and the Council generally. The work done in connexion with Manchester consisted at first of special investigations. It was from Dr. Porter, of Stockport, that I received three years ago the first application for systematic reporting on cases of diphtheria. Manchester followed soon afterwards, and now more than fifteen sanitary districts are connected with the College in this way. Now from an economical and educational point of view such a combination is I think most desirable. I have found by careful calculation that with regard to reporting on diphtheria and typhoid fever it is possible when the number of cases is sufficiently large to have the work done in my laboratory and without causing any loss to the College by charging a fee of 5*s*. to the Corporation for each case reported upon. This allows me to pay all working expenses. The feeling that responsible work of public importance is going on in the laboratory is an incentive to good work and research, so that the department benefits in this way from the sacrifices which it has to make. On the other hand the towns connected with us derive advantages quite as great. Taking Manchester as an example, where through the interest taken by the Health Authority and Dr. Niven, the work is progressing in such a way as to yield already practical results, some 645 cases of diphtheria and typhoid fever have been reported upon during the twelve months ending with August, 1897, and about sixty specimens of milk have been examined.[8] The cost of all these reports will be to the Corporation only a fraction of what an efficient municipal bacteriological laboratory would during the same time have cost them, and the expenditure will be more than covered by the saving effected with regard to the isolation of infectious cases. The amount received from one town only would, however, be insufficient to allow me to obtain the assistance necessary to make this work compatible with my teaching duties, and it is here that the advantage of a central laboratory becomes more evident—every town applying for reports adds in a small measure to the total of fees received, while our expenditure does not increase proportionally to the amount of work done, and in this way the laboratory as well as each town benefits from the effects of combination.

6. I think from what I have said the advantage of central laboratories will be evident. Wherever possible these laboratories should be connected with university colleges or medical schools provided with laboratories fully equipped for medical and bacteriological researches. These laboratories should not be too distant from the localities which they serve, otherwise specimens might not reach their destination in time for examination the same day and a useless delay would be produced which would interfere with the proper working of preventive measures. The delay is also objectionable on account of the changes taking place in material contaminated with bacteria. In the case of milk, for instance, if no special precautions are taken to keep it cool, bacteria multiply so rapidly in summer that it is impossible after some ten or twelve hours to get a clear idea of the original state of the fluid. In the case of anthrax difficulties may arise from the disappearance of the bacillus. Typhoid blood is more convenient in that respect because it remains quite suitable for examination after many days or even weeks. I cannot give an exact idea of the size of an area which could be worked successfully by a single laboratory; but I shall not be far wrong in saying that all towns which can be reached in less than two hours by train could easily be worked from one centre. Smaller areas would be large enough to supply constant work to a bacteriological laboratory, especially if large towns were included in them.

Before closing my remarks I wish it to be clearly understood that if I have compared clinical methods of diagnosis of certain infectious diseases with bacteriological methods to the apparent detriment of the former it is not with any desire to claim for bacteriology a superiority over clinical medicine, for: (1) without bedside study of symptoms it is impossible to determine the cases in which the assistance of bacteriology may prove useful; (2) there is a large number of diseases, even of those due to micro-organisms, in which the bacteriological methods are still too imperfect or too slow to make them applicable; and (3) the bacteriologist and the clinician should look upon each other as co-workers—the bacteriologist is able to give some assistance to the clinician within certain limits but cannot claim any personal superiority. He is so situated that he has the means of applying methods which cannot be easily applied in general practice but which he should place at the disposal of his colleagues when this can shorten and render more accurate the process of diagnosis.

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[8] From returns communicated to me by Dr. Niven whilst this paper was in the press I hear that about 95 per cent. of all the cases notified under the heads of diphtheria and typhoid fever in Manchester have been submitted to us for bacteriological examination.

How the method is to be used by authorities for the purposes of increasing the accuracy of notification is an administrative question which can be better answered by the medical officer of health than by the bacteriologist assisting him. Dr. Niven bas already in several of his reports alluded to this point and I have reason to believe that before long he will make the results of his personal experience generally known.

Manchester.

THE SULPHO-CYANIDE OF POTASSIUM IN SALIVA.[1]

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THE methods hitherto employed in the quantitative analysis of the sulpho-cyanide of potassium in saliva are extremely laborious. With the help and at the suggestion of my friend and colleague, Dr. Buckmaster, I have devised an apparatus by which its amount can be estimated with the greatest ease and in a few minutes only. In the hope that it may help in unveiling the mystery of the origin, physiological, and pathological significance of this characteristic salivary salt I venture to bring it to notice. I would like to introduce the subject with a brief *résumé* of the little that is known about it.

Treviranus[2] was the first to notice the deep red colour produced by the neutral ferric perchloride when mixed with saliva. This was in 1814. In 1826 Tiedemann and Gmelin proved that the colour was due to the formation of the iron sulpho-cyanide. Jacubowitsch[3] says it exists in the mixed saliva in the proportion of 0·006 per cent., Frerichs in the proportion of 0·01, Lehmann in the proportion of from 0·0064 to 0·009, whilst Wright[4] states it to be as high as from 0·51 to 0·98 per cent.; the latter observer was, however, faulty in his method of analysis. Its amount is said to vary in the secretions of the individual glands; thus, in the parotid of man Mitscherlisch[5] and Oehl state it to be 0·03 per cent. Maly found traces of it in the submaxillary gland, and Longet discovered a little only in the sublingual gland. Oehl[6] attempted a colorimetric estimation with solutions of iron. Mitscherlisch, Jacubowitsch and Gmelin found it in the parotid of man, dog, horse and sheep, though Lehmann states it does not exist in that of the horse. Schiff says it is a decomposition product and that by keeping saliva for from twenty minutes to half an hour the iron reaction is better seen. I think from my own observation I can dispute this. According to Munk[7] and Gscheidlen[8] the salt is constantly found in urine. Musso[9] found it in milk and Leared[10] in the blood. Munk and Gscheidlen found it in the urine of man, horse, dog, ox, cat, and rabbit. It is believed by these observers that the salt is absorbed into the blood and constantly removed by the kidneys, since it has not been discovered in the fæces. In urine, however, it exists only in very small quantities, the amount being from 0·029 gramme[11] to 0·08 gramme[12] in 1000 c.c. Sheridan Lea[13] says it occurs only in the urine of those animals who excrete their nitrogen chiefly in the form of urea. Heidenhain and Gscheidlen cut the ducts of all the salivary glands in dogs and formed salivary fistulæ. The total absence of the salt was found in the blood and urine, whilst the mixed saliva collected from the ducts contained it. Carpenter,[14] on the authority of Harley and Longet, says that the salt is absent in the herbivora. Claude Bernard[15] considers its presence to be due to carious teeth and tobacco smoking. Lander Brunton[16] states that in the mollusca it diminishes reflex actions and quickens the heart-beats, large doses arresting the heart in diastole. Chouppé, experimenting on plants, found saliva fatal to vegetable life and attributed this to the contained sulpho-cyanide; and Hugenschmidt[17] states it to have a distinctly bactericidal property. Frerichs, Wöhler, and others consider it to be non-poisonous in moderate doses. Florain[18] in a paper read before a congress held in Paris in 1889 said though fatal to vegetable life it had no action on animals except in excessive doses.

I have tried the ingestion of pure potassium sulpho-cyanide in four rabbits, the amount used being between one or two grammes mixed with about ten of bran a day. In every case death resulted in about a week. The symptoms produced were alike—viz., emaciation and loss of hair. In two a marked atrophy of the salivary glands was found and in one of these after dipping in a solution of ferric perchloride a microscopic examination was made, the ducts being found more deeply stained than the gland tissue. In all four large quantities were found in the urine and fæces; in fact, the drug seemed to permeate, as far as one was able to judge, every organ and tissue and to find its way in every secretion and excretion even to the cerebro-spinal fluid. The emaciation was the most marked feature, bearing as it does on the statement of Dr. Fenwick that the elimination—if it be an elimination—of the sulpho-cyanide by the salivary glands is a measure of nutrition occurring in largest quantities in the saliva of those who are well nourished and *vice-versâ*. I can from the observation of some few cases confirm this. I should say the emaciation in the rabbits was undoubtedly dependent on the ingestion of the drug, the normal quantity of bran being eaten.

Of the pathological significance Dr. Fenwick, in some lectures on Functional Disease of the Liver, quoted in THE LANCET of 1887, points out that those diseases where nutritive efforts are called forth are invariably accompanied by an increase of sulpho-cyanide and further states that for its appearance in the saliva the bile must enter the duodenum. He adds that as the two are so closely associated it is obvious that the salt owes its origin to some action of the hepatic cells. His means of analysis consisted roughly of a series of shades of colour produced by the admixture of a known quantity of the tincture of the perchloride of iron in graduated solutions of the salt, the normal colour being obtained by a comparison of the saliva of those whose appearance and history seemed to indicate a normal condition of health. The objections to this method are that the standards of comparison, being fluid, faded after a few weeks; and the tincture of iron, owing probably to the evaporation of the spirit, did not remain at a uniform strength. Dr. Fenwick made no attempt at a quantitative estimate.

Assuming it possible to construct some permanent means of measuring the amount of the salt in the saliva it was obviously necessary to avoid these sources of fallacy, hence comparison with coloured fluids was discarded. On the suggestion of Dr. Buckmaster it was thought likely we could adapt Dr. Oliver's hæmoglobinometer to our purpose. This instrument, the outcome of much labour and thought, is a means whereby the quantity of hæmoglobin is found by contrasting solutions of blood with graded red glasses, each of which corresponds to a known percentage of hæmoglobin. Resolving then to use unfading coloured glass instead of fading coloured fluid as a means of comparison it was necessary at starting to try the tests for the salt in order to ascertain which was the simplest and which gave the best colour. These tests are:—1. The perchloride, discovered by Treviranus, consisting of the production of a blood-red colour on the addition of ferric perchloride, not discharged by hydrochloric acid but disappearing on the addition of corrosive sublimate, thus differing on the one hand from the acetates and formates and on the other from the meconates. 2. Böttger's test, discovered in 1872. Filter paper, soaked in tincture of guaiacum, dried and drawn through a 1 in 2000 solution of copper sulphate, becomes blue when treated with saliva containing potassium sulpho-cyanide. 3. Solera's test, quoted in the *London Medical Record* of 1878, based on the power of saliva of reducing iodic acid. When a weak solution of potassium sulpho-cyanide is mixed with iodic acid it becomes yellow owing to the liberation of iodine. The test is rendered more sensitive if starch paste be used, the blue colouration produced by the iodine being more easy to recognise than the delicate tints of the yellow. Solera claims such delicacy for it that he can detect 0·000,004 gramme.

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[1] A paper read at the Odontological Society on Feb. 7th, 1898.

[2] Biology, iv., p. 585.

[3] "De Saliva," Inaugural Address, Dorpat.

[4] THE LANCET, 1842, Physiology and Pathology of Saliva.

[5] Poggendorff's Annalen, vol. xxvii., 1848.

[6] Canstatt's Jahresbericht.

[7] Virchow's Archiv, vol. lxx.

[8] Pflüger's Archiv, vol. xiv.

[9] Bericht für Physiologische Chemie, 1877.

[10] Proceedings of the Royal Society, vol. xviii.

[11] Gscheidlen.

[12] Munk.

[13] Chemical Basis of the Animal Body, p. 163.

[14] Human Physiology, ninth edition, p. 134.

[15] Leçons sur les propriétés physiologiques, vol. ii., 1859.

[16] Pharmacology, third edition, p. 114.

[17] Annales de l'Institut Pasteur, tome x., 1896.

[18] British Journal of Dental Science, 1890.

Of these three tests the guaiacum was discarded, it being found necessary to make fresh preparations of that drug so frequently. The perchloride test was chosen on account of its simplicity and sensitiveness, it being at least as delicate as Solera's. I decided then to use the red colour of the iron reaction and the next stage in the experiments was to obtain a colour with a solution of the sulpho-cyanide of the same strength in which it occurs in normal saliva. This normal amount was based on the mean of Frerichs' estimate of from 0·01 to 0·006 per cent. To a 0·008 solution of sulpho-cyanide, therefore, liquor ferri perchloridi was added and sent to Lovibond's colour laboratories, Salisbury, in order to have the colour reproduced in glass. In due course they were returned and the colours were found to be exactly matched. It was at once obvious that by a series of graduated red glasses of the same shade as known strengths of sulpho-cyanide solutions, to which iron had been added, it would be possible to easily read off the percentage quantity of the salt in different salivas. It was only in the details of the experiments that any difficulties arose; of these, the most serious was overcome by my colleague, Dr. Slater. Potassium sulpho-cyanide being so extremely hygroscopic it was found impossible to make up an accurate solution in the ordinary way. Dr. Slater kindly made one by the titration process, so accurate as to come almost within Frerichs' variations of the normal. The solution was subsequently tested by Dr. Gardner, the lecturer on chemistry and physics to St. George's Hospital, and found practically correct, the exact strength being 0·010228 per cent. Not caring to trust to either the tincture of iron or the strong liquor, some trials were made with solutions of the neutral perchloride in order to ascertain the amount necessary to produce the best colour when mixed with the normal solution of the sulpho-cyanide. Some difficulty in weighing the iron occurred owing to its extreme deliquescence. After many trials a 50 per cent. solution was found to suit our purpose best.

Before proceeding further I would like to give a short account of the principle upon which the measurement is based. As, however, it has been so exhaustively described by Dr. Oliver in the Croonian Lectures of 1896 no more than a mere abstract is necessary. The colorimetric system is used in various ways as a means of quantitative estimation with the aid of colour. Lovibond, the inventor, has fixed an arbitrary and equivalent unit in glass tinted in the three primary colours, the equivalence of the unit being established by the fact that when the corresponding units of the three primary colours are superposed the colour of each is destroyed, a neutral tint resulting. It is most interesting to note the total abolition of colour produced by the superposition of even the lightest shades of the dominant colours. The latter are divided into shades and arbitrarily numbered in series, the shade of one colour corresponding to the number of the shade of the other two colours. There are necessarily more light shades than dark ones, the human retina being only able to see minute distinctions of colour in light shades. For matching and testing experts are employed. The "specific colour-curve" of known solutions of given quantities of sulpho-cyanide of potassium to which a fixed amount of neutral ferric perchloride has been added shows that in the weaker solutions of the salt yellow only is discernible, in the medium solutions orange enters into its composition, whilst in the strong mixtures red only is present, the red and yellow of the weaker solutions being totally disguised. Having thus an unvarying and fixed means of quantitative examination at our disposal it only remained to construct a graduated series of shades of red corresponding to the varying percentage of the salt in saliva, as evidenced by the depth of colour produced by the iron reaction and to make the method of examination itself unvarying. This gave rise to some difficulty for the following reasons:—1. Saliva until it has been standing some time has a decided colour of its own. Obviously if it were to be compared with coloured glass representing known strengths of sulpho-cyanide its own inherent tint must be abolished or else that tint must be added to the red of the sulpho-cyanide. Its air-bubbles and viscidity, too, were at first a disadvantage to quick work. 2. Given a clear watery saliva it was necessary to use for each examination the same amount. 3. To be perfectly uniform it was of course necessary to use an unvarying light, the changing tones of a London atmosphere being useless. 4. It was necessary to determine the gradations of the scale to be used. 5. It was necessary to fix the amount of the 50 per cent. iron solution to be used. 6. To construct a convenient cell to hold the saliva.

1. The viscidity of the saliva was easily overcome and its colour and air-bubbles destroyed by the addition of glacial acetic acid. Saliva thus treated yielded the same reaction with iron as saliva to which no acid had been added. The proportion of acid employed is 1 in 3.

2. It was obviously a matter of indifference what quantity of saliva was examined so long as the same amount was used for each examination. We decided on 2 c.c. of the mixed acid and saliva.

3. The light difficulty was overcome by adopting Dr. Oliver's practical suggestion of using double transmission. It was found, as stated also by Dr. Oliver, that reflected light showed a deeper colour than singly transmitted light. That of an ordinary candle was employed, the reflecting surface being placed under the cell holding the saliva.

4. The scale was made to consist of intervals corresponding to an increase or decrease of 0·0025 per cent. with the exception of the two lowest shades. Of these one corresponds to a mixture of distilled water and glacial acetic acid in the proportion of one in three, to which 0·045 c.c. of the iron solution is added. This was, of course, necessary in order to be able to detect the entire absence of the salt. The other low shade was put in the scale to enable us to detect a mere trace and corresponds to a 0·0001 per cent. solution of the sulpho-cyanide. The scale will thus tell three degrees of increase—the normal, four degrees of decrease, and the entire absence of the salt, the readings being in order: zero, 0·0025, 0·005, 0·0075, 0·01; or normal, 0·0125, 0·015, and 0·0175 per cent. Besides these definite gradations quarter, half, and three-quarter shades of the intervals were prepared.

5. The amount of the 50 per cent. solution of the neutral ferric perchloride necessary for each examination is only 0·045 c.c. The quantity used is more than a hundred times as much as is necessary to combine with the maximal quantity of the salt that has ever been met with in saliva.

6. A cell was made to hold 2 c.c. It was constructed of black vulcanite, the colour used not imparting any additional tinge to the contained fluid and the acetic acid having no chemical action in it. In consequence of using reflected light it had to be placed on an opaque base and a base of an absolutely colourless nature. The hydrated sulphate of lime used by Lovibond for this purpose was employed. The cell and lime were then cemented on to an oblong piece of glass in order to make it convenient for handling.

Having thus made all the requisite colour standards and settled all the details it was only necessary to send the former to Lovibond's colour laboratories to have the colours matched in glass. They were reproduced so perfectly and accurately that no trained eye even could detect the slightest difference. The glasses are mounted in series in a convenient form for handling. The colours of the quarter, half, and three-quarter shades were also made. They are, however, only approximately correct, as, curiously enough, though the intervals in the strength of the sulpho-cyanide are practically uniform it was found that the colour of the fractions of each did not quite correspond. I think, however, they are near enough for all practical purposes. Perfect accuracy could be obtained by having specially prepared glasses made for each interval, but as it would add to the cumbersomeness of the apparatus—a consideration where clinical investigation is aimed at—and also greatly increase the expense, it was not thought worth while to do this. The glasses corresponding to the fractions are called riders. The complete apparatus consists of (*a*) test tube fitted to economise space over (*b*) centimetre measure; (*c*) scale of colours; (*d*) cell; (*e*) cover-glasses; (*f*) pipette for measuring the iron; (*g*) camera tube for contrasting the colours; and (*h*) riders. For clinical work they are packed in a small case in which room is found for candles, extra test tubes, &c. The case has a compartment shut off from the rest to serve as a camera tube. At the lower aperture of the camera two holes are perforated under one of which is placed the saliva to be examined and under the other the colour standard with which it is to be contrasted. To one side of the upper aperture a piece of green glass is attached for the purpose of rendering the retina more sensitive to red light should the eye become fatigued.

With regard to the method of using the instrument. Some saliva is first collected in a test tube and 2 c.c. poured into the centimetre measure. By this little manœuvre the air bubbles are retained in the test tube. To this 1 c.c. of glacial acetic acid is added and shaken up a little to ensure complete mixing. Next the 0·045 c.c. of iron is taken up and mixed with the acid and saliva, it being necessary to pass them two or three times up the tube of the pipette to make certain that all the iron is added. The cell is then filled from the centimetre measure and a cover glass—which, by the way, is absolutely colourless—placed on top. If the cell is accurately filled to 2 c.c. a small air-bubble will be seen on the surface of the fluid. It is then placed under one hole of the camera and the standard with which it apparently corresponds placed under the other. The candle is then lighted and placed in such a position as to equally illuminate the surfaces of both saliva and standard. If the two colours correspond the amount of the sulpho-cyanide is at once known. If they do not it is only necessary to shift the standards till one is found of the same shade. Should none be found to exactly match the riders are brought into use, taking care that for every rider employed an additional cover-glass be placed on the cell in order to equalise the reflecting surfaces. Of what use the instrument may be remains to be seen. I have worked with it enough to be unable to confirm Schiff's statement that the sulpho-cyanide increases in saliva that is kept a few hours owing to decomposition of the fluid. I can also say its existence does not in any way depend either on the presence of carious teeth or the use or non-use of tobacco.

Sloane-street, W.

A CASE OF PUERPERAL SEPTICÆMIA.

By CHARLES L. FRASER, F.R.C.P., F.R.C.S. Edin.,
SURGEON TO THE BERWICK INFIRMARY.

The following notes of a severe case of puerperal septicæmia may be of interest from the fact that grave complications seem to have been modified by the use of anti-streptococcic serum. I have reason to believe that some practitioners in such cases take no steps to remove from the uterus any putrescent offending matter or to render its cavity surgically clean, and such a case as the following amply demonstrates the necessity for such interference, otherwise the probability is that the patient slips through one's fingers.

The patient was a very thin, pale, and delicate woman, aged twenty-five years. At her confinement on Dec. 10th, 1897, she could render herself very little help, the pains were feeble and useless, consequently she was delivered by forceps, in regard to which operation there was no particular difficulty. For two days she did very well. but on Dec. 13th the temperature in the morning was 102° F. and the pulse was 104. There was no abdominal tenderness but there was very slight fœtor of the lochia. On the 14th the temperature was still 102° and the fœtor was more marked. The uterus was washed out with a 1 in 60 solution of carbolic acid and then with hot water. On the 15th the temperature was 101°, but no local treatment was allowed as the patient felt so ill. On the 16th the temperature was 101·5° in the morning and 103° at night. On the 17th the temperature reached 103° and during the night a severe rigor had occurred; the onlookers thought she had convulsions. The pulse was very fast and thready, nearly "running." The face was pinched and anxious, with a death-like pallor. With difficulty the uterus was curetted, well washed, and flushed with carbolic acid solution and then packed to the fundus with iodoform gauze. Its cavity was large and uncontracted and before the washing the odour was very strong. She was being well nursed and was fed with milk, raw meat juice, and brandy. On the 18th the temperature was 104·2° in the morning and the pulse was 120, soft, and very compressible. The gauze was removed from the uterus, but the septic odour was easily perceptible through the iodoform, and the skin was sweating profusely and was blotched over the chest and abdomen. At 3 P.M. 10 c.c. of anti-streptococcic serum were injected into the cellular tissue of the abdominal wall. At 8 P.M. the temperature was 102·6°, the pulse was 106, the respirations were 24, and headache was nearly driving the patient frantic. She felt so ill and weak that neither she nor her friends would allow further washing. On the morning of the 19th the temperature was 100° and the pulse was 92. The patient had had a better night; the headache was much less severe, the discharge was not so fœtid, and she had a sense of feeling better. 10 c.c. of the serum were injected. At 8.30 P.M. the temperature was 101·2° and the pulse 104. The discharge did not smell fœtid. The headache, however, was still severe, but a six-grain dose of butyl-chloral relieved it. On the 20th the temperature was 101° and the pulse was 104. The headache was easier, the pulse firmer, the tongue cleaner, the skin drier and less blotchy, and the anxious, pinched face had smoothed out a little. The uterus was washed out with carbolic solution and 10 c.c. of the serum were injected. On the 21st the temperature was 100° and the pulse was 108. The headache was easier as also were the other symptoms. On the 22nd the morning temperature was 99 6° and the pulse was 100. She was still improving and the head especially was comfortable. The uterus was washed out with strong carbolic solution and a shred came away of what appeared like macerated membrane about two inches long. The fœtor was not marked. At 8 P.M. the temperature was 101° and the pulse was 108. The headache was worse and altogether the patient was not so well. On the 23rd, to my great disappointment after such a struggle, the temperature was 104°, the pulse was 120, and all the symptoms were aggravated, the headache being terrible. A severe pain had attacked the left leg which was slightly swollen. The veins in the popliteal space were hard and corded and the calf was very tender to touch. Large linseed poultices were applied. On the 24th the temperature was 103 4° and the pulse was 116. The head was very painful, but the pain in the leg was not so intense. There was no fœtor at all from the discharge and the other symptoms were more favourable.

The course of events from this point is of great interest for the temperature fell 1° every morning until it reached normal on the 29th, the pulse corresponding. The tenderness of the leg gradually disappeared, likewise the swelling, the corded veins softened very quickly, and by the end of the month the patient could move the leg about quite freely and without pain. Her further progress has been uneventful if slow. It seems to me that it is just possible that the serum may have assisted such a very rapid resolution of symptoms which had all the appearance of a genuine phlegmasia.

Berwick-on-Tweed.

Health of Truro.—The annual report presented by Dr. T. M. Bonar, medical officer of health of the Truro Rural District, shows that during 1897 there were 350 deaths, or 15 45 per 1000, and 517 births, or 22·85 per 1000. During the year 1 case of puerperal fever had been notified, 17 of diphtheria (with 2 deaths), 20 of erysipelas, and 31 of scarlet fever (with 2 deaths). There were 9 deaths from measles.

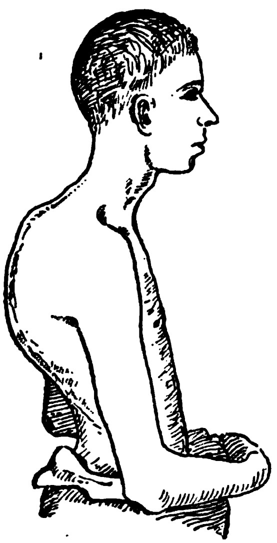
Village Sanitation in Devonshire.—At Ipplepen, on Feb. 8th, a Local Government Board inquiry was held to consider the application of the Newton Abbot Rural District Council for power to borrow £600 for works of sewerage in that village. Evidence showed that the cesspits were "indescribably bad" and very little could be said of the water-supply; a witness in describing one of the village wells stated that at one time the well overflowed and to prevent this happening again a drain was laid between the well and a sewer and added that when the sewer is choked the sewage goes into the well. He also said that sewage from a certain street "runs openly into a pasture field among cows which supply Torquay with milk." Fourteen years ago there was an inquiry at the same village almost precisely similar to that held last week and it is to be hoped the district council will see that the village gets a proper water-supply as soon as possible.

IMMEDIATE REDUCTION OF THE DEFORMITY IN CARIES OF THE SPINE.

BY NOBLE SMITH, F.R.C.S. EDIN.,
SURGEON TO THE CITY ORTHOPÆDIC HOSPITAL AND ALL SAINTS' CHILDREN'S HOSPITAL.

THE reports published of my observations made at a recent meeting of the Clinical Society upon this subject were too short to indicate clearly the arguments I wished to bring forward. It was my endeavour to show:—1. That in caries of the spine forcible and violent reduction under an anæsthetic is a risky, if not dangerous, procedure. 2. That it is desirable, however, to straighten out the vertebral column to a certain extent by gentle means. 3. That gradual extension by means of an efficient splint, such as the modification which I have devised of that invented by Mr. E. J. Chance,[1] invariably gives satisfactory results. 4. That the indication as to the extent to which the spine may be straightened with safety is the sensation of comfort felt by the patient and the relief of the general symptoms. In order to prove the first of my contentions I recorded two cases in which violent reduction had occurred accidentally. One was a case in which partial repair had already taken place when the spine was accidentally straightened out by exercising the patient upon a horizontal bar. The new growth of bone was broken down and the particles of bone acted like foreign bodies, causing considerable local irritation. Abscesses formed and in spite of assiduous treatment the patient died. The second was a case of acute caries in which a large number, probably nearly all, of the dorsal vertebræ were affected. This patient (Fig. 1) was brought up into nearly a straight position in a few days, general tuberculosis supervened and death occurred within a short period.

FIG. 1.



Case of caries involving many or all the dorsal vertebræ in which acute tuberculosis followed forced extension.

That it is desirable to straighten the spine as much as possible compatible with safety is obvious, provided we can obtain repair of the parts by substantial bone. As an example of the possibility of a large gap being filled up by bone a case was recorded by me of a boy, aged eight years, in whom the straightening took place from his lying in the prone position. Here the procedure of straightening was without violence and the result may be considered good. The patient was in an almost hopeless condition at first, all the dorsal and lumbar vertebræ being involved in the disease. He gradually recovered and was able two years later to walk about. It is probable that during his condition of extreme emaciation, which had existed for some time when I first saw him, tuberculous deposit took place in other parts of the body, for after he had been getting about for some months (two and a half years from the commencement of treatment) he died from tuberculous meningitis. At a post-mortem examination it was found that a large gap had been formed by the total destruction of the bodies of the seventh, eighth, and ninth dorsal and the partial destruction of other vertebræ above and below, and this gap had been filled up by new bony growth (Fig. 2). Had he lived it seems probable that this growth would in time have become firm. It was, however, in an imperfect condition and broke down upon maceration of the specimen, leaving the bones as shown in Fig. 3.

FIG. 2.

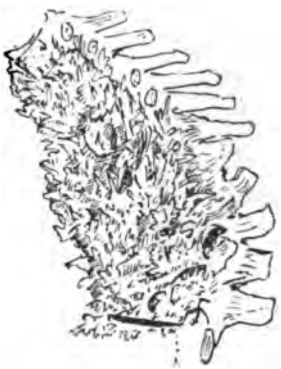
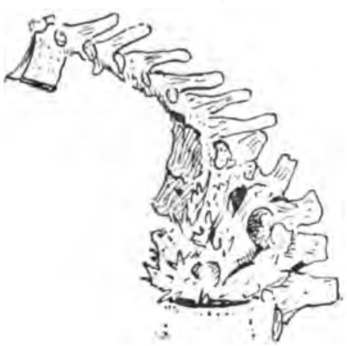


FIG. 3.



As a proof of the possibility of straightening a carious spine by means of the splint referred to I described the case of a boy, aged nine years, whose appearance before and after the application of the apparatus is shown in Figs. 4 and 5. I also exhibited photographs of a case of caries occurring late in life, showing how straight a spine might be made by gentle means (the patient was shown at the meeting). (Figs. 6 and 7.) Some of these cases I have described in my book "Spinal Caries."[2] Figs. 8 and 9 show the straightening process effected by the gradual and gentle method. I have followed this plan of treatment now for nearly twenty years and have never found it fail to benefit the patient.

FIG. 4.

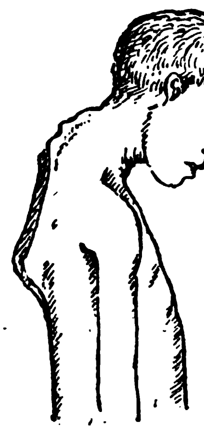
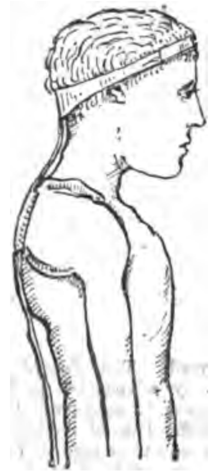


FIG. 5.



Deductions.—That the greater the gap the longer the period required for perfect consolidation of the affected part of the spine. That in such a case as that to which Figs. 2 and 3 belong at least three or four years would appear to be necessary for cure as against about one and a half years in cases treated by fixation before much deformity has

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[1] One of the chief of the modifications I have introduced is the method by which any one part of the apparatus can be renewed or changed without taking the support from the patient.

[2] "Spinal Caries," second edition, published by Smith, Elder, and Co., London, 1897.

FIG. 6.

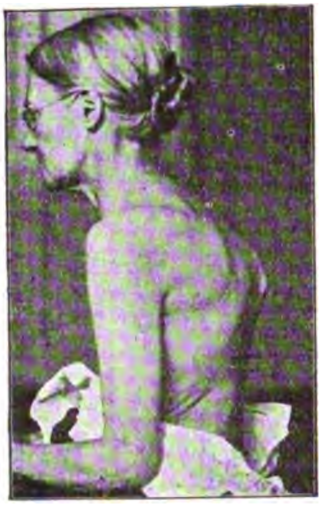


FIG. 7.

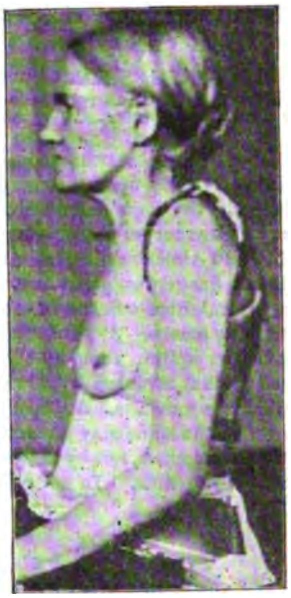


FIG. 8.

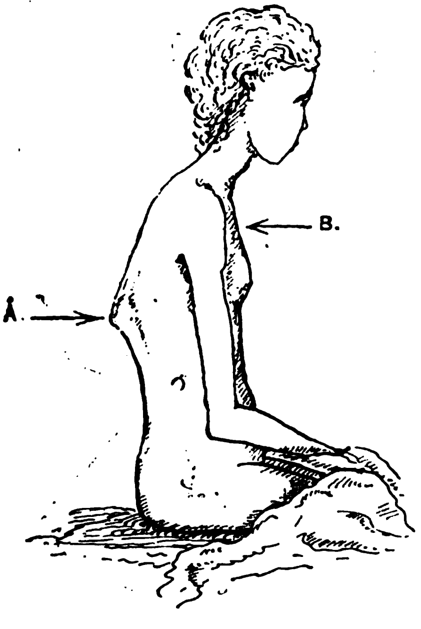
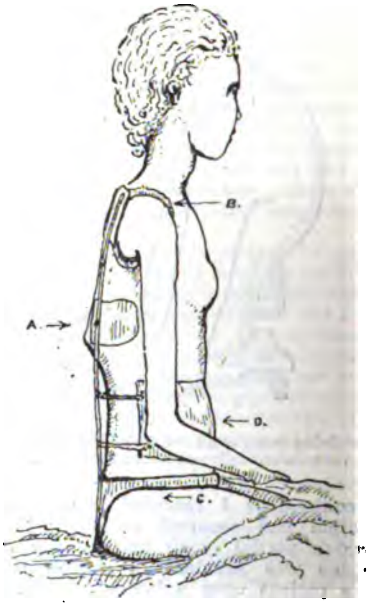


FIG. 9.



occurred. That forced reduction by the violent methods recently advocated is likely to so disturb the inflamed tissues as to aggravate the disease for a time and increase the difficulties of healthy resolution, whereas almost equally good results as regards improvement in position of the spine may be obtained by the gentle method I have described. That in those cases in which the spine cannot be so much extended by gentle measures as it can by violent efforts the limit of safety will be arrived at by the first plan of treatment whereas it will be exceeded by the second. That no question as regards the application of forced reduction would ever arise if caries of the spine were treated efficiently in the early stages, that is to say, not much later than the first appearance of deformity. I would also add that many a case of rapidly developing caries of the spine might be arrested before deformity occurred if children suffering from equivocal symptoms of weakness of the spine were not so commonly subjected to the now popular treatment by gymnastic exercises.

Queen Anne-street, W.

THE ST. JUST URBAN DISTRICT COUNCIL.—A meeting of this district council was held on Feb. 5th under the presidency of Major White. A letter was read from Mr. E. Millett, J.P., of Bosavern, who had been requested to provide closets for two of his cottages; this stated that the "receptacles" should be provided in due course and added "that the uselessness of providing confined places when people have the fields to retire to is plain. On visiting two closets belonging to two of my houses some time since I found one was the receptacle of all sorts of old rubbish—pots, pans, &c The balance of the roof was stuffed with furze for kindling. The other closet had a large stone placed against it so that it should not be used and they have the trouble to clean it. Now, what earthly use are closets to such people?"—A member moved that the Infectious Diseases Notification Act should come into operation on March 1st, but another member moved that the matter be deferred until St. Tibble's Eve, which he said was neither before Christmas nor after, and this was finally carried by the casting vote of the chairman.

CASE OF

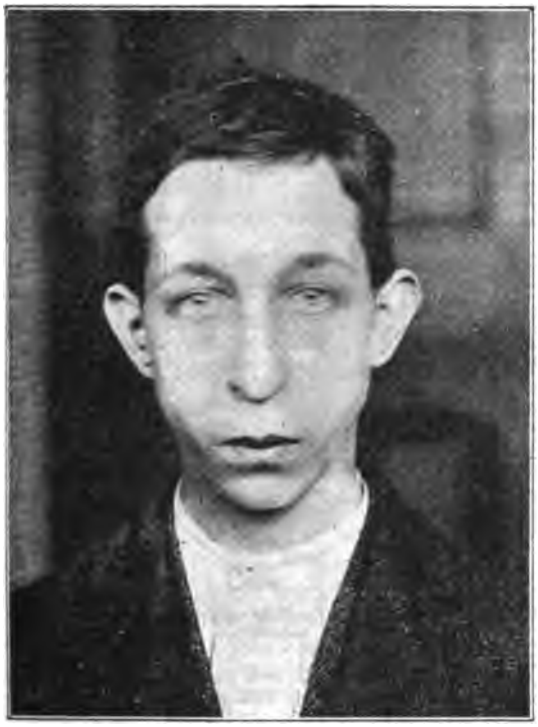
CONGENITAL IMBECILITY ASSOCIATED WITH CONGENITAL DEFICIENCY OF THE CHEST WALL AND WITH CARDIAC DISEASE.

By JOHN HAROLD, L.R.C.P. Lond., M.R.C.S. Eng.,
LATE MEDICAL REGISTRAR, CHARING-CROSS HOSPITAL.

The following case is a very remarkable and interesting example of the coincident occurrence of congenital deformity of the chest wall with congenital imbecility, and with extensive cardiac disease which was in part probably due to some congenital abnormality.

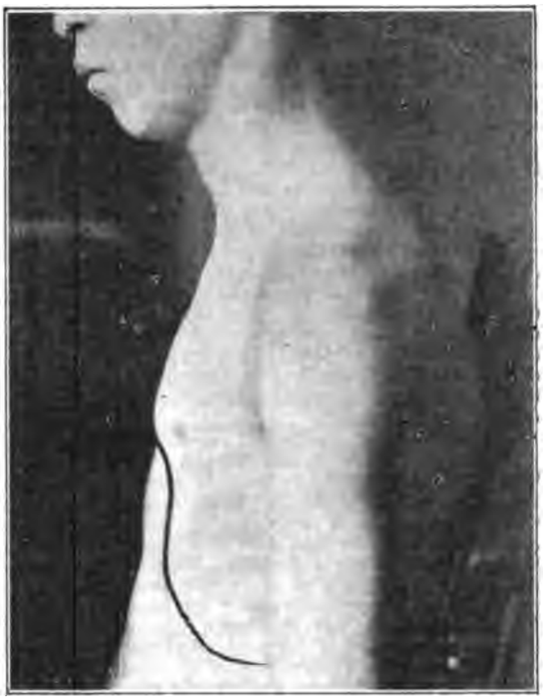
The patient, a thin, weakly, anæmic, feeble-minded boy of short stature, aged seventeen years was the youngest child of a family of four, and very great difficulty was experienced in rearing him. His father, mother, and three sisters had suffered from acute rheumatism. His mother died recently, having suffered from melancholia for over a year, and all the members of the family were strikingly neurotic. At the age of three years he had scarlet fever and at twelve years of age he suffered from acute rheumatism, from which he had convalesced but three months when a second and more severe attack of acute rheumatism supervened, this time being complicated with acute pericarditis. During the later months of her last pregnancy his mother had a severe fright which distressed her very much. The patient had been to several schools and could read and write a little, but he was very backward in his knowledge of arithmetic. He was five years of age before he could walk, had nearly reached his sixth year before he attempted to speak, and it was not until the age of ten years that he could speak intelligibly to strangers. At times he was irritable, excitable, and passionate. His physiognomy was striking (see Fig. 1).

Fig. 1.



The head was of the dolicocephalic type, the ears stood out, the pinnæ being large and rounded but showing no defect in their parts or in their form. There was no facial asymmetry. The nose was large and no congenital defects of the lips, mouth, tongue, or jaws could be detected. Hearing and the sense of smell were alike defective. The teeth were of the average density and structure and the salivary secretion was not excessive. He had a well-marked arched or vaulted complete palate which was interesting in the indication which it afforded as to the congenital origin of the brain condition. There was no transposition of viscera. The circumference of the chest on a level with the nipples was twenty-six inches and the length of the thorax was nine inches (Fig. 2).

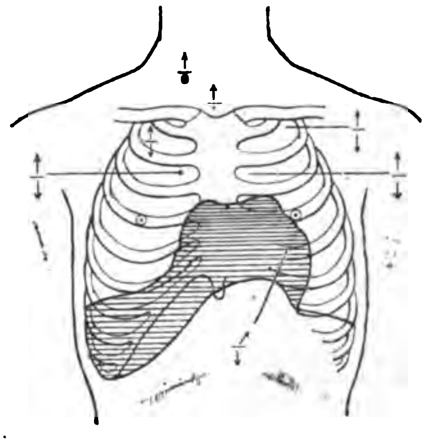
Fig. 2.



Side view, showing length of thorax. The black line indicates the absence of rib-cartilages.

On the left side of the chest the rib cartilages were normal down to and including the fifth; below that level all the rib cartilages were wanting; the left half of the sternum and xiphisternum for a corresponding interval were also deficient, the pericardium being thus unprotected. The skin over the area just alluded to was normal.[1] The accompanying chart of the chest (Fig. 3) shows the area of the hepatic and cardiac dulness and the situations of the auscultatory physical signs presently to be described and also the deformity of the chest wall. There was no deformity of the hands, feet, or scapulæ, and no clubbing of the fingers or toes was present, but there was slight cyanosis of the nail bed. The heaving, unprotected præcordial impulse was most

Fig. 3.



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[1] Transactions of the Pathological Society of London, vol. xix., p. 41.

forcible and gave the impression to the hand of the observer on palpation that the heart rotated on its vertical axis. There was a striking disproportionate hypertrophy of the right ventricle. Auscultation revealed the presence of well-marked mitral systolic and double aortic bruits and a well defined musical systolic murmur audible over the pulmonary area, with accentuation of the pulmonary second sound. In the fourth left interspace a very pronounced systolic thrill was detected.[2]

I gladly acknowledge my indebtedness to Dr. Victor Corbould for the photographs illustrating this case.

The occurrence of congenital heart disease in association with mental deficiency is not uncommon and in the case now recorded it is probable that, in addition to arrested mental and physical defects, there was likewise some congenital cardiac abnormality—that the case was, in fact, one of primary cardiac malformation with the results of superadded rheumatic endocarditis. The patient, after frequent attacks of cardiac distress and anginoid pain, died quite recently, but no opportunity was afforded by the relatives for a post-mortem confirmation of the diagnosis of congenital cardiac trouble, so that the diagnosis of that condition has to rest on a general review of the case.

The family history of rheumatic fever was of interest as regards the possibility of fœtal endocarditis.[3] Arrested mental and physical development in association with the cardiac physical signs justified the supposition of congenital heart disease, the difficulty of diagnosing the latter condition being increased by the presence of aortic and mitral disease due to acute rheumatism.

The diagnosis of congenital cardiac disease is often a matter of much difficulty and is likewise often unsuspected and masked in patients who first come under observation whilst suffering from some other disease. In this connexion I may briefly cite a case which came under my observation some time ago—that of a young girl suffering from acute phthisis. Six years previously she had a very bad attack of acute rheumatism, and she was then informed by her doctor that "her heart was affected." On recovering from her rheumatic illness she frequently suffered from attacks of dyspnœa and cyanosis of the lips, face, and fingers. Examination of the heart revealed the presence of mitral systolic and double aortic bruits. This patient succumbed to her pulmonary trouble, and post-mortem examination revealed the existence of a greatly constricted pulmonary orifice and an imperforate septum ventriculorum, the tricuspid, mitral, and aortic valves being fringed with small vegetations. The existence of congenital heart disease was in this case never suspected, the past history of the patient having, unfortunately from a diagnostic point of view, successfully obscured the suspicion of congenital malformation.

Dr. Archibald E. Garrod,[4] in an article on cardiac malformations in association with other congenital defects, directs attention to the physical auscultatory signs suggestive of pulmonary stenosis which are of considerable diagnostic import. He especially directs attention as to how far reliance may be placed on the presence of associated deformities as indications that the cardiac lesions are due to congenital malformations rather than to fœtal or extra-uterine endocarditis. Dr. Garrod's article is worthy of most careful perusal by all who are interested in congenital cardiac disease.

Harley-street, W.

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[2] St. Bartholomew's Hospital Reports, vol. xxx., p. 56; Zeitschrift für Klinische Medicin, vol. xxi., p. 142: Lehrbuch der Auscultation und Percussion, 1883, p. 308.

[3] St. Bartholomew's Hospital Reports, vol. xxx., p. 60.

[4] St. Bartholomew's Hospital Reports, vol. xxx.

TYPHOID FEVER AT CAMBORNE.—At the meeting of the Camborne District Council held on Feb. 11th Mr. J. T. Thomas, L.R.C.P. Lond., M.R.C.S. Eng., the medical officer of health, reported that during January there had been three deaths from typhoid fever. No case of typhoid fever or any other infectious or contagious disease had been notified to him since Jan. 29th.

HEALTH OF FALMOUTH.—Dr. W. King Bullmore, the medical officer of health of Falmouth, in his annual report for 1897 states that the births registered were 255 and the deaths 192, or an annual birth-rate of 20·8 per 1000 and a death-rate of 15·7. There were 26 cases of zymotic disease notified and the death-rate per 1000 from zymotic disease was 2·1.

Clinical Notes:

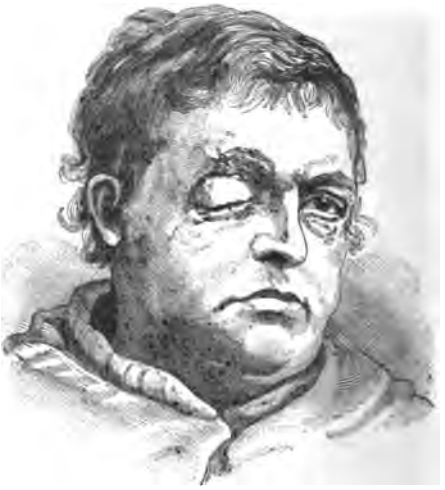
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON THE TRANSPLANTATION OF SKIN *EN MASSE* WITHOUT PEDICLE FROM ONE PART OF THE BODY TO ANOTHER AND FROM ONE PATIENT TO ANOTHER.

BY CHARLES BELL TAYLOR, M.D., F.R.C.S. EDIN.,
SURGEON TO THE NOTTINGHAM AND MIDLAND EYE INFIRMARY.

SOME years ago I was asked to operate upon a woman for ptosis and in order to remedy the defect I excised a portion of skin from the upper lid. I thought I had removed just enough to effect my object, but found on approximating the edges of the wound that I had done too much and that the patient who formerly could only open her eye ever so little would in consequence of my interference be permanently unable to close it. It was not practicable for reasons into which I need not enter to transplant a piece of skin with pedicle from the immediate neighbourhood of the orbit and I thought I might as well put back the excised lid as seek for fresh material without pedicle elsewhere. I therefore replaced the apparently dead piece of cuticle which took kindly to its old quarters and the shrinkage due to its temporary demise sufficed, as I had hoped it would, to restore the normal position of the lid.[1]

I had previously and have since frequently transplanted skin from one part of the body to another, occasionally from one patient to another, and last year I introduced to the notice of the President and members of the Ophthalmological Society of the United Kingdom a patient who had been cured of extensive symblepharon by the transplantation of a large piece of skin on to the surface of the eyeball itself. The illustration here given, which is taken from a photograph of a patient exhibited to the Nottingham Medical Society on Jan. 5th, is an example of restoration of an eyelid by a piece of skin two inches in length (without stretching) and one and a half inches in depth taken from the forearm, the lid and tissues having been so completely destroyed by burn that it was impossible to find healthy tissue anywhere in the neighbourhood of the orbit. The points to be attended to in all such operations are to clear away any subcutaneous tissue, ensure close approximation of the edges, apply pressure, and keep the flap warm.



New lid transplanted from the forearm immediately after operation.

Nottingham.

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[1] Transplanted skin shrinks to about one-fifth of its original size.

NOTE UPON A CONGENITAL APPEARANCE OF THE FUNDUS OCULI.

BY SYDNEY STEPHENSON, M.B., M.C., F.R.C.S. EDIN.,
OPHTHALMIC SURGEON TO THE EVELINA HOSPITAL AND TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

THE object of the following brief communication is to call attention to a somewhat common ophthalmoscopic appearance—namely, a translucent globule lying in the hinder part of the vitreous humour. The condition must be far from rare, since I have notes of twenty-nine cases and have seen at least as many more. From figures at my disposal I should estimate it to be present in about 1 per cent. of presumably healthy eyes. So far as I know, however, it has not yet been described, unless communications by Dr. Kollock and Dr. Randall may be taken as referring to the subject. The former[1] reported that he had met with a small cystic outgrowth attached by a pedicle to the optic disc. The latter observer[2] described two analogous cases where a small "pellucid vesicle stood out upon one of the retinal vessels." Dr. Randall's paper is illustrated by two roughly executed sketches of the condition. It is possible, also, that to these growths a reference is made by Mr. Lang and Mr. Collins in the article upon Congenital Malformations and Abnormalities that they have contributed to Norris and Oliver's "System of Diseases of the Eye."[3] Those writers speak of "little rounded bodies of a steel-grey colour which appear to be fluid-containing cysts attached to the optic disc."

In my cases the tiny masses had a faint greyish colour, allowed light to pass through them, and lay in front of the retinal vessels. In general appearance they reminded one of a drop of oil. To the direct method of ophthalmoscopic examination they ranged in size from 0·5 mm. to 4 mm. in diameter. Their shape was usually globular, but in some instances they were reniform, pear-shaped, fusiform, or resembled in outline a dumb-bell or a Florence flask. Although a so-called "parallax" can be made out between them on the one hand and the underlying vessels on the other, yet they do not lie far forward in the vitreous; for example, the refraction difference between them and subjacent parts seldom amounts to more than 2 D. or 0·66 mm. Thus far I have met with them only in the immediate neighbourhood of the optic disc, a fact that suggests some connexion with the embryonic hyaloid artery or its sheath. Exceptionally I have seen them attached to the point of bifurcation of the central artery of the retina by a fine filament of glistening tissue. As a rule they are devoid of movement except such as may occur in association with excursions of the affected eyeball. In four of my patients the condition was found in both eyes.

It is not uncommon to find these bodies in eyes that manifest other congenital anomalies, such as persistent pupillary membrane, opaque nerve fibres, tortuous retinal vessels, venous peculiarities, cilio-retinal vessels, connective tissue around the central vessels on the optic disc, or faint zonular cataracts. Some of my patients have remained under observation for several years, but no change has been noticed to take place in the size or position of the little masses.

No mention of this anomaly has yet found its way into the text-books, although its comparative frequency and its liability to be mistaken for a diseased condition certainly entitle it to a place. The knowledge of this omission (as it seems to me) has led me to send a note upon the subject to THE LANCET.

Welbeck-street, W.

NOTE ON A CASE OF LEPROSY.

BY OSCAR LEVY, M.D. FREIBURG, L.R.C.P. LOND.,
M.R.C.S. ENG.

THE patient, a Russian Jewess, aged sixty-one years, came to England in 1891 from Mitow in Kurland, one of the Baltic provinces. She was apparently in good health until suddenly, two years after she had landed in this country, her nose became painful and began to swell until it became double its original size. The colour was a lively bluish-red and the swelling extended to both cheeks. In the same time the meatus and the interior of the nose were swollen and very painful. This inflammation disappeared after a time and subsequently in about six months a rash developed all over the body. No account of fever is given. Pains then supervened both in the arms and the legs. During the following four years the face became affected, large infiltrations were formed especially round the mouth and nose, leaving deep grooves between them. These infiltrations diminished in size sometimes and then increased again. Three months ago the throat became very painful. When I was called to see the patient on Jan. 21st I found her sitting in a chair and complaining very bitterly about difficulty in swallowing and breathing. The marked leonine expression in her face at once struck me and reminded me very forcibly of the many cases of leprosy I had seen on the Tshu-kiang River, near Canton in China, among the numerous river population who came in their "sampans" surrounding our steamer, holding up their fingerless hands in order to receive a small coin; and I remembered the lepers I had met in a tour in the south-western part of Iceland, cases so graphically but—if I may add my own and the opinion of Icelandic medical men—in a greatly exaggerated way described by Dr. E. Ehlers (Copenhagen).[1] There was no doubt that this, too, was a case of "lepra tuberosa." But lepra anæsthetica was present as well as a diffused loss of sensibility, while no patches of marked anæsthesia were present. The arms and legs, which were covered with small dark-reddish nodules and showed, like the rest of the skin, the peculiar brownish colour, were wholly insensitive to the prick of a needle, this anæsthesia being most marked on the plantar surfaces of both feet. Both muscles of the arms and legs were atrophic, but no swelling of the ulnar nerve or of the peroneal or the cervical plexus could be noticed. The nose was blocked up and very deformed, the soft palate was red and swollen and showed on the right side a superficial ulcer of small extent. The scalp was of course free, but it is remarkable that the lobules of the ears were not affected either. Both upper eyelids showed a firm leprotic infiltration; the corneæ and conjunctivæ were intact. The voice seemed to be rather husky.

I am indebted to Dr. P. S. Abraham, the honorary secretary of the "Special" and "Leprosy Investigation" committees of the National Leprosy Fund, for much valuable information and the clinical confirmation of my diagnosis, and to Mr. Leslie Milburn, an able student of Middlesex Hospital, for the bacteriological researches in this case. He has prepared specimens both from the nasal mucous membrane and from a nodule on the skin of the leg, in both of which I have seen numerous colonies of the bacillus lepræ.

Bloomsbury, W.C.

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[1] Medical News, Oct. 23rd, 1886.

[2] Transactions of the American Ophthalmological Society, 1888, p. 116.

[3] Vol. i., p. 456.

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[1] Vide New Sydenham's Society's Prize Essays on Leprosy. Edmund Ehlers: On the Conditions under which Leprosy has declined in Iceland. 1895.

BIRKENHEAD MEDICAL SOCIETY.—At a meeting held on Feb. 11th (Dr. Lambert in the chair) Dr. Gilson read notes on, and showed a man suffering from, Progressive Muscular Atrophy.—Dr. Francis Johnston opened a discussion on the Therapeutics of Bleeding and Cupping.—The following gentlemen took part: Dr. Lambert, Mr. Stansfield, Dr. Edgar Stevenson, Dr. Hughes, and Dr. Pinkerton.—Dr. Johnston replied.—Mr. Stansfield showed a specimen of Hair which he had removed by operation from a case of Parovarian Dermoid Cyst.—Dr. Lawton gave the history of the case previously to being operated on.

LITERARY INTELLIGENCE.—Messrs. Swan Sonnenschein and Co. have in the press a work on Epidemic Diphtheria by Dr. Arthur Newsholme, Examiner in State Medicine to the University of London, which will be ready at an early date. The work embodies a research on the origin and spread of the disease from an international standpoint. Although dealing largely with statistical data it will be almost free from figures, the necessary facts being stated graphically by means of diagrams. — Mr. H. K. Lewis announces for early publication a new volume in his "Practical Series" entitled "Diseases of the Nervous System," a hand-book for students and practitioners, by Charles E. Beevor, M.D., F.R.C.P. Lond., physician to the National Hospital for the Paralysed and Epileptic, &c.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

STATION HOSPITAL, VINCENT-SQUARE, S.W.

A CASE OF ERYSIPELAS COMPLICATED BY ENDOCARDITIS TREATED BY ANTI-STREPTOCOCCIC SERUM.

(Under the care of Surgeon-Lieutenant-Colonel JAMES MAGILL, Coldstream Guards.)

A PRIVATE was admitted to hospital on Oct. 22nd, 1897, under the care of Surgeon-Lieutenant-Colonel Magill, complaining of sore-throat. The patient was a young soldier, aged twenty-one years, of two and a half years' service. In December, 1896, he contracted primary syphilis and this was followed by secondary symptoms. He underwent a prolonged mercurial course. He had been at duty for six months subsequently—i.e., since April, 1897—without any relapse. During this period Surgeon-Lieutenant-Colonel Magill kept him under personal observation and the patient took one three-grain tabloid of hydrargyrum cum cretâ daily with fair regularity. His general health was excellent. On admission on Oct. 22nd, 1897, his throat was sore, but as far as could be seen he had no tonsillitis. His tongue was slightly swelled and his voice was suggestive of laryngitis. His temperature was 104·6° F. On the next day his condition was unchanged. The morning and evening temperatures were 102·4° and 104° respectively. There was no albumin in his urine. His voice was husky, his tongue was swelled and very red, and he had some difficulty in swallowing. There were no ulceration in his throat, no follicular tonsillitis, and no membrane. On the 24th it was noted that his left ear and parotid region were swollen and presented an erysipelatous blush His tongue and voice were no worse. No albumin was present in the urine. The temperature was 104 6° and the pulse was 116. It was thus clear that it was a case of erysipelas, commencing in the fauces and tongue, spreading up the Eustachian tube on the left side and attacking the face. On the next day (the 25th) the erysipelatous blush was more marked, but his throat was better and he could swallow more easily. His tongue remained swelled and very red. There was no albumin in the urine. He was given large doses of tinctura ferri perchloridi and quinine and a full allowance of stimulants. There was no pain in the ear and no perforation of the membrana tympani occurred and there has been no subsequent deafness. On the 26th the throat was easier, but the skin was very tense and glazed about the left ear and the blush was spreading to the other side of the face. There were no cerebral symptoms. The disease slowly extended across the forehead and nose until the entire face was involved, but the tongue improved and swallowing was no longer difficult. On the 27th and four following days there was a cloud of albumin in his urine. The stimulating plan of treatment was continued, with iron and quinine in full doses. The erysipelatous blush commenced to fade where it had begun—i.e., in the left ear—and on Nov. 4th he seemed in all respects convalescent and he was allowed to sit up for two hours. A relapse followed; the blush recommenced in the left cheek and ear and slowly spread over the nose and across the forehead to the right side of the face and then gradually faded as before, so that on the 10th the temperature was normal once more. Two days subsequently the temperature again rose and the erysipelas, beginning as on former occasions about the left ear, extended over the entire face and now invaded the scalp. He had nausea and vomiting, but no rigor and no albuminuria. His temperature presented a pyæmic aspect, the difference between the morning and evening readings being as much as 5° or even more. On the 18th he complained of slight pain about the cardiac region and a faint roughness of the first sound at the apex was observed, which next day was a loud mitral systolic bruit. There was no pericardial friction. The heart was evidently dilated and the apex beat was much below and outside its normal position. He commenced to emaciate rapidly despite the large quantities of food he consumed. The iron and quinine were continued and he had bromide of ammonium at night. He had no rigors or sweating. On the morning of the 21st his temperature was 97 5°, while on the previous evening it had been 103°. His pulse was very weak and small (104); his head and face were much swelled and the systolic bruit was very loud, but the impulse was faint, the general condition being extremely grave. After consultation with Brigade-Surgeon-Lieutenant-Colonel C. E. Harrison (Brigade of Guards) it was decided to try the effects of the injection of anti-streptococcic serum. This was procured from the British Institute of Preventive Medicine and at 11 A.M. Surgeon-Lieutenant-Colonel Magill injected 10 c.c. into the subcutaneous area of the left loin. The effect produced was most remarkable. That evening the temperature was only 98° and it may be said in a word that it has continued normal ever since except on one occasion some weeks later when it rose to 99° owing to an error of diet. No unpleasant consequences followed the injection of the serum—no rash, no joint pains, no local tenderness, and no albuminuria. On the next day the urine contained a most unusual amount of lithates. The patient's face gradually resumed its usual aspect and the œdema of the scalp disappeared by degrees. A temporary solid thickening of the skin under the left eyelid due to the blocking of a small vein remained for some time. His general condition rapidly

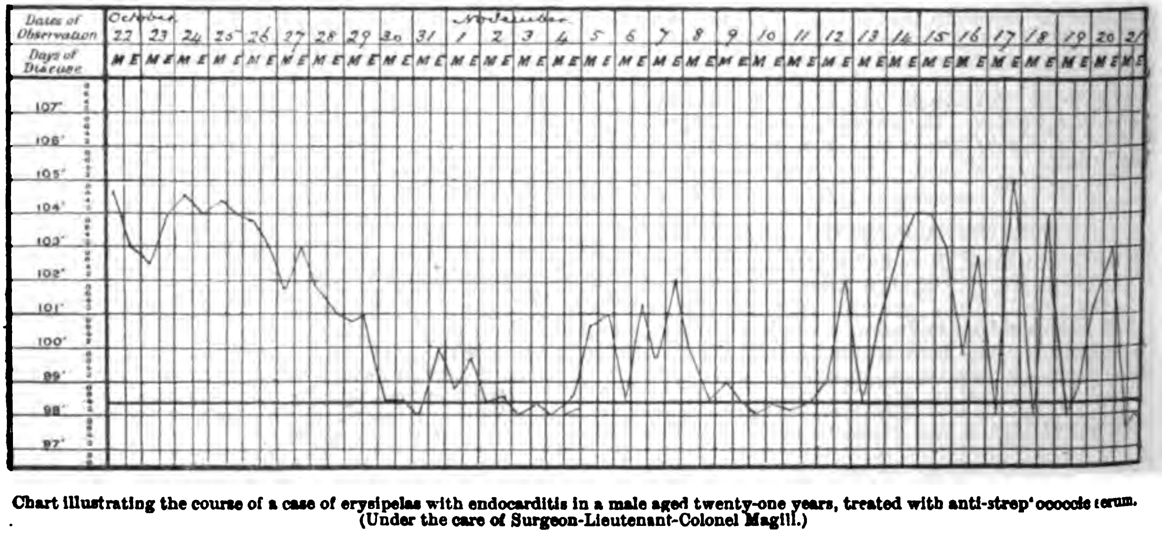

Chart illustrating the course of a case of erysipelas with endocarditis in a male aged twenty-one years, treated with anti-strep'ococcic serum. (Under the care of Surgeon-Lieutenant-Colonel Magill.)

improved and though the systolic bruit persisted the apex beat almost returned to its normal site.

On Feb 1st the patient showed no signs of recent illness and he had put on flesh, being heavier than ever he was before. The mitral systolic murmur remained and though very much fainter was doubtless organic and will prevent his future efficiency as a soldier. The heart seemed scarcely if at all enlarged and the pulse was quiet and regular. There was no albumin in his urine. It may be remarked that all through his recent illness he never showed any signs of the syphilitic infection for which he was under treatment up to the time of the onset of the erysipelas.

Remarks by Surgeon-Lieutenant-Colonel MAGILL.—This case presents several features of clinical interest which I will briefly summarise. It is uncommon for erysipelas to manifest itself first in the fauces and tongue and its painless extension up the Eustachian tube to the face is a still rarer occurrence. Such cases are, however, on record, though usually accompanied by symptoms of acute inflammation of the tympanum. I would also draw attention to the three separate occasions—viz, about Oct. 24th and Nov. 4th and 12th—on which the disease started from the same site—i.e., the neighbourhood of the left ear—and spread all over the face. The rapid and lasting effect produced by the injection of anti-streptococcic serum is very noteworthy. The prognosis in a case of infective endocarditis is so grave and the danger of the formation of pyæmic abscesses so great that the successful result in the present instance is the more remarkable. In the "Twentieth Century Practice of Medicine"[1] it is stated that "endocarditis in the course of erysipelas was first noted by Gubler and afterwards was specially studied by Jaccoud and Sulzer," and a recent annotation in THE LANCET[2] affirms that "infective endocarditis is one of the recognised complications of erysipelas." The subject does not receive much attention in the text-books, but in the recent work by Sir Dyce Duckworth[3] under the heading Erysipelas the author says that "malignant endocarditis has been observed, though rarely, as a sequel"; and Dr. Hale White writes: "In very rare cases it may follow erysipelas."[4] A somewhat different view as to the frequency of this complication is taken by some foreign authors, and M. Achalme[5] states: "Si les altérations du cœur sont relativement fréquentes dans l'érysipèle," &c. The microbic origin of erysipelas is now generally accepted. In Ericnsen's "System of Surgery"[6] the author remarks: "It has now been proved to demonstration that cutaneous erysipelas is the result of the growth of a micrococcus in the lymphatic spaces of the skin. The organism occurs most commonly in pairs or chains and is known as the streptococcus erysipelatosus." Mr. Treves[7] observes that "erysipelas is caused by infection with a streptococcus which grows along the lymph spaces of the skin" and the "streptococcus of erysipelas may enter the blood in such quantities as to cause fatal septicæmia." Three patients are mentioned by the Vienna correspondent of THE LANCET[8] in whom erysipelas was treated by anti-streptococcic serum, and the same authority in a subsequent contribution notes a large number of cases similarly dealt with. The medical journals during the past two years give several instances in which the serum treatment for infective endocarditis (not necessarily of erysipelatous origin) has been adopted,[9] and Dr. Sidney Ringer mentions this plan of procedure in his "Handbook of Therapeutics."[10] The British Institute of Preventive Medicine, in issuing the serum, states that it is supplied for use in cases of streptococcic infection, but adds that the remedy is still on its trial. May I express the hope that the above notes may serve as a contribution to this interesting subject?

MILL-ROAD INFIRMARY, LIVERPOOL.

A CASE OF PUERPERAL SEPTICÆMIA TREATED BY ANTI-STREPTOCOCCIC SERUM; RECOVERY; BACTERIOLOGICAL REPORT.

Under the care of Dr. NATHAN RAW.)

THE value of anti-streptococcic serum has not been very widely recognised and this is easily accounted for by the fact that it has been used in a very indiscriminate manner for any form of septic infection. That it possesses marked therapeutic value in cases in which streptococci have been proved bacteriologically to be present there seems to be no room for doubt, and the improvement which in Dr. Nathan Raw's case followed the first two injections is evidence of its utility. It has been known that specimens of the anti-streptococcic serum are liable to contain living organisms and we believe that some makers of the serum make culture tests of each portion of serum before supplying it to the public. A very small crack in a porcelain filter is sufficient to render it completely valueless. The danger is by no means small and demands the very careful consideration of those who prepare these powerful remedies.

A married woman, aged twenty-two years, was on Oct. 31st, 1897, admitted into the Mill road Infirmary, Liverpool, under the care of Dr. Nathan Raw with the following history. She had been delivered of her first child fifteen days previously and had been attended by a midwife. There had been some trouble with the placenta. The patient had been semi-delirious for the past seven days. On admission she was in a very critical state and appeared to be dying. Her temperature was 106° F., the pulse was 146, and she was quite unconscious and wildly delirious at times. She had a dull ashen hue suggestive of septicæmia. The uterus was felt to be enlarged, reaching up to the umbilicus. Although the temperature was so high it was quite evident that the only chance for the patient was to give her an anæsthetic and to explore thoroughly the uterus in order to remove any placenta which might be present. The temperature was temporarily reduced to 102° by ice. When the patient was under chloroform Dr. Raw dilated the cervix rapidly and introduced two fingers into the uterus, which was felt to be almost full of some soft friable substance. Between three and four ounces of stinking placental débris were removed and then the walls were thoroughly curetted and the uterus was washed out with perchloride of mercury solution (1 in 4000) until it was quite clear. Dr. Raw then injected 20 c.c. of anti-streptococcic serum under the skin of the back. An hour afterwards the patient had a severe rigor and the temperature rose to 105°. She was rubbed with pieces of ice and her temperature was reduced to 99°. She was ordered quinine (ten grains every two hours), brandy, and Slinger's suppositories. The uterus was to be washed out with perchloride of mercury solution (1 in 5000) twice daily. On the following morning (Nov. 1st) a remarkable change had taken place. The temperature was normal, the pulse was 110, her mind was quite clear, the headache had gone, the skin was moist, and the respiration was steadier. She expressed herself as being quite well; at night her temperature rose to 101°, but she had no discomfort. The uterus had contracted and was not painful on pressure. On the 2nd the temperature was 100°. She was not so well, being drowsy and suffering greatly from headache. The quinine was reduced to five grains every four hours and 10 c.c. of anti streptococcic serum were injected between the scapulæ. The effect of the injection was again marked as the temperature fell to normal and her headache and other bad symptoms disappeared. On the 4th she was not so well; the temperature again rose to 103°, the pulse was 110, small and soft, there were great headache and thirst, and she had an anxious and pinched expression. 10 c.c. of serum were again injected with the same result, the temperature falling to normal and the headache disappearing. The uterine douche was discontinued. On the 5th the temperature was normal and the patient felt quite well, taking nourishment well. She continued to progress favourably until the 12th, when she was seized with great pain and a rigor; the temperature was 103°. There was thrombosis of the saphena and femoral veins of the left leg with great swelling of the thigh. On the 14th the pain and swelling were less but the thrombosis was almost complete in the femoral vein. On the 25th the patient suffered from pain in the back and abdomen with vomiting and at night she was seized with great pain in the iliac region. The temperature was 102° and there was evidently thrombosis of the iliac veins, the legs being still greatly swollen. On the 30th there was thrombosis of the right femoral vein and evidently another thrombosis of the internal iliac vein. She was taking nourishment well. For a few days previous to Dec. 14th her temperature had been rising and she had had great pain in her back, especially over the left kidney. She had all the symptoms of congestion of the kidney, there being blood and albumin in the urine. She was passing only thirty-six ounces daily. The thrombosis had possibly extended from the iliac vein to the left renal vein. The thrombosis in the other veins was increased on Dec. 14th and the patient's condition was very grave. On the 15th she was passing only twenty ounces of urine, which contained blood and albumin but no casts. She was ordered an effervesing drink frequently. On the 17th she had a severe rigor, the temperature being 105°; 20 c.c. of serum were given. The urine was dark coloured and contained blood and albumin. By the 31st she had made a good recovery. She had been passing seventy ounces of urine daily, but on that date the urine was noticed to be foul-smelling and to contain a large quantity of pus. The urine was of specific gravity 1030, neutral, and no casts could be made out. On Jan. 16th, 1898, she had made steady progress towards recovery and was walking about the ward, the only noticeable symptom being that she was passing between four and six drachms of thick greenish pus, but without any discomfort. The pus was mixed with the urine and took some time to deposit in the glass. The bladder had been washed out three times daily since the appearance of the pus but without any diminishing effect. The pus was submitted to careful bacteriological examination. On the 18th she had another severe rigor, the temperature being 105°. There was great pain over the left kidney, a large quantity of blood being present in the urine and more pus. Phenacetin administered in ten-grain doses reduced the temperature to normal. The urine contained a large quantity of blood and six drachms of pus in twenty-four hours. On the 30th the patient was well but there was still pus in her urine. She was discharged recovered.

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[1] Vol. iv., p. 150

[2] THE LANCET, Nov. 20th, 1897.

[3] Sequels of Diseases, p. 75.

[4] THE LANCET, Feb. 29th, 1893.

[5] Quoted by M. Thoinot in "Bulletins et Mémoires de la Société Médicale."

[6] Vol i., p. 940, 1895.

[7] System of Surgery, pp. 164 and 162.

[8] THE LANCET, Jan. 4th, 1896.

[9] Dr. Sainsbury: THE LANCET, Oct. 17th, 1896.

[10] Page 655, 1897 ed.

Bacteriological report on the urine, blood, and anti-streptococcic serum, by Dr. CHARLES A. HILL (from the Pathological Laboratory, University College, Liverpool).—On Jan. 16th I received from Dr. Raw for bacteriological examination a sample of the urine in the above case. It had been drawn off by catheter into a sterile test-tube about two hours previously. In amount it measured about four drachms; it was strongly acid in reaction and so loaded with pus that it was impossible to draw up any of it through a pipette. Accordingly a loopful was taken with a sterile platinum needle and smeared over the surface of two gelatin and two agar Petri dishes. After twenty-four hours' incubation at 37° C. both agar plates showed numerous colonies of a dirty grey, greenish hue—microscopically a highly motile bacillus, which on subculture was identified as the bacillus pyocyaneus. After forty-eight hours there appeared in addition numerous minute dotted colonies of a light-brown colour, which on subculture in beef bouillon at 37° C. formed tangled masses, consisting of long-twisted chains of cocci, and on the oblique surface of nutrient agar minute brownish colonies like grains of sand. On gelatin minute white colonies grew slowly without producing liquefaction. Milk was coagulated in forty-eight hours. This organism was without doubt the streptococcus pyogenes longus. The gelatin plates after forty-eight hours' incubation at 22° C. showed a profuse growth of a greenish liquefying motile bacillus which on subculture was identified as bacillus pyocyaneus. In addition there were many colonies of a white non-liquefying staphylococcus which corresponded most closely in subcultures with staphylococcus cereus albus. The urine of Jan. 16th, therefore, contained three different micro-organisms—namely, bacillus pyocyaneus, streptococcus pyogenes, and staphylococcus cereus albus, the former being the most numerous. This same sample, after being kept in the laboratory for a few days, acquired a marked green colour due to the growth of the bacillus pyocyaneus.

Seeing that the urine contained no less than three varieties of micro-organisms I thought that an examination of the blood might possibly yield an equally interesting result. Accordingly I supplied Dr. Raw with an agar roll-culture tube and on Jan. 25th he inoculated it with blood taken from the tip of the finger with careful antiseptic precautions. After forty-eight hours' incubation at 37° C. numerous white and yellow colonies appeared scattered throughout the medium. On subculture these all rapidly liquefied gelatin and were identified as staphylococcus pyogenes albus and citreus. No streptococci were found; their absence, however, at that date is not to be wondered at, seeing that the patient was up and about the ward with a normal temperature.

Such untoward results had followed the use of anti-streptococcic serum in this case—apparently due to the serum itself—that much doubt was felt to exist by both of us with regard to its purity and freedom from micro-organisms. I determined, therefore, to examine bacteriologically the remains of a bottle of the dried serum which had been used on two occasions. The bottle was about half full of dried serum, its label signed and dated in the usual manner. The dried serum was first of all dissolved in 5 c.c. of sterilised distilled water; a cubic centimetre of the resulting liquid was then added to two melted agar and gelatin tubes respectively with a sterile pipette and the mixture poured into Petri dishes with the usual precautions. After incubation of the plates for forty-eight hours I found that our doubts with regard to the purity of the serum were indeed well founded. Numerous colonies had made their appearance on both agar plates incubated at 37° C. The majority were glistening white circular colonies of staphylococci, which on subculture rapidly liquefied gelatin and were identified as staphylococcus pyogenes albus. There were, however, others less numerous, minute circular pin-head colonies, light brown in colour and faintly granular when magnified, which exactly resembled in appearance the streptococci colonies found on examination of the urine. Three beef bouillon tubes were at once inoculated from these colonies selected from different parts of the plate and incubated at 37° C. In twenty-four hours it was found that a copious development had occurred in all three tubes. At the bottom of the tube lay a white flocculent mass surmounted with almost clear bouillon. On making coverslip preparations stained with methylene blue it was at once evident that this was a pure culture of streptococci. Long twisted chains of cocci were to be seen everywhere throughout the preparation, stretching in some instances almost across the field of the microscope. No other organisms whatever were present. Subsequent inoculations on agar and gelatin slope tubes gave typical cultivations of the streptococcus pyogenes. Professor Boyce kindly inoculated a guinea-pig for me with 5 c.c. of a bouillon culture of this streptococcus, but without producing any result beyond a local swelling at the seat of injection. The gelatin plates after incubation at 22° C. showed colonies of white staphylococci but no streptococci. I find therefore that the anti-streptococcic serum contained living staphylococci and streptococci—hardly a remedy to be termed innocuous and beneficial. The presence of staphylococci in the specimen of serum examined may possibly be explained by contamination from the air, the bottle not being freshly opened; but such an explanation can hardly suffice for the presence of living streptococci, aerial contamination of this kind being practically unknown. Rather must it be due to imperfect and defective methods of preparation and the passage of living organisms through the filter. Here, then, we have an explanation of the various after-effects which are recorded as following the injection of anti-streptococcic serum. Schleicher,[1] Law,[2] Braithwaite,[3] and Durno[4] mention urticaria, copious erythema, and joint pains. Durno[5] further records erysipelas at the seat of injection followed by a large abscess and thrombosis of the right femoral vein. Williams,[6] Sheen and Davies[7] met with pneumonia following its use. Josias,[8] who injected it in 96 cases of scarlet fever, records that in 4 streptococcic abscesses formed at the point of injection, in 7 purpura occurred, and in 8 lymphangitis. Gaulard[9] mentions bilious vomiting and meteorism followed by death of the patient subsequent to its use. In the large majority of cases, however, in which this serum has been used (over 350) no ill-effects are recorded as following its injection. Filtration has therefore been effective in removing living organisms. The possible presence of micro-organisms should, however, be always borne in mind.

Numerous cases have been recorded in English and foreign journals during the past three years of the use of anti-streptococcic serum in puerperal fever. I have been able to find 89 cases recorded with 25 deaths, a mortality of 28 per cent.; but as in the large majority no bacteriological examination of any kind has been made such figures are useless. In 41 cases the bacteria present have been determined; 14 died, a mortality of 34 per cent. The organisms

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[1] Wiener Medicinische Presse. July 5th, 1896.

[2] Brit. Med. Jour., Jan. 2nd, 1897.

[3] Transactions of the North of England Obstetrical Society, 1897, p. 75.

[4] Brit. Med. Jour., Oct. 30th, 1897.

[5] Loc cit.

[6] Brit. Med. Jour., Oct. 31st, 1896.

[7] Ibid., Dec. 19th, 1896.

[8] Semaine Médicale, May 20th, 1896.

[9] Presse Médicale, Nov. 30th, 1895.

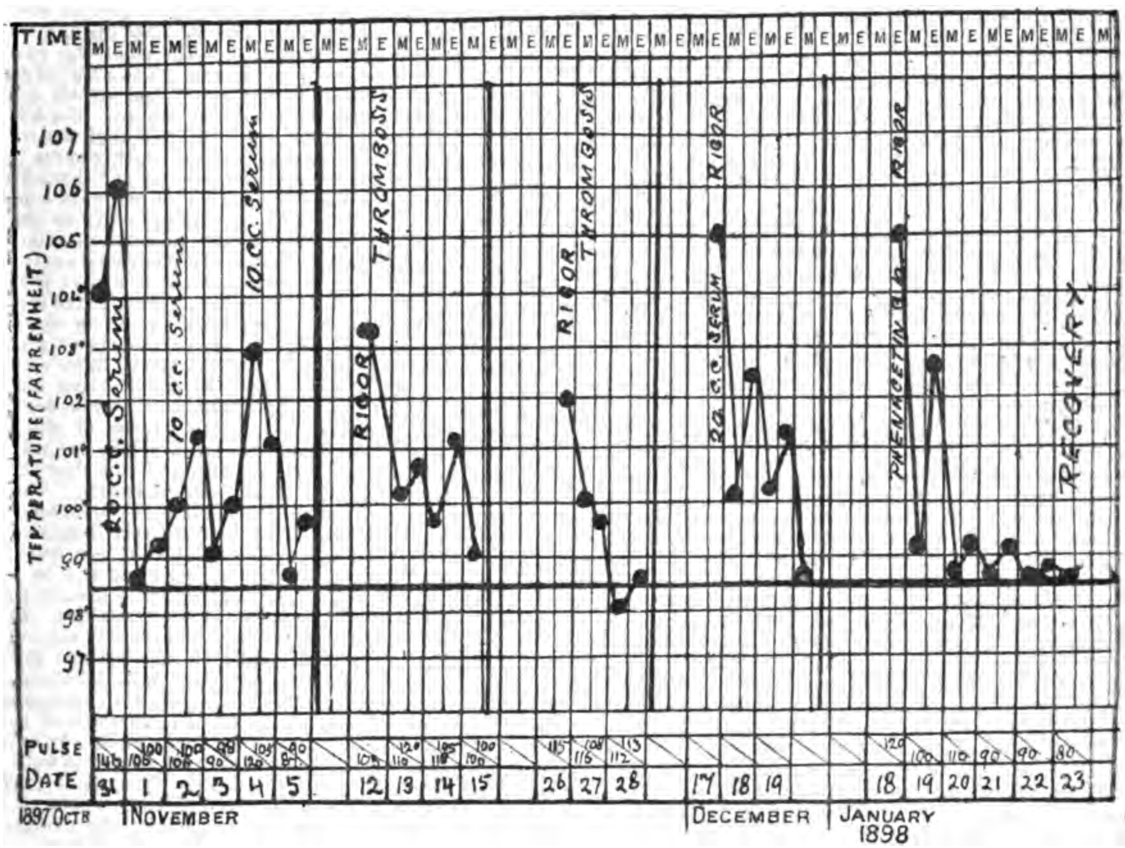

Chart illustrating the course of a case of puerperal septicæmia in a primipara, aged twenty-two years, treated with anti-streptococcic serum. (Under the care of Dr. Nathan Raw.)

found in these 41 cases are as follows: in 29 cases streptococci alone were found, in 5 cases streptococci and staphylococci, in 4 cases streptococci and bacillus coli, in 2 cases Klebs-Löffler bacillus and staphylococci, and in 1 case no organism could be found. The organism most commonly present is the streptococcus pyogenes, either alone or combined with staphylococci or bacillus coli communis. Further, Krönig[10] has shown that the gonococcus is capable of producing puerperal fever, so that we have to deal with a disease in which several different micro-organisms may be the determining agent. To inject haphazard in all cases of puerperal fever a remedy like anti-streptococcic serum, which is claimed to be antagonistic only to streptococcic infection, is in my opinion pure empiricism. Its use is justifiable only after bacteriological examination has revealed the presence of streptococci as the offending agents.

Remarks by Dr. NATHAN RAW.—The injection of anti-streptococcic serum in all pyogenic affections appears to be very much on the increase of late and in some places to be almost a routine practice. It is now generally admitted by the profession that anti-diphtheritic serum is of great value in counteracting the activity of diphtheria organisms, but it must be remembered that there is a great difference in the preparation and action of these two remedies. Anti-diphtheritic serum is prepared by inoculating nutrient broth with the bacilli of diphtheria and preserved at a constant temperature in an incubating chamber for a certain time. The bacilli increase in enormous numbers and in their growth produce a poisonous principle which remains in solution in the broth. The bacilli are then separated from the liquid by filtration, the filtrate being injected into a horse, the serum from which is anti-diphtheritic serum. The preparation of anti-streptococcic serum is quite different and is made by injecting not dead toxic substances into an animal but living virulent streptococci in large and repeated doses for several months, the serum being then carefully filtered through a Chamberland filter to get rid of any organisms, the important difference being that whereas anti-diphtheritic serum is a true antitoxin anti-streptococcic serum is not so and so far as is known at present exerts antimycotic properties rather than antitoxic, any curative or therapeutic properties being due to its power of destroying specific bacteria in the blood. The above case is recorded with a twofold object: first, to emphasise the benefits of the serum in suitable cases—viz., those acute fevers due to infection by streptococci as in puerperal septicæmia—and secondly, to sound a note of warning against the promiscuous use of a very powerful drug in all or every case due to pyogenic infection. I have used the serum several times and have come to the conclusion after careful observation that it produces very serious symptoms some of which led me to believe that the serum itself was not free from living organisms and the careful bacteriological report given above confirms my suspicion by demonstrating living streptococci in the dried serum which was used for injection. This, in my opinion, is a very serious matter when it is considered that there are thus introduced active streptococci into the blood of a patient already containing them. The above remarkable case of puerperal septicæmia illustrates the great benefits to be derived from the serum, at the same time exhibiting the ill-effects of its injection. I have no doubt that the life of this patient was saved by the first two injections of serum as the effects were immediate, particularly the fall of temperature and the reduction in the pulse-rate. On the other hand I feel convinced that the serious symptoms developed afterwards were due directly to the serum. So certain did I feel of this that I had the serum carefully examined showing the presence of active streptococci. The first two injections were fluid serum; the remainder dried serum dissolved in distilled water. The complications noted were a tendency to thrombosis in the large veins and acute congestion of the kidney probably due to the efforts the kidneys were making to get rid of the organisms, and secondarily acute streptococcic pyelitis due to the presence of these micro-organisms in the pelvis of the kidneys. Several writers, including Durno, Cummins, and Haultain, have noticed serious complications following the use of the serum, and in conclusion I would like to make two suggestions: (1) that the presence of streptococci should be demonstrated before the serum is used; and (2) that the serum used should have a guarantee of being free from active organisms, as unless the process of filtration through porcelain (or that which is used in actual practice—viz., a Chamberland filter) is perfect it is quite conceivable that streptococci and other organisms may find their way into the filtrate.

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[10] Centralblatt für Gynäkologie, 1893, Band viii., p. 157.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Innominate Aneurysm.—Tuberculous Disease of the Frontal Bone.—Sequestrum of Rib after Empyema.—Angioma Serpiginosum.—Condition of the Knee due to Rickets.—Palpation and Auscultatory Percussion.—Plastic Operation after Removal of Rodent Ulcer of the Face.

A MEETING of this society was held on Feb. 14th, the President, Dr. SANSOM, being in the chair.

Dr. SEYMOUR TAYLOR showed a case of Innominate Aneurysm. The patient was a man, aged forty-three years. He complained of pain in the right shoulder, with a "lump over the inner end of the right collar-bone." He had always been a temperate man and had never had syphilis. On examination there was found a pulsating tumour which involved the inner thirds of the supra- and infra-clavicular regions and also to a slight extent the manubrium sterni and the first, second, and third costal cartilages on the right side. The sterno-clavicular articulation was partially dislocated. Besides the tumour or bulging there were the other cardinal signs of aneurysm of the aorta or of the large vessels springing therefrom, that is to say, dulness over the tumour, diastolic shock, and at times a distinct thrill. The heart was hypertrophied and there was a faint systolic murmur loudest at the apex. The only pressure signs which existed involved the venous system, the arterial system, and the nervous system, as the patient had marked engorgement of the veins at the root of the neck and upper part of the chest, the left pulse was somewhat smaller than the right, and the same remark applied to the left pupil. He, however, had no cough, no dysphagia, and no palsy of the vocal cords. The case was brought forward principally to elicit the surgical opinion as to the advisability of ligature of the subclavian and the common carotid arteries.—The PRESIDENT observed that it was usual in cases of innominate aneurysm to have dilatation of the aorta at the origin of the artery. He had examined this patient and thought that there was a distinct tracheal tug.—Dr. MAGUIRE agreed with Dr. Seymour Taylor that in the case of a working man it was inadvisable to adopt the plan of sending the patient to bed for a long period and asked if anyone could point to any instance where, after twelve months' treatment, such a man had been able to resume active work. Where an aneurysm was pressing on the trachea or the œsophagus and had given warnings in the shape of small hæmorrhages long rest on the back did harm as the aneurysm then beat directly against the point where rupture was threatened.—Dr. A. H. ROBINSON said with regard to the question of the possible benefit from distal ligature he might mention the case of a woman who had an aortic aneurysm for which Mr. Heath ligatured the common carotid. She had immediate relief and was able to lie in a much more comfortable manner than before. She died six months later.

Mr. STANLEY BOYD showed a lad with Tuberculous Disease of the Frontal Bone for which removal of most of that bone had been performed. The patient was a youth, aged nineteen years, who was admitted to Charing-cross Hospital in February, 1897. He had been quite well up to twelve years old; then he began to suffer from "bad eyes" and photophobia. At the age of fifteen years he went to the Westminster Ophthalmic Hospital, where he was said to have double cataract. A double iridectomy upwards was performed and the left lens was removed. Five or six months before admission to Charing-cross Hospital a swelling formed in the frontal region of the scalp, burst, and discharged a large quantity of matter. On admission there was an ulcer the size of a shilling over the coronal suture just to the right of the mid-line exposing carious bone. The frontal region was considerably but irregularly swollen and hard. The whole calvarium was tender. No distinct swelling was found on any other bone. The sight was extremely bad. The right lens was opaque. The left cornea was nebulous marginally, but no trace of old vessels could be discovered. The fundus could not be seen. The left globe seemed rather too prominent. The bridge of the nose was fair; there was no discharge. The upper central incisors were slightly narrowed at their free edges and showed a faint central notch. No other signs raising suspicions of congenital syphilis were found nor could any history of it be obtained. On Feb. 20th and on March 26th tuberculous glands were cleared out of the neck. Meanwhile the frontal swelling had increased steadily and was softening at the most prominent points. On March 31st a cut was made down to the bone from zygoma to zygoma just in front of the ulcer on the coronal suture; this was excised, the scalp was elevated on either side of it, and the frontal flap was turned down on to the face. To its deep surface adhered much cheesy stuff and flakes of bone. The frontal bone was everywhere worm-eaten and the greater part of the squama of the frontal bone, the orbital arches, and much of the orbital plates were removed; in the neighbourhood of the ulcer the bone was a good deal thickened and sclerosed. The dura mater on being exposed was found to be covered with opaque yellow stuff as tough as old fibrin laminated. No unfavourable symptoms followed, but it was soon found that without sutures the frontal flap could not be kept in position. It slid down further and further towards the root of the nose, falling into deep transverse wrinkles. It could not be drawn up with strapping. Its rigidity seemed to be due to contraction of the frontales muscles and the edges could not be got even partially together until the whole of this layer had been dissected off from the deep surface at the risk of dividing the supplying vessels. No trace of tubercle was seen. The flap was fixed in position by stitches, drainage being provided for, and all now went well. The patient left the hospital healed on May 23rd, 1897, the sight of the left eye having distinctly improved.—Mr. SPENCER WATSON thought that the case was unique. He certainly would not have expected such a perfect result. He inquired whether there was any proptosis such as usually occurred when the orbital plate was diseased.—Mr. MARMADUKE SHEILD said that tuberculous disease of the bones of the skull was very rare, while syphilitic disease was common. He remembered a case under the care of the late Mr. George Pollock in which there was an exactly similar condition of the occipital bone in a patient of the same age. That case was believed to be syphilitic and he was inclined to think that the condition of the eyes in Mr. Stanley Boyd's patient was in favour of that diagnosis in this case also.—Mr. BOYD, in reply, admitted the difficulty of distinguishing between the two conditions. The idea of syphilis was always in his mind, but there was no evidence, and the surgeons at the Westminster Ophthalmic Hospital did not think that the eye troubles were due to that cause. He thought that tuberculous disease of the cranial bones was commoner than was often taught. There was some proptosis of the left eye before the operation.

Mr. MAURICE LING showed a Case of Empyema in which a Sequestrum of Rib was removed by means of injections of dilute Sulphuric Acid. The patient, a man, aged twenty-five years, was attacked with pleuro-pneumonia of the right side and in less than three weeks began to expectorate pus in large quantities, later as much as half a pint night and morning, yet he gradually gained some strength and was able to get about. Five months from the commencement of the illness there was pain with tenderness and bulging of the lower part of the right chest; an incision was made and four pints of pus escaped. Five weeks later a piece of the sixth rib was removed, some adhesions broken down, and a counter opening made posteriorly in the ninth space, a large drainage-tube being drawn through both openings; this was afterwards divided and the anterior opening quickly healed; a probe inserted in the posterior opening could be felt in the anterior triangle of the neck and bare bone could be felt in the track. On injecting water into the sinus with a catheter it went directly into a bronchus, so no injection could be used. However, five years from the commencement of the illness injection of water proved that the opening into the lung had closed and dilute sulphuric acid (1 in 11) was now injected into the sinus. This was repeated on two occasions and at the end of a fortnight the patient was seized whilst in bed with sharp hæmorrhage from the sinus and what was said to be crumbled bone was discharged. The wound healed in a few days. It was remarkable to see how quickly—just a week—the finger-tips, which had been very clubbed while the discharge lasted, began to diminish in size as evidenced by the wrinkling of the skin, as soon as the sinus had healed.

Dr. **Morgan Dockrell** showed a case of Angioma Serpiginosum. The patient, a phlegmatic woman, aged twenty-one years, had suffered from this disease since she was three months old. She had always enjoyed good health with the exception of the eruption which appeared when she was three months old as a number of red spots and lines on the face and limbs, leaving the trunk practically free. This eruption remained permanent, neither increasing nor diminishing till she was sixteen years of age, when it began to spontaneously disappear. On the face could be noticed a number of telangiectic lesions of a bright red colour and in addition a large number of flat scars could be observed where the telangiectases had disappeared. On the extensor aspects of the forearms and dorsal surfaces of the hands there were similar lesions of a purple colour which were more deeply seated and did not disappear under pressure. In addition patches of pigmentation and depressed scars were present. The condition was more marked on the thighs and legs. The case was of interest in that the lesions remained unchanged till the age of sixteen years, when they began to disappear spontaneously from the limbs without ulceration. Dr. Dockrell considered that there was no ground for still adhering to the theory that this condition was in any way a lupoid condition other than the fact that when it occurs in strumous individuals it is more apt to undergo ulceration.

Mr. **Willmott Evans** showed a case of unusual Rickety Knee. A boy, aged eight years, had noticed for two years that his left knee had "clicked" on bending. It caused very little inconvenience or pain. When the knee was fully flexed the inner tuberosity of the tibia was unduly prominent; on extending the joint the prominence continued until the leg was within about twenty degrees of full extension, when the tibia suddenly moved outwards, the prominence on the inner side disappearing and the outer tuberosity of the tibia forming an evident prominence on the outer side. He thought it was due to alteration in the shape of the external condyle of the femur caused by previous rickets.—Mr. **Battle** was inclined to regard the case as one of displacement of the external semilunar cartilage.

Dr. **Robert Maguire** gave a demonstration on a method of Palpation and Auscultatory Percussion. He stated that further experience of palpation to which he had directed attention last year[1] had convinced him that for chest and abdominal examinations it was more delicate and accurate than percussion. By it the outlines of the heart, liver, and spleen could be easily defined by simply passing the fingers over the body wall. He demonstrated his method of its application, showing that even the sternum was no obstacle to thus defining the resistance and therefore the outline of the heart by this means. The position of the kidneys could be thus shown and also most accurately the upper border of a pleural effusion, while small areas of resistance undiscoverable by percussion could be found at times as evidence of former pleurisy or pneumonia. Auscultatory percussion was, he believed, a valuable method of physical examination, though it was in danger of falling into disrepute because of having been employed to determine the size of the heart in connexion with the Nauheim method of treatment and also because its *rationale* had always been misunderstood. By this method it was not an ordinary percussion note which was heard through the stethoscope but the knock of direct contact. It was evident, therefore, that the method could give no information as to the size of the heart, but it could define the outlines of the stomach and of the distended large intestine and was therefore of value to the surgeon before operating for stricture of the intestine. It could define, too, the outlines of the lobes of the lungs and therefore was of value in the prognosis of phthisis by showing the precise position and progress of the disease. It also demonstrated accurately and easily the relative heights of the apices of the lungs behind, an observation which was very difficult by percussion alone, but which was a valuable aid to the diagnosis of incipient phthisis since thus a slight shrinking of the upper part of the lung could be determined. He thought the method should not be allowed to pass into disuse, but it should always be employed with the understanding of its *rationale* which he had demonstrated.—The **President** said that he had found the method of palpation described by Dr. Maguire of value in the diagnosis of thickenings of the pleura or effusion or mischief at the apices. The sense of resilience of the ribs and costal cartilages was of use as well as the sense of resistance of the intercostal spaces. The value of auscultatory percussion could only be decided after much more prolonged observation.

Mr. **Battle** showed a patient on whom he had performed a Plastic Operation after removal of an extensive Rodent Ulcer of the Face. The patient, a man, aged fifty-five years, had been troubled by the ulcer for twenty-six years. It had been removed several times but had recurred. On the last occasion most of the cheek and parts of the superior maxilla and malar bones had to be removed. To cover in the large area thus exposed the nasal bones and nasal processes were removed and a flap was brought across from the right side of the face and the tip of the flap was sutured to the edge of the wound below the left malar bone. Union took place by first intention. The patient was to be fitted with an obturator to close the aperture in the roof of the mouth and was to wear an artificial nose.

PATHOLOGICAL SOCIETY OF LONDON.

Sarcoma of the Tongue.—Congenital Sinus of the Tongue.—Post-mortem Emphysema of the Liver.—Ulceration of Caseous Gland into the Trachea.—Hydronephrosis associated with Renal Calculi.—Exhibition of Specimens.

A **meeting** of this society was held on Feb. 15th, Dr. **Samuel West**, Vice-President, being in the chair.

Mr. **Harry Littlewood** (Leeds) showed a specimen of Sarcoma of the Tongue removed from a lad, aged seventeen years, who scalded his tongue on March 25th, 1896. An ulcer formed on the dorsum near the centre and just to the right of the middle line; this never healed. He was seen by Mr. Ling and Dr. Baxter-Tyrie, of Keighley, on April 12th; the tongue was then enlarged. After this he was treated with mercury and iodide of potassium for three months, the tongue increasing in size. He was then sent into the Leeds Infirmary under the care of Mr. Littlewood. The tongue was removed on Aug. 1st, 1896, by Syme's operation and three weeks later some enlarged glands from both sides of the neck were excised. The tumour, an interstitial growth, occupied the middle two-fourths of the tongue and was of about the size of an orange, making mastication and deglutition well-nigh impossible. There were two ulcers on the dorsum, one in the site of the scald, and the other on the right side, probably produced by a tooth. Microscopically the growth was a round-celled sarcoma. A month after the last operation a secondary growth appeared in the region of the left tonsil and then the glands in both sides of the neck became enlarged and later a growth appeared in the right temporal muscle. The patient died on Dec. 29th, 1896. Before death the growths greatly increased in size, the one on the left side of the fauces increasing so as nearly to fill up the faucial aperture and making swallowing practically impossible during the last few days of life. Five or six weeks before death he suffered from great pain in the head so that sleep could only be obtained with morphia. There was no return of growth in the stump of the tongue.—Mr. **Targett** agreed with Mr. Littlewood that the tumour was a small-celled sarcoma rather than a lymphosarcoma. The diagnosis between sarcoma and abscess and actinomycosis in this situation was often extremely difficult.—On the motion of Mr. **Spencer** the specimen was referred to the Morbid Growths Committee.

Mr. **Percy Furnivall** showed an unusual Congenital Sinus of the Tongue removed from a man, forty-two years of age, who had noticed a swelling in the middle line of the tongue for about eighteen months. When he came under Mr. Furnivall's care there was an ill-defined firm swelling in the middle line projecting half way between the tip and the roof of the mouth. As treatment with iodide of potassium had no effect he cut into the swelling and found that it consisted largely of scar tissue, probably the result of previous treatment. In excising this by a V-shaped incision through the tip he came across a duct passing backwards. It easily admitted a probe which led to the foramen cæcum. He laid this duct open and excised its wall, which proved to be lined by stratified squamous epithelium with outer layers of fibrous tissue. He discussed the possible views which might be taken of its pathology, but did not think that the evidence justified the dogmatic adoption of any one of them.

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[1] Practitioner, April, 1897.

Dr. HUBERT BOND showed a specimen of Post-mortem Emphysema of the Liver taken from the body of a man who died from senile dementia at the age of seventy-three years. The necropsy was performed eighteen hours after death. The liver was the only organ which presented any marked change. It was obviously fatty and even before it was cut into small cyst-like projections could be seen under the capsule. On handling the organ it had a spongy, crepitant feeling and floated in water. On section the whole organ was found to be riddled with minute cavities with ragged walls, some being microscopic in size, while others were 6 mm. across, the larger ones being in the deeper parts. On microscopic examination the cells in the peripheral zone were found to be fatty. The cavities were irregular in size and distribution, they had no lining membrane, and appeared to have been formed by the bursting asunder of the cells of the parenchyma. There was no appearance of inflammation. On staining with methylene blue a number of bacilli could be detected in the walls of the cavities. Other cases had been described which had been held to be caused by the invasion of an anaerobic gas forming bacillus, the bacillus aerogenes capsulatus; injections of cultures of this bacillus during life led to the evolution of gas in the tissues and this also occurred, although more slowly, if a culture were introduced after death. Infection probably took place through the intestinal tract, but no definite lesion could be demonstrated in his case.—Dr. ARTHUR VOELCKER referred to two cases of this condition which he had seen, one in a boy and the other in a man over fifty years of age. Both were suffering from cystitis with consecutive nephritis but no intestinal lesions were present.—Dr. HEBB said that he had shown specimens of this condition to the society ten years ago under the title of "Spongy Liver" and had then demonstrated that the cavities contained many bacilli. He had since seen a number of cases, mostly in patients dying slowly from cardiac disease, in whom decomposition might almost be said to begin before death.

Dr. VOELCKER exhibited a specimen showing the Blocking of the Larynx by a Caseous Gland which had ulcerated through the bronchus and been extruded into the trachea, causing death by asphyxia. The specimen was obtained from a child, five years of age, who appeared to be in good health. Her mother left her at play and when she returned twenty minutes later found her dead on the floor. Her lips were not blue. At the necropsy a gland was found to have ulcerated through the bronchus and had become impacted in the larynx just below the vocal cords. Here it acted as the ball in a ball and socket valve, allowing entry of air but obstructing its exit and so causing distension of the lungs. There were numerous caseous glands at the root of both lungs and in the neck but none in the viscera. The right side of the heart was contracted and empty. Similar cases had been published by Mr. R. W. Parker in the Transactions of the Clinical Society, vol. xxiv., and by Dr. Sidney Coupland in the Transactions of the Pathological Society, vol. xxv. Dr. Voelcker had also seen another in which death occurred suddenly in consequence, as it was supposed, of the boy being choked by a piece of apple he was eating, but the necropsy showed that the foreign body was a gland which had escaped by ulceration into the air-passages, and an exactly similar case had been related to him by Dr. Kelynack. Dr. Voelcker went at some length into the statistics bearing on the frequency of ulceration of glands into the air-passages. These showed that in the great majority of instances the condition occurred in young children under the age of five years. His figures were almost exactly confirmed by the more recent ones of Dr. F. E. Batten. Both he and Dr. Batten found that it occurred much more often in the right bronchus, possibly because it was shorter and the glands therefore were more closely crowded.—Dr. CYRIL OGLE showed a similar specimen from a child five years of age. In this case the gland had ulcerated through causing a bulging into the right side of the trachea half an inch above the bifurcation. From its position it practically occluded both bronchi. The onset of symptoms was sudden while the child was stooping. There were violent cough and dyspnœa. Tracheotomy was performed on the assumption that there might be a foreign body in the air passage, but the child died on the table. Two similar cases were recorded by Dr. Percy Kidd and Dr. Gulliver respectively in vols. xxxvi. and xl. of the society's Transactions.—Dr. LAZARUS-BARLOW thought it was hardly accurate to speak of the case reported by Dr. Voelcker as one of asphyxia seeing that there was no lividity and that the heart was found contracted after death. Although it was difficult experimentally to produce arrest of the heart by stimulation of the central end of the cut vagus, yet clinically there was no doubt that strong stimulation of the peripheral supply of the vagus would arrest the heart. In Dr. Voelcker's case he thought that death occurred from arrest of the heart through the irritation of the laryngeal mucous membrane by the extruded gland.—Dr. F. E. BATTEN said that the frequency of the occurrence of ulceration into the right bronchus had also been brought out by Dr. Gee in a paper on cases of caseous pneumonia attending caseation of the bronchial glands. This condition was much more frequent on the right side than the left and was important to recognise as the signs closely simulated those of empyema, although there was no cardiac displacement.—Dr. HEBB observed, with reference to Dr. Lazarus-Barlow's remarks, that often in cases of traumatic asphyxia there was no dilatation of the right side of the heart and no engorgement of the lungs. He had seen this even where the lips had been livid and where there was no doubt that death occurred from asphyxia.—Dr. BRADFORD said that although possibly complete arrest of the heart could not be obtained by stimulation of the vagus in dogs and rabbits, yet great inhibition, leading practically to stoppage of the circulation, could easily be induced.—Dr. VOELCKER, in reply, said that he had attributed the death to inhibition and not to paralysis from over-distension of the right ventricle.—Dr. OGLE, in reply, said that in Dr. Kidd's case also there was no distension of the right side of the heart.

Dr. L. FREYBERGER showed a specimen of double Hydronephrosis associated with Large Renal Calculi. The patient, a woman, had had no symptoms until shortly before death when she was suddenly seized with violent lumbar pain. At the necropsy both kidneys were found to be dilated and to contain purulent urine. In the calices of the right kidney were seven large calculi of a brown colour composed of urates and uric acid. The left kidney contained no calculi, but one the size of a date-stone was found impacted at the bottom of the left ureter.—Dr. VOELCKER quoted a case in which there was a similar latency of symptoms.

The following card specimens were exhibited:—

Mr. LITTLEWOOD: (1) Clavicle removed for Myeloid Sarcoma; (2) Two specimens of Sarcoma of the Hand; (3) Multiple Fibromata from the Tunica Vaginalis; (4) Scapula removed for Tumour (? Endothelioma); and (5) Undescended Testicle from an adult with complete twisting of the cord.

CLINICAL SOCIETY OF LONDON.

Removal of Stone from the Left Ureter.—Latent and Ephemeral Pericardial Effusion.—Serous Pleural Effusion treated by Incision.

A MEETING of this society was held on Feb. 11th, Mr. LANGTON, President, being in the chair.

Mr. H. BETHAM ROBINSON described a case of Hydronephrosis from Stone in the Left Ureter in which he successfully performed retro-peritoneal uretero-lithotomy. The patient was a girl, sixteen years of age, who was admitted into St. Thomas's Hospital on Aug. 7th, 1897, under the care of his colleague, Dr. Hector Mackenzie. She had had symptoms of renal colic for ten years, but during the last two years the attacks had become frequent, with an almost regular periodicity of six weeks, and were attended with hæmaturia. During the intervals she was perfectly free from pain. On vaginal examination a hard body, presumably a calculus, could be detected in the course of the left ureter just posterior to where it had relation with the vagina. On Aug. 19th an incision of five and a half inches was made from just above the internal ring upwards and outwards but with a slight curve inwards of its upper end. The abdominal wall was divided to the sub-peritoneal tissue and the peritoneum was carefully displaced off the iliac vessels and from the upper part of the pelvic wall. The ureter was thus exposed, much dilated, and it was bared to the spot where it entered the wall of Douglas's pouch. A one-inch incision was made in the length of and on the outer aspect of the ureter and there was a great gush of smoky urine. When this had drained away and the wound was swabbed out the right index finger was passed in and a stone was felt, which was then extracted with forceps. It was composed of oxalate of lime, and it measured ⅝ in. in length and ⅜ in. in diameter. Its weight was 25 grains. After cleansing the wound the ureter was stitched up with fine silk and the wound united layer by layer. A gauze drain was left in the lower angle passing down to the neighbourhood of the wound in the ureter. The girl made an uninterrupted recovery without any rise of temperature or other bad signs. The whole wound was soundly healed at the end of a fortnight. All the fulness in the kidney region had disappeared and she felt no pain at all. This case was almost the exact counterpart of one published by the same operator[1] which was equally successful. In both of them this operation was preferred to Cabot's operation (vaginal uretero-lithotomy), which some might have attempted.—Mr. W. G. SPENCER said that it would have been possible to reach the stone by two other routes—viz., through the vagina or through the bladder. He quite agreed that the retro-peritoneal method was preferable to the vaginal route, but he thought that there would be some advantages in operating by way of the bladder.—The PRESIDENT said that it was always unsatisfactory to deal with hydronephrosis if there was ureteral obstruction, as there was risk of recurrence. He agreed that the route adopted by Mr. Robinson was the best for reaching the ureter.—Mr. MAKINS, who had witnessed the operation, said that it appeared to be performed with great ease by Mr. Robinson.—Mr. ROBINSON, in reply, said that anatomically the stone was at some distance from the bladder and it would have been extremely difficult to extract it from below.

Dr. S. WM. EWART read a paper on Latent and Ephemeral Pericardial Effusion. He said that in clinical literature these effusions had received little notice, and he pointed out that even large effusions are often overlooked. Walshe alone seemed to have made direct reference to their occurrence and pointed to their frequency in Bright's disease and rheumatic fever. The three instances brought before the society occurred in the course of cardiac and renal affections and it was significant of the relative frequency of this condition that these cases happened to be under observation simultaneously. The same coincidence had occurred with three cases reported in THE LANCET of Nov. 21st, 1896, which illustrated the common causation of the effusion from rheumatism, valvular disease, and albuminuria. The conclusions arrived at related (1) to the hitherto apparently unsuspected frequency of these minor effusions; (2) to their short duration; (3) to their moderate size; (4) to the absence of the painful symptoms of pericarditis and of the severe pressure symptoms of large effusions; (5) to the obscurity of their pathological etiology; (6) to the desirability of their being recognised, since by that means the earlier stages of more dangerous effusions, from which they are undistinguishable by mere percussion, would not so often escape detection as seemed to have been the case in the past. Notes of two recent cases were added. In one the patient was nineteen years of age and was admitted on Jan. 24th, 1898, for cough and right pleuritic pain with coarse friction at the right anterior base but no evidence of pleuritic fluid. The characteristic signs, both anterior and dorsal, of pericardial effusion were under observation for two days. As shown by tracings they had entirely disappeared on the third day (Jan. 26th). No pericardial friction was heard at any time. The pleuritic pain had existed for seven days prior to his admission but it was impossible to say how soon it may have been followed by pericardial effusion. The other patient was forty-seven years of age and was admitted on Jan. 20th, 1898, with acute rheumatic arthritis. On examining his chest the next day well-marked signs of moderate pericardial effusion were recognised. There was no pericardial friction but great tenderness was localised with subsequently slight swelling over the right fourth and fifth chondro-sternal junctions. The arthritic pain and swelling were rapidly relieved by treatment and no cardiac murmur was heard, the heart sounds being distant. The signs of effusion were less extensive on the second day. On the third day the precordial area of dulness was normal and the "dorsal dull patch" was replaced by normal resonance, although the patient still maintained the dorsal decubitus of acute rheumatism.—Dr. KINGSTON FOWLER said that the condition described was certainly one with which most physicians were not well acquainted. He himself had not recognised it. He first asked at what site the signs of pericardial effusion were recognisable by increased area of dulness.—Dr. S. WEST observed that the question of the existence of this condition rested on the interpretation of physical signs and he also asked for the points in physical examination on which Dr. Ewart placed most reliance.—Dr. LUCAS BENHAM inquired whether emphysema would prevent the recognition of effusion in front. — Dr. TOOGOOD inquired as to the significance of the patch often met with in cases of pericarditis at the angle of the left scapula which gave all the physical signs of pneumonia.—Dr. EWART, in reply, said that the patch referred to by Dr. Toogood extended to the spine and was part of the posterior cardiac dulness. The signs of pneumonia arose because the descending bronchus passed that way and compression gave rise to the bronchial breathing, &c. This occurred both with pericardial effusions and with dilatation of the left auricle. Emphysema not only obscured the mapping out of the dulness but, in consequence of the bronchitic sounds in the dilated fringes, interfered with auscultation. The earliest site at which effusion could be recognised was a triangular patch in the fifth right interspace just outside the sternum. Good resonance in this position excluded pericardial effusion. The second site was a similar patch just below the left nipple, but accurate percussion was interfered with because resonance was often obtained in this position from the stomach. No friction had been obtained in any of the cases, although the necropsy showed in one case that fibrinous exudation had been present during life. The point on which he mainly relied for distinguishing effusion from cardiac enlargement was the shape of the right border which with practice could be mapped out with accuracy. In enlargement of the heart it was convex, while in cases of effusion it was a straight line making a sharp angle with a horizontal line near the right nipple. Confirmation of the presence of fluid would also be obtained if it were found that dulness extended beyond the apex. Further, in cases of pericardial effusion a "dorsal dull area" was invariably to be found which was situated on each side of the last three dorsal vertebræ.

Dr. WEST read a paper on a case of Serous Effusion into the Pleura of fifteen months' standing treated by Incision. The patient was a man, thirty-nine years of age, who had had the right side of his chest full of fluid for twelve months when he came under observation. There was a strong family history of phthisis and the man was probably phthisical himself. In the course of the next few weeks the chest was tapped three times, on the last two occasions with the removal of eighty and forty-seven ounces respectively. As the fluid re-accumulated on each occasion it was decided to lay the side open, and this was done three months after the patient first came under observation—that is to say, fifteen months from the commencement of his illness. A large quantity of fluid was evacuated but no rib was excised. The patient was greatly improved; the temperature, however, rose a little and at the end of a week the discharge became purulent. The lung completely expanded and in the course of a week was in close contact with the ribs everywhere, with the exception of the track in which the tube lay, and very shortly the amount of discharge did not exceed more than two or three ounces in the twenty-four hours. The patient got rapidly well and gained flesh and strength, but it was not possible to leave the tube out; a track extended a long way down, nearly to the spine. The discharge from the cavity was about two ounces daily, which was found to contain tubercle bacilli. Reference was made to another case of serous effusion which had lasted for eighteen months, and was also treated by incision. It was recorded in the Transactions of the Medical Society of London about two years ago. This patient also got perfectly well and has remained well up to the present time, more than four years from the commencement of her illness. Excision of the ribs should not be practised as a routine part of the operation but only done when necessary for efficient drainage. Dr. West added that about two years ago he had recorded the case of a woman, thirty-one years of age, who had had an effusion into the pleura on the right side for a period of more than twelve months. He performed repeated paracentesis, and when this failed to cure it he had the side opened and the case treated like one of empyema. The patient ultimately recovered completely and was left without any deformity of the chest.—

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[1] Brit. Med. Jour., Sept. 11th, 1897.

Dr. G. A. SUTHERLAND said that he had found that forced respiratory movements, such as Silvester's, were of great use in bringing about good movement after long-standing effusion.—Mr. W. G. SPENCER strongly advocated the routine removal of a portion of rib sufficient to allow of a free escape of the fluid without the necessity of a drainage-tube with the risk of the introduction of pyogenic organisms.—Dr. EWART thought that tubercle was less apt to spread in parts of the lungs which were compressed, possibly because the currents of lymph, blood, and air were interfered with.—Dr. KINGSTON FOWLER also thought that tubercle did not spread so rapidly in collapsed lung, no doubt for the reason which Dr. Ewart had mentioned.

HUNTERIAN SOCIETY.

The Hunterian Oration.

THE annual general meeting of this society was held at the London Institution on Feb. 9th.

Dr. HORROCKS delivered the Hunterian Oration. He gave William Hunter's description of the placenta of one hundred years ago and showed that in its essential features it was identical with the latest description—namely, that given by Professor Leopold, of Dresden. He pointed out that the maternal and fœtal circulations were quite separate and distinct, although the two bloods were brought into very close contact, and that there was no nerve connexion between mother and fœtus. He then described the ovum and the sperm. Many illustrations were shown on the screen by means of limelight lantern slides. He discussed the heredity of an individual derived from the germ and also from the sperm and then showed that the united germ and sperm were influenced by the mother through her blood, causing the growing embryo and fœtus to be modified in such a way as to give it additional heredity, which might be called intra-uterine maternal heredity. He showed how this might be modified by conditions in the mother herself, such as food, work, environment, and disease. He showed that there was good reason for believing that poor living and hard work tended to produce males, whilst high living, especially abundance of fat, warmth, and leisure, tended to produce females. The statistics of the Guy's Lying-in Charity, taken entirely amongst poor people and collated by the late Dr. Braxton Hicks, Dr. Galabin, and himself, showed the ratio of 100 boys to 89 girls, whilst our own Royal family showed in the Royal Blue Book that out of 54 descendants of the Queen 30 were girls and 24 were boys, the ratio being 100 girls to 80 boys. He then dealt with the subject of syphilis and showed that the ovum in the ovary, the fertilised ovum in utero, and the embryo and fœtus in utero might each one become syphilised through the mother. The subject of maternal impressions was mentioned and details of published cases were given, but on the whole it was doubtful if they could be accepted as scientific; and from the numberless instances where mothers during pregnancy were profoundly affected by some great fright or other emotional disturbance, and yet no result whatsoever was manifest in the child, it was very unlikely that the fœtus ever was or could be affected in such a manner. The total absence of all nerve connexion between mother and offspring in utero bore out the same idea. The effect of the united germ and sperm and of the growing embryo and fœtus in utero upon the mother was then described and it was shown that there was very good reason to believe that the mother was affected through the contiguity of her blood with the offspring, by the father of her child through the sperm, and that therefore a wife who became a mother was so affected by the father of her child as to show such influence upon succeeding children by a different father. The subject of transmutation in transmission was discussed and also the question of heredity of diseases now said to be caused by microbes.

PATHOLOGICAL SOCIETY OF MANCHESTER.

Tuberculous Tumours of the Brain.—Sarcoma of the Thyroid Gland.—Calcified Hæmatocele.—Exhibition of Specimens.

A MEETING of this society was held on Feb. 9th, Mr. C. E. RICHMOND, President, being in the chair.

The PRESIDENT, before the business of the evening, referred to the great loss the society and the profession at large had sustained in the death of Professor Edward Lund and a vote of condolence with the relatives was adopted by the meeting.

Dr. TREVELYAN (Leeds) in describing the Physical Properties of Tuberculous Tumours of the Brain drew attention to the minute tubercles sometimes to be seen on their surface. Although tuberculous tumours were well defined and could often be shelled out they were rarely encapsuled. The question whether the disease arose in the meninges, cortex or subcortex, was discussed and two specimens of tuberculous tumours of the dura mater were shown. No satisfactory evidence was yet forthcoming to explain their predilection sites. As regards pathological course attention was drawn to the rarity of calcification. The frequency of tuberculous meningitis as the terminal stage and the almost constant presence of tuberculous lesions elsewhere were illustrated from the pathological reports of the Leeds General Infirmary. Finally, the evidence obtained from morbid anatomy in support of the quiescence or cure of these tumours was exemplified by a case taken from the above-mentioned reports, as well as by similar published cases. Illustrative specimens were also shown.

Mr. THORBURN, after a reference to the Malignant Tumours recorded in connexion with the thyroid gland, showed specimens from a case of Spindle-celled Sarcoma occurring in a woman, aged fifty-eight years. There was a history of nine months' growth and the primary mass involved mainly the left lobe of the thyroid gland. Metastatic growth in the right humerus was followed by spontaneous fracture of the bone. At the necropsy nodules of metastatic growth were found in the lungs and heart and the primary growth had penetrated the left jugular vein. Death resulted from involvement of the vagus with cardiac failure. The capsule of the thyroid gland was distinguishable throughout but was distinctly infiltrated.

Mr. J. E PLATT showed a large Scrotal Cyst with extensive Calcareous Degeneration of the Cyst Walls. It had been removed from a patient, aged sixty-five years, who stated that it had been in existence for nearly twenty years and that it had first appeared after the receipt of a blow upon the scrotum. The cyst wall was very thick; its inner surface was rough and shreddy, and almost all over presented large calcareous plates. Microscopic examination showed it to be composed of laminæ of fibrous tissue without an epithelial lining. The cyst surrounded the greater part of the testicle and apparently had originated in the tunica vaginalis. The various kinds of scrotal cysts which may undergo calcareous changes were mentioned and the opinion was expressed that the specimen under consideration was a calcified hæmatocele.

Dr. MOORE exhibited and described preparations of a so-called "Chloroma" from the Mediastinum of a Rabbit.

Dr. WILKINSON exhibited preparations of Bilateral Malignant Growth of the Kidneys from a child aged one year.

The following card specimens were exhibited:—

Dr. BROOKE: Illustrations of various Cutaneous Affections.

Dr. FOTHERGILL: Gynæcological specimens.

Dr. HELME: Double Ovarian Cysts (two cases); Submucous and Polypoid Myomata of Uterus.

Mr. LANCASHIRE: Photographs of Skin Diseases.

Mr. J. E PLATT: (1) Epithelioma of Penis; (2) Polypus of Small Intestine causing Intussusception; (3) Amputation Neuromata; and (4) a Piece of Intestine from a Hernial Sac showing Ulceration from Pressure on the Neck of the Sac.

Mr. RAY: Sections of Calculi in the Prostate Gland of Man and the Rabbit.

Mr. J. W. SMITH: Sarcoma of Tarsus.

Dr. STEELL: Adrenals from a case of Addison's Disease.

Dr. WIGHTWICK: (1) Imperforate Rectum; (2) Congenital Cystic Kidneys; and (3) Malignant Growth of Jaw.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Myxœdema.—Empyema and its Treatment.—Congenital Spastic Paraplegia.

A MEETING of the above society was held on Feb. 1st, the President, Dr. ARNOLD EVANS, being in the chair.

Dr. MAJOR gave a microscopical demonstration.

Dr. T. JASON WOOD read a paper on Myxœdema in relation to a case exhibited at a previous meeting. After giving a *résumé* of the knowledge of the disease since its first recognition twenty-four years ago Dr. Wood described a typical case, together with the mode of treatment by thyroid gland preparations, and laid stress upon the dangers to be avoided during such treatment.

Dr. BERRY and Dr. METCALFE read papers on several cases of Empyema and their treatment. Dr. Berry first drew attention to the unusual frequency of cases of empyema during the past year in the Keighley district. Chloroform was the anæsthetic used, the incision was made in the posterior axillary line, resection of rib was not usually practised in the first instance, and solid fibrinous material was removed as far as possible. The average duration of treatment was from six to eight weeks. Dr. Berry showed a tube which had been used in one case, devised by Mr. Hutton, of Edinburgh. It consisted of an ordinary flange tube, to which a larger tube was attached by a glass angle and the outer end of this terminated in a valve opening outwards into the dressing. The rubber flange was made to fit practically air-tight to the skin by means of a piece of gutta-percha tissue, and thus the contents of the pleural cavity were allowed to escape with every expiratory effort but air was prevented from returning by the valve. It was claimed that much more perfect expansion of the lung was attained by this means and that a tube need only be worn for a much shorter time. Respiratory exercises—e g., the use of a wind instrument—were recommended during convalescence.—The paper was discussed by several members and Dr. BERRY and Dr. METCALFE replied.

Dr. KERR read notes of a case of Congenital Spastic Paraplegia shown at a previous meeting. The patient was a girl, five years of age. She did not walk till her third year and then only imperfectly, turning in the toes and not putting down the heels. There was nothing noteworthy at birth, but during the first three weeks of life the patient suffered from convulsions. During the five months previous to her fifth birthday she was getting worse; she talked peculiarly and spilt her food at meals. On examination she was found to be well grown, with an expressionless face, and she spoke in a slow "scanning" way. There was no strabismus or nystagmus and the optic discs and pupil reflexes were natural. There was no pain but tremors were present on voluntary movements of the hands and occasionally when at rest. The tremors could be partly controlled and did not increase in violence as the movements continued. The gait was spastic and she could not stand or walk without assistance. The attempts at walking were very imperfect; the heels were not put down and the toes seemed to catch the floor. There was no sign of spinal column or of joint disease, no wasting of muscles, and the electrical reactions were normal. For some days the presence of the knee-jerks could not be demonstrated. The patient was given nux vomica and in four or five days the knee jerks were excessive. The mental condition of the patient was rather dull. From this time she rapidly improved and was discharged at the end of three weeks. Since June last she has gone on taking strychnine for about a fortnight in each month and can now run and jump and has improved in every way except speech. Dr. Kerr discussed the diagnosis from birth palsy and pointed out the hopeless nature of cases resulting from injury during birth; in these cases there is probably an arrest of development in the pyramidal tract resulting in the spastic condition and they are generally associated with mental defect due to the cranial injuries.—Dr. MAJOR, Dr. EURICH, and Dr. MANTLE discussed the case and Dr. KERR replied.

KIDDERMINSTER MEDICAL SOCIETY.

Exhibition of Specimens.—Enlarged Prostate.—Wound of Abdomen.—New Growth of Tonsil.

A MEETING of this society was held on Jan. 28th, Mr. S. STRETTON, President, being in the chair.

Mr. J. L. STRETTON showed: 1. Two Enlarged Bursæ Patellæ removed from two women aged respectively twenty-one and twenty-two years. The wounds in both instances healed in ten days and the patients were able to be about again within three weeks. He pointed out the futility of treating such cases with tincture of iodine and other external applications and strongly recommended removal in all chronic cases. 2. A large Sequestrum removed from the upper end of the humerus of a lad aged eighteen years. He had been working in a coal-pit and did not feel anything wrong until a month before admission, when his arm began to hurt and gradually became swollen. There was no injury but a distinct tuberculous history. After operation he gained 2 st. weight in a month. Mr. Stretton thought it unusual for idiopathic mischief to cause so much destruction in so short a time and felt sure the disease had been in progress for a much longer period than the patient was aware. 3. An ovary removed from a patient, aged forty-three years, for intractable neuralgic pain. She made a satisfactory recovery.

Mr. STRETTON then read notes of a case of Enlarged Prostate in a youth, aged nineteen years. The patient was of a neurotic temperament and complained of indefinite pains in the perineum. Upon examination the prostate was felt as large as a bantam's egg. He denied masturbation. After being treated for some time without benefit he was put upon thyroid tablets thrice daily, with the result that the enlargement entirely subsided and his neurotic symptoms were considerably reduced.

Mr. STRETTON also read notes of the case of a youth, aged eighteen years, who on Jan. 6th while playing with a dirty game carver pierced his abdomen. On admission there was a wound about an inch long in the middle line midway between the umbilicus and the ensiform cartilage and through it a small tag of omentum was protruding. Under an anæsthetic the wound was slightly enlarged and the omentum returned. There was no evidence of bleeding, no escape of gas, no fæcal odour, and nothing abnormal could be detected with the finger. The wound was closed and dressings were applied. No bad symptom supervened and the patient was up and about in nineteen days. Now that it is becoming more general to explore the abdomen when penetrating wounds have occurred this case is of interest, and particularly so because the wound was inflicted with a septic instrument.

Mr. STRETTON also related the case of a youth, aged seventeen years, who was admitted with what appeared to be Malignant Disease of the Left Tonsil and Soft Palate. On admission the left tonsil was as large as a walnut and spread forward along the soft palate and outer pillar of the fauces and backwards and downwards along the posterior wall of the pharynx. The glands of the neck on the same side were enlarged. A portion of the growth was sent to the Clinical Research Association and they reported that it was an innocent enlargement. On Dec. 16th the tonsil and uvula were removed; following this there was considerable swelling and an appearance of growth at the seat of operation. No improvement took place until Jan. 11th, when he was seized with an attack of acute rheumatism during which the condition of the throat improved and there is now very little enlargement to be seen.

Mr. OLIPHANT showed a case of Exophthalmic Goitre and read a paper on the subject.

LIVERPOOL MEDICAL INSTITUTION.

Sebaceous Adenomata.—Action of the Blood from a case of Spleno-Myelogenous Leukæmia upon Typhoid and Anthrax Bacilli.—Action of Normal Serum in Relation to the Differentiation of the Typhoid Bacillus from Allied Forms.—Exhibition of Specimens.

A MEETING of the Microscopical and Pathological Section of this society was held on Feb. 10th, Mr. PAUL being in the chair.

Mr. G. G. HAMILTON read a note on Sebaceous Adenomata. He tried to distinguish these from other growths of the skin and to limit the use of the term adenoma to what he considered to be its strict sense. He then described a great many pathological conditions which he had found included under the term "wen"—not only retention cysts, but adenomata, fibromata, myxomata, myeloid sarcomata, &c. The note was illustrated with casts, lantern and microscopic slides.—Mr. PAUL said he thought they were much in want of evidence as to what constituted a typical sebaceous adenoma. The sections shown as adenoma of the scalp were derived from a well-known case under the care of Mr. Rushton Parker in which the growths were proved to have arisen in the sweat glands. He thought the sudoriferous adenoma was the most usual skin growth.—A discussion followed in which Mr. PARKER, Dr. BUCHANAN, Mr. NEWBOLT, Mr. LARKIN, and Professor BOYCE took part.

Dr. BUCHANAN read a note on the Action of the Blood from a case of Spleno-Myelogenous Leukæmia upon Typhoid and Anthrax Bacilli. His experiments were carried out by means of hanging-drop preparations of the blood inoculated from a twenty-four hours growth of typhoid or anthrax bacilli and kept in an incubator. These were examined after various periods up to thirty-two hours on the warm stage and also by drying, staining, and mounting. Controls were similarly examined. The amœboid movements of the various cells were carefully observed and described. Phagocytosis towards anthrax bacilli was exercised most markedly by the fine oxyphile and the hyaline cells, not at all by the myelocytes. There was no phagocytosis of the typhoid bacilli. Various changes in the bacilli were observed and described. Contrary to the general opinion phagocytosis was exercised towards anthrax by the coarse eosinophile leucocyte. Specimens were shown illustrating the various observations made.—A discussion followed in which Professor SHERRINGTON, Dr. GRÜNBAUM, and Mr. ROSS took part.

Dr. CHRISTOPHERS read a note on the Action of Normal Serum in Relation to the Differentiation of the Typhoid Bacillus from Allied Forms. He held that serum diagnosis was not of so much use as had been expected in the differentiation of the typhoid bacillus. He in common with others had found that most typhoid human sera caused agglutination of undoubted colon bacillus, even when considerably diluted (from 1 to 30 to 1 to 200). This action, he found, was just as powerful in normal human serum. Colon organisms from milk, sewage, shell-fish, and other sources were experimented on with like results. Horse serum was found to act in almost exactly the same way as human. He thought the varying degrees of dilution he had to use depended on the degree of attenuation of the organisms and not on the serum used. After describing in detail, with lantern illustrations, the various experiments he had performed he urged (1) that it is of very great importance in serum diagnosis of typhoid bacilli to recognise the extreme state of attenuation and consequent susceptibility in which organisms may exist in natural media like milk and water; (2) that unless the state of attenuation of an organism be first determined it is useless to apply a specific serum as a differentiating agent; and (3) that it is probable that this action of normal serum on greatly attenuated organisms is capable of explaining many contradictory results in the diagnosis of the typhoid bacillus by the serum method.—Professor BOYCE, Dr. GRÜNBAUM, and Dr. ABRAM discussed the note.

The following specimens were shown:—

Dr. DUTTON: Endothelioma (with lantern demonstration).

Mr. PAUL showed a purely Colloid Cancer from Centre to Margin with a single Colloid Axillary gland from a woman, aged forty-one years.

Professor SHERRINGTON showed a very beautiful series of preparations of Salamander Epidermis illustrating Karyokinesis.

Mr. DOUGLAS CRAWFORD (for Mr. BARR) showed: (1) a section of a Fragment of Epithelioma of the Larynx removed for diagnostic purposes; and (2) a Pathological Preparation illustrating a cause of painful inter-phalangeal joint.

Dr. BUCHANAN showed: (1) specimens of Sputum from Asthma Cases, and demonstrated that the cells of the sputum were almost without exception coarsely granular oxyphile leucocytes; and (2) a specimen of Charcot-Leyden Crystals and several of Curschmann's Spirals. He showed that these latter may be simple or compound and described their physical and chemical characters, their microscopical constituents and how he believed they were formed.

Mr. STANLEY KELLETT SMITH showed some Gall-stones from the horse illustrating a rare result of mutual compression. They were all perfect cubes.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Ligature of the Subclavian Artery.—Litholapaxy.

A MEETING of this section was held on Jan. 21st, Mr. LENTAIGNE, President, being in the chair.

Mr. HENRY GRAY CROLY detailed the history of a case of Traumatic Aneurysm which involved the third stage of the Left Subclavian and the Third Stage of the Axillary Arteries. The patient was stabbed with tailor's scissors immediately below and above the clavicle; very severe arterial hæmorrhage followed. On admission to hospital the hæmorrhage was merely oozing; there was a huge hæmatoma beneath the clavicle and no radial pulse could be felt. Restorative treatment was adopted and pressure was applied; under this treatment, with perfect rest, the tumour gradually diminished and the pulsation became less forcible. In November, 1893 (six months after the injuries were inflicted), the patient left the hospital, returned home and resumed his work. A large aneurysmal tumour soon formed and the man was re-admitted to the hospital on Feb. 15th, 1895. He was placed under treatment again and perfect rest enjoined. On Dec. 2nd, 1895, Mr. Croly ligated the subclavian artery in its second stage. The artery having been exposed a deeply curved aneurysm needle was passed under it from below and then armed with a double ligature of goldbeater's skin. The ligature next the heart was first tightened with a reef-knot; the pulsation in the aneurysm ceased immediately and the radial pulse could not be felt. The second ligature was then tightened and the four ends were next secured across the vessel by means of the "stay-knot." The ends of the ligature were cut off and the wound was closed. Every step of the operation was carried out strictly in accordance with aseptic rules. The incisions were closed by means of gut sutures and the arm and shoulder were enveloped in cotton-wool and flannel bandages. The patient made an uninterrupted recovery and was exhibited to the members at the Surgical Section of the Academy in January, 1896. His arm, forearm, and hand are now normal; he works and lifts weights.—The PRESIDENT remarked that the actual mode of applying the ligature was important, the walls of the vessels not being injured, but only approximated, allowing the irritation to produce entire occlusion and adhesion of the walls.—Sir WILLIAM STOKES said that the result showed that a clot formed at the situation of the ligature—a thing which some authorities say is impossible. He thought that Mr. Croly's method of passing the aneurysm needle from below upwards and outwards was the best, as by so doing the subclavian vein ran least risk of being injured. Some text-books say that the needle should be passed in the opposite direction—from without inwards—in order to avoid including the last cord of the brachial plexus; but he considered that the subclavian vein was a much more important structure and that the nerve could be avoided.—Mr. T. E. GORDON considered that it made little difference what the ligature was composed of provided it was perfectly sterile; silk was excluded. He had been practically satisfied with the use of catgut boiled in superheated alcohol, a method which did not render the catgut brittle. He had found kangaroo tendon very brittle.—Mr. CROLY, in reply, said that he had always been in favour of approximating the coats of an artery by Scarpa's method. There was no case on record of secondary hæmorrhage from any artery in its continuity where Scarpa's method had been adopted.

Surgeon-Major BAKER brought forward a Report on a Series of 404 Litholapaxies performed by him when acting as civil surgeon in Hyderabad during the period from Feb. 1st, 1896, to Jan. 21st, 1897, together with fourteen lithotomies performed for various reasons during the same time and exhibited the calculi removed during these operations.—The PRESIDENT, Mr. CROLY, and Brigade-Surgeon-Lieutenant-Colonel POTTER made some remarks and Surgeon-Major BAKER replied.

MEASLES AND SCARLET FEVER ON BOARD TRAINING SHIPS.—Quite recently the training ship *Lion* at Devonport was relieved from the special sanitary supervision rendered necessary by the outbreak of measles on board. Since then measles and scarlet fever have broken out on board the training ship *Impregnable* and several cases have been sent to the Royal Naval Hospital. An outbreak of measles has occurred on the cadets' training-ship *Britannia* at Dartmouth and several cadets have been removed to the shore hospitals connected with the ship.

TORBAY HOSPITAL, TORQUAY.—The report of the Torbay Hospital, Torquay, shows that during 1897 the total expenditure of the hospital was £2019 as against £1953 in 1896 and that at the end of last year there was a deficit balance of £63. The medical report states that 319 in-patients were admitted during the year, 484 were treated as out-patients of the ophthalmic department, 543 dental cases came under treatment, and 260 new members had joined the provident dispensary.

Reviews and Notices of Books.

The Diseases of Women: A Handbook for Students and Practitioners. By J. BLAND SUTTON, F.R.C.S. Eng., Surgeon to the Chelsea Hospital for Women, Assistant Surgeon to Middlesex Hospital, London; and ARTHUR E. GILES, M.D., B.Sc. Lond., F.R.C.S. Edin., Assistant Surgeon, Chelsea Hospital for Women, London. With 115 Illustrations. London: The Rebman Publishing Company, Limited. 1897.

AS indicating the scope of this work we may quote the Preface, which is commendably short, consisting, indeed, of one sentence only: "In writing this book it has been our earnest desire to relate facts and describe methods belonging to the science and art of gynæcology in a way that may be useful to students for examination purposes and which will also enable them to practise this important department of surgery with advantage to their patients and with satisfaction to themselves." The opening chapters on the Anatomy and Physiology of the Reproductive Organs in Women are clear and accurate. The same may be said of the description given of the methods of examination. But we think, for the comfort of the English student, it would have been well to point out that the dorsal position is generally more objectionable to patients than the lateral position, and that, with practice, information can be as well obtained in the latter as in the former. In referring to the necessity of dilating the cervical canal the authors say: "Tents were formerly used for this purpose, but they are always tedious and often unsafe, and except in special circumstances it is better to carry out dilatation at one sitting." Either rapid or slow dilatation may be unsafe unless proper precautions are observed. It is quite possible to use laminaria tents with perfect safety, while, on the other hand, if rapid dilatation is employed in unsuitable cases, or unskilfully, serious accidents may occur, and many such have actually been known to happen. We observe that in their article on Œdema of the Vulva the authors advise small punctures as a palliative measure. We think it should be stated that this apparently trivial operation is not free from risk. Erysipelas with a fatal result has been known to follow it even when every care was taken as regards antiseptic precautions. In describing the appearance of the parts in cases of diabetic pruritus it seems to us a little insufficient to say that "the margins of the urethra and the vestibule are congested," since in many cases the whole of the external genitals is affected and their appearance is extremely characteristic. We should say that it is generally also quite unnecessary to shave the pubes to cure cases of pediculi pubis. In describing the treatment of epithelioma of the vulva we do not see any recommendation given as to removing the glands in the corresponding groin when they appear to be involved. For cystocele associated with retroversion of the uterus vagino-fixation is here advised as often answering well. For gonorrhœal vaginitis rather energetic treatment is suggested. The patient is anæsthetised and after irrigation the vagina is to be swabbed out with glycerine and carbolic acid (1 in 10) or chloride of zinc (ten grains to the ounce). But why do the authors advise that the cervix should be similarly treated and why especially that a uterine probe may be dipped into the solution and applied to the uterine cavity when the case is one of vaginitis only? In the account given of anteflexion of the uterus there is a paragraph on the treatment of this condition: "vaginal pessaries are absolutely useless," with which we quite agree; but the text goes on: "Two courses are open: first, dilatation of the cervical canal; secondly, a plastic operation." We think that in a work for students it would have been well to emphasise the undoubted fact that in the large majority of cases no active local treatment is required. Similarly many cases of retroflexion require no local treatment, though we think the uninstructed reader would here gather that the reverse is the case. We are interested in the statement that "it is also important to remember that women may conceive even so late as their fifty-ninth year." It is one of those cases where we should like to have seen the authors re-investigate the evidence or perhaps give us "modern instances." The late Vice-Chancellor Malins ordered money to be paid out of court in the case of two women, one a widow, aged fifty-five years, and the other, a spinster, aged fifty-three years and eight months, when their claim rested on the presumption that they were past child-bearing. But in another case Vice-Chancellor Wickens, declined to act on the presumption where the woman was in her fifty-third year. We are glad to see that the authors are of opinion that "the removal of a myomatous uterus through an incision in the belly-wall is a grave proceeding even in the hands of dexterous and experienced operators," and that they consider "it is the rule not to interfere with uterine myomata unless they directly threaten the patient's life." Yet practically no mention appears to be made of the medical treatment in those cases, the large majority, in which, according to the authors themselves, surgical treatment is unjustifiable. We also observe that as regards the so-called deciduoma malignum the authors do not consider that there is sufficient evidence that it necessarily arises in retained fragments of decidua or placenta. By the way, the statement that "in many cases cancer of the cervix leads to enlargement of the uterus" (if the authors mean by this the body of the uterus) is certainly wrong. Curiously we see no mention of pain among the symptoms given of cancer of the body of the uterus—an important and frequently an early symptom. As regards this disease the authors say: "Little accurate knowledge is forthcoming in regard to its early stages." Still, they might give their readers that little. "From the age of thirty-five onwards cancer of the uterus must always be thought of as a possible cause of hæmorrhage," is a statement likely to lead the student into thinking that cases do not occur before the age of thirty-five years, whereas cancer of the cervix is by no means uncommon in the ten years preceding that age. A little paragraph, excellent in its way, on cleaning and disinfecting a catheter unfortunately concludes as follows: "Before using a catheter it should be wiped with a piece of sterilised gauze and *thoroughly oiled*." The italics are ours, for nothing is said of the aseptic or antiseptic properties of the oil.

There are many good features about the book: it is convenient in size, the print is good, and many of the illustrations are excellent. There is also a good section on the Bacteriology of the Normal Vaginal and Uterine Secretions, and the directions given for operative work appear generally to be sound. The authors seem, however, to be "of little faith" as regards medical treatment; and the *vis medicatrix naturæ* plays a useful part in gynæcology as elsewhere when it is given the chance.

Sir James Young Simpson and Chloroform. By H. LAING GORDON, M.D. Edin. Vol. III. of "Masters of Medicine." Edited by the late ERNEST HART, D.C.L. London: T. Fisher Unwin. 1897.

THIS story of Sir James Simpson's interesting and eventful life well maintains the reputation of the series to which it belongs. It is a story of remarkable—almost exceptional—success. Of humble origin—he was the youngest son of a hard-working, thrifty baker in the village of Bathgate, near Edinburgh—Simpson rose through sheer force of character and untiring industry to a degree of fame, wealth, and social influence such as it is given to few men to attain. How much of his success he owed to the pure Scottish blood derived from his father and how much to the Huguenot strain in his mother's ancestry is an interesting, if fruitless, speculation. There is no question that his first start in his "hard and uphill battle of life for bread and name and fame," of which he himself spoke with pride, was due to the unselfishness of his relatives. It was, and indeed still is, the custom among Scottish folk of humble rank to single out one member of the family for a higher education than the remainder. If possible he will be trained for the ministry, failing that he will enter one of the other learned professions. There is something of the heroic in the devotion with which Simpson's family, and particularly his eldest brother Alexander, toiled on at their humble work to support him through his university career and never once doubted that he would attain to fame and honour. How splendidly he rewarded their efforts by attaining a degree of fame and honour such as their wildest hopes could scarcely have anticipated everyone knows, though many outside Scotland will have forgotten or failed to realise how remarkable his position was. For a time he was the foremost man in Scotland. The anecdote which relates how the King of Denmark when an Edinburgh citizen was presented to him remarked, "You come from Edinburgh? Ah, sir, Simpson was of Edinburgh," may be quoted in proof. His house in Green-street was an intellectual centre and no distinguished foreigner visiting Edinburgh failed to obtain beforehand an introduction to the Professor. "Statesmen, noblemen, artists, scientists, clergymen, and politicians from various countries," writes Dr. Laing Gordon, "sat down together" at his breakfast table "and entertained each other, or attempted to do so, in their different languages." Probably Simpson owed his peculiar social position and power equally to his marked individuality and personal strength of character and to his great scientific and professional reputation. He will always be remembered as the prince of obstetricians and gynæcologists and as the introducer of chloroform into surgical practice. It was almost by accident that quite early in his career his attention was turned to the study of obstetrics. Once he had selected this branch of medical science he threw himself into it heart and soul. In 1840, ten years after qualifying, he obtained the chair of midwifery in the University of Edinburgh. The choice lay between Simpson and Dr. Kennedy. The struggle was a keen one, but Simpson loved a fight and he eventually won, though the expenses of his canvass reached the sum of £500 and he was elected by the narrow majority of one vote. It is told of him, and nothing more characteristic could be told, that finding his chances of obtaining the chair as a bachelor to be exceedingly small he disappeared from Edinburgh for a time and triumphantly reappeared with a fresh qualification for his candidature in a wife, a lady with whom he had corresponded for some time and whom he had married in the interval. His services with regard to obstetrics and gynæcology were very great, though he left behind him no single work dealing with these subjects, most of his writings upon them being in the form of scattered articles in magazines and transactions of societies. It is probable that his name will come in time to be associated in the popular mind solely with his "discovery" of chloroform. Dr. Laing Gordon has rightly devoted considerable space to an account of the introduction of anæsthetics and the part which Simpson played in it, and he has given still greater prominence to this event in his life by entitling the volume "Sir James Young Simpson and Chloroform." The history of anæsthesia has been so recently and fully retold in connexion with the jubilee of its introduction that we need not go over the well-worn ground again. The great credit of Simpson—the real service which he did to mankind—lay not only in his discovery of the anæsthetic properties of chloroform, but in his energetic defence of it against the attacks which it sustained from moral and religious and even scientific objectors. And in defending chloroform he equally defended all other forms of anæsthetics, though he was perhaps inclined to magnify its superiority over its rivals. "He was the one man who by his own individual effort established the practice of anæsthesia," writes Simpson's latest biographer, and if he had done nothing else this would have secured for ever his claim to be regarded as a master of medicine. Of his other services to medicine—his introduction of acupressure, his attacks on hospitalism, and his efforts on behalf of university reform and medical reform in general, or of his really remarkable contributions to the study of archæology—we have not space to speak. It is astonishing that in his comparatively short life he was able to do so much in other fields while satisfying the demands of his enormous and exacting practice. He died at the age of fifty-nine years, literally worn out by overwork. His reputation is so well established that a fresh biography can scarcely hope to add to it, but Dr. Laing Gordon's volume should serve to emphasise the immense debt of gratitude which the world owes to him.

The Surgery of the Head and Neck. By Levi Cooper Lane, A.M., M.D. Berol., M.R.C.S. Eng., LL.D., Professor of Surgery, Cooper Medical College, San Francisco. Published by the Author. Pp. 1180.

It is somewhat unusual to find a work on "regional surgery" dealing with so large a portion of the body as the head and neck. Many of the structures met with in it are identical with those contained in other parts of the body, so that the descriptions given would be almost equally applicable to the regional surgery of one of the limbs. It cannot, however, be denied that there are many structures in the head and neck which are well deserving of separate treatment; and, indeed, treatises on the surgery of the brain, on the surgery of the ear, and similar portions of the head and neck are common enough, but we do not remember to have seen before this any work dealing with the whole of the surgery of this part of the body. There are many advantages in having in one work the surgery of such an important region, but the volume would have probably best appeared as part of a general treatise on surgery. The consideration of the injuries and diseases of the eye has been omitted and in the case of the ear only the external meatus and the mastoid cells have been included, but even with such omissions enough has remained to fill more than 1100 large pages, yet the adoption of a thin, though opaque, paper has kept the size of the volume within reasonable limits. The author is evidently well acquainted with the literature of his subject both ancient and modern, but though we find citations of the views and practice of many other surgeons on almost every page we think we are correct in saying that not a single exact reference is given by which the source of the quotations can be consulted. This is somewhat a pity, as all who would be likely to read or consult a book such as this would be likely at one time or another to want to refer to the authorities from whom the author quotes.

The injuries and diseases of the scalp occupy the first three chapters and the following three are concerned with the cranium and its contents. Dr. Lane claims to have been the first to perform craniectomy for microcephalus in May, 1888, but the child unfortunately died about forty-eight hours after the operation. He has performed the operation in one other case, but when he wrote this chapter sufficient time had not elapsed to enable him to see the ultimate result, though some slight improvement had already occurred. In the succeeding chapters the ear, frontal region, nose and maxillary sinus are dealt with. The surgery of the superior maxilla is separated from the chapter on the antrum of Highmore by chapters on Plastic

Surgery, the Surgery of the Eyebrows and Eyelids, and of the Malar and Parotid Regions. The mouth, lips, tongue, palate, tonsils, pharynx, sublingual region, and the lower jaw all receive fair treatment and the same may be said of the remaining subjects contained in the volume—namely, facial neuralgia, the thyroid gland, tumours of the neck, wounds of the neck, the œsophagus, the larynx and the trachea, the vessels of the neck, spina bifida, and fracture and luxation of the cervical vertebræ. Enough has been said to show that the subject has been dealt with in a thorough manner and we feel sure that all who read the book will find instruction in its pages, for the author has often his own way of looking at debateable points, but we think a smaller volume on the same lines would have been likely to find a larger circle of readers. 110 illustrations are present, and of these most are original, but still many more would be required to fully illustrate the book.

Administrative Report of the Madras Municipality for 1896-97. Madras: Thompson and Co., 33, Popham's-broadway. 1897.

THE health officer, Mr. J. Nield Cook, of the Madras municipality at the commencement of his report furnishes two useful charts, the first showing the monthly birth- and death-rates (per 1000 per annum), the rainfall, temperature, price of food, barometric pressure and the average velocity and prevailing direction of the wind in 1896, and the second showing the monthly mortality from fevers, dysentery, diarrhœa, and cholera in 1896 and the mean rates for the previous ten years. These charts afford an excellent summary of the facts and of the prevailing general conditions likely to influence the state of the public health. Passing over those portions dealing with the history of the general changes, the financial, social, sanitary, engineering, educational, and other subjects which form a large part of the report, we may briefly refer to some of the sanitary and medical points more directly affecting the public health. Vaccination, which appears to be very well carried out in Madras, is largely dealt with. The high percentage of success obtained there in re-vaccination has been repeatedly commented on and doubts have been thrown on the accuracy of the statistics. The re-vaccinations are done directly from the calf in Madras, and the health officer apparently regards the results as reliable. The protective influence of even a single vaccination, and especially so far as mortality from small-pox is concerned, for the fatality amongst the unvaccinated was more than three and a half times greater than among the vaccinated, is illustrated by figures. There are no available statistics to show the number of vaccinated and unvaccinated persons in the town of Madras, but the unvaccinated population, amongst whom seventy-nine attacks of small-pox occurred, is a very small one compared with the vaccinated population, as shown by the statistics of birth and infantile population.

The ratio of mortality in Madras from all causes per 1000, calculated on the estimated population for 1896, was 35·4. The rise from fever, diarrhœa, and dysentery in May is attributed to chill. Paradoxical as it may seem to refer the rise in fever mortality in the hottest part of the year to this cause (chill) it is explained by the fact of the people sleeping in the open air, often on damp ground, without any sufficient clothing. Many of the fatal cases of malarial fever are complicated, too, with pneumonia. We must refer the reader to the report itself for a description of the measures taken for prevention of plague in Madras: "A number of false reports of plague were received, but the correct diagnosis was in all cases easy and up to the time of writing no true case in man or rat has been reported. No undue dependence, however, is placed on the fact that Madras is outside what is known as the 'plague belt,' being considerably below 20° N. latitude, for it was found that the plague microbe remained healthy and produced strong colonies when cultivated on agar under ordinary conditions in Madras." The report appears to us to be a sound and good one.

Oral Surgery: a Text-book of Diseases of the Mouth, intended chiefly for the Use of Students of Dentistry By EDMUND W. ROUGHTON, M.D. Lond., F.R.C.S Eng., honorary visiting surgeon to the National Dental Hospital. London: J. P. Segg and Co., 289 and 291, Regent-street, W. Philadelphia, U.S.A.: S. S. White Dental Manufacturing Co. Pp. 223, with 68 Illustrations. 1898.

THIS book, as the title indicates, is intended chiefly for the use of dental students, but we think that it can be also cordially recommended to every student of medicine. The book is tersely written, the various subjects are admirably arranged and classified, and thoroughly up to date. The first chapter, which is devoted to Fractures of the Mandible and Maxilla, contains a fair account of some of the interdental splints in general use, but the author has omitted to figure and describe Mr. W. Hern's excellent modification of the Gunning type of splint. In Chapter V., which is devoted to Periostitis of the Jaws, the author, in discussing the question as to the advisability or otherwise of retaining an affected tooth, lays stress, and we think rightly, on the point that in all cases of doubt a consultation between the dental surgeon and the medical man should be held when possible.

The chapters on Acute Alveolar Abscess, Necrosis of the Jaws, and Empyema of the Maxillary Antrum are well and clearly written. In dealing with Odontomes the author adopts what is practically the classification introduced by Mr. Bland Sutton with the exception that he classifies a true dental cyst under the same heading as an epithelial odontome—namely, "an aberration of the enamel organ."

Tumours of the Gum, Palate, Maxilla, and Mandible are clearly and concisely described, while a chapter is devoted to Leontiasis Ossea, Acromegaly, and Osteitis Deformans. In the chapter on Diseases of the Temporo-mandibular Articulation the author has overlooked hypertrophy of the condyle. In dealing with fixity of the mandible we must disagree with the statement "that the pressure which it [the third molar] exerts upon neighbouring parts produces a reflex tonic spasm of the masseter and internal pterygoid muscles." Such a condition due to tooth irritation if it occurs at all is extremely rare. The closure of the jaws is the result of inflammatory exudation into the tissues and the interference with the movement of the mandible passes away gradually and not suddenly in such cases. The treatment suggested—namely, opening the mouth with a screw-gag under the influence of *chloroform*—is certainly not to be recommended. The use of this dangerous anæsthetic in such cases is quite uncalled-for, nitrous oxide gas or ether in practice proving quite sufficient. The chapter on Stomatitis is well arranged, as also are the sections of the book dealing with Syphilitic, Tuberculous, and Parasitic Affections of the Mouth. Diseases of the Lips, Cheeks, Floor of the Mouth, and Salivary Glands are described and in addition there are two chapters on Foreign Bodies in the Upper Air and Food Passages and Operations on the Upper Air and Food Passages. Altogether Mr. Roughton is to be congratulated on this excellent text-book.

LIBRARY TABLE.

Hygiene for Students and Nurses. By JOHN GLAISTER, M.D., D.P.H. Camb. London: The Scientific Press, Limited. 1897.—The larger part of this manual, we see by the preface, originally appeared in serial form. These papers, with certain additions and alterations, are now reprinted as a book which contains enough to make it useful for medical students as well as nurses. It is well arranged. First of all the house is considered generally; then lighting, warming, ventilation, and water-supply; next come personal hygiene and the effects of occupation upon health, the question of clothing being deferred till later; next are treated the all-important subjects of drainage and sewage disposal; clothing is taken next and then are considered the more purely medical subjects of prevention of disease, microbes, climatology, infection, and disinfection. The legal aspects of sanitation are dealt with, and there is a closing chapter on isolation hospitals. The book is written in a very clear and simple manner, so that it should be easily understood, but we think that in a future edition some mention ought to be made of the "Exeter" method of sewage purification by means of bacteria and in the chapter upon disinfectants the use of formaldehyde should certainly be referred to.

Air, Food, and Exercises. By A. RABAGLIATI, M.D., F.R.C.S. Edin. London: Baillière, Tindall, and Cox. 1897. Price 5*s*.—With Dr. Rabagliati's dictum that most people eat too much and also of the wrong matter we are in thorough accord, but as to his ideas upon pathology, or rather etiology, we can only say that at present the weight of evidence is not on his side. That an excess of starchy food is bad for the organism is doubtless true and very likely leads to what Dr. Rabagliati calls "triphthæmia carbonifera," but we should doubt whether herpes, tonsillitis, apoplexy, pneumonia, Bright's disease, and diabetes are all manifestations of this blood change. That the system may be weakened by improper food so that organisms have a fair field for their work is in our opinion a more likely view. However, Dr. Rabagliati's opinions are clearly set out and his thesis is worth reading.

Elementary Physiology for Nurses. By C. F. MARSHALL, M.D., F.R.C.S. London: The Scientific Press, Limited. 1897. Price 2*s*.—This is an excellent little book and one which does not err in the way that so many elementary books do in trying to teach too much. There is quite enough in it, however, for the class for which the book is intended and the physiological processes are described in a very simple and plain manner, especially the portions dealing with the nervous system.

Elements of Latin. For Students of Medicine and Pharmacy. By GEORGE D. CROTHERS, A.M., M.D., Teacher of Latin and Greek in the St. Joseph (Missouri) High School; Formerly Professor of Latin and Greek in the University of Omaha; and HIRAM H. BICE, A.M., Instructor in Latin and Greek in the Boys' High School of New York City. Price $1.25 net. Philadelphia: The F. A. Davis Co.—A little book constructed upon the Ollendorf system for teaching simple Latin sentences. Medical Latin is proverbially not very good, but we think that the following sentence is even more unclassical than usual. "Medicus vetus liquore plumbi subacetatis diluto curat." Unless "ulcus" or some similar word has been accidentally omitted "vetus" must refer to "medicus" and "vetus" is hardly ever used of persons in the singular. The better word of course is "senex." In the majority of instances, however, the sentences are well chosen and the book will be found very useful by the class of persons for whom it is written.

Sell's Dictionary of the World's Press for 1898 is wider in its scope than its title implies. Apart from the admirable list of newspapers, magazines, and other publications issuing from all parts of the world which are detailed at length and with much useful local memoranda, there is a great deal which must be of value to all classes of readers in the 250 odd pages of miscellaneous information now comprised in the volume—for the first time, we think, this year—not the least valuable of which is the list of treaties of commerce between Great Britain and foreign Powers and the colonies, which it is believed are now published for the first time. Mr. Sell's book may justly be termed the "leviathan of press guides." It consists of some 1500 pages, is published at 7*s*. 6*d*., and may be obtained at 167, Fleet-street.

JOURNALS AND REVIEWS.

Practitioner.—The practical utility of skiagraphy in surgical cases is discussed at some length by Mr. C. T. Dent, who says that when embedded foreign bodies are rendered visible it is often difficult to be perfectly sure on which side of the bones they are lying. Mr. Mackenzie Davidson's method of localisation, however, appears to us to obviate this difficulty. In doubtful dislocations the x rays may absolutely establish the diagnosis, but in injuries about the shoulder they unfortunately give but little assistance. The principal part of Mr. Dent's paper is devoted to fractures of the long bones. Dr. George R. Murray writes on "Aneurism" of the Thoracic Aorta and Mr. P. J. Freyer on the Diagnosis of Stone in the Bladder. The "Hero of Medicine" is William Stokes.

Scottish Medical and Surgical Journal.—Brigade-Surgeon-Lieutenant-Colonel James Arnott concludes his elaborate and interesting contribution on Plague. In a paper on Aseptic Midwifery Dr. Robert Jardine (Glasgow) makes various recommendations of a practical nature which will be read with interest by many. Dr. James Cameron (Edinburgh) mentions that at least twelve cases of typhus fever occurred during the last two months in two Midlothian villages, the infection having been brought from Ballina in Ireland. One of these patients, a girl, thirteen years of age, seems to have been non-febrile, which perhaps means that she had reached the convalescent stage when first seen. There are four other original communications.

Edinburgh Medical Journal.—The opening article is by Mr. Richard Barwell, who writes on Pes Planus and Pes Cavus. Dr. Alexander Morison publishes a first instalment of his Morison Lectures in which he gives much practical information relative to the Golgi-Cajal and other methods of staining nervous tissue. Dr. A. Campbell Clark, of the Lanark County Asylum, describes his experience of the therapeutic value of Spleen Extract. Altogether there are eight original articles.

Dublin Journal of Medical Science.—This number contains five original communications, the first of which is on the Surgery of the Stomach and is by Mr. J. S. M'Ardle. Mr. R. G. Patteson gives an account of Two Cases of Tetanus Successfully Treated by Antitoxin.

Écho du Bien.—This is the first number of a new monthly journal devoted to the proceedings of life-saving and philanthropic associations. The opening article, the author of which is Dr. F. Cogrel, gives some account of "Les Œuvres de Mer," a society formed for the purpose of improving the condition of the men engaged in the cod fishery on the banks off Newfoundland. It is well known that a great many Frenchmen, mostly Bretons, follow this occupation. Dr. Cogrel's description shows that the men's life is a very hard one and that sanitation is not even thought of on board a fishing schooner. The price of the journal is 50c. (5*d*.); the office is at 121, Rue Oberkampf, Paris.

Mercy and Truth.—Mr. F. W. Marshall, of Lao-Ling, North China, mentions the case of a little girl whose foot had to be amputated in consequence of disease of the bones induced by the practice of foot-binding. Variety is given to the pages by the insertion of a hymn written by Dr. Oliver Wendell Holmes for the dedication of a new hospital a Hudson, Wisconsin.

Stethoscope.—This is the name chosen by the students of the Bristol Medical School for their journal, the first number of which appeared in January. The editor has made a very promising commencement.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 19, 1898.

THE Right Hon. J. B. BALFOUR, the Lord Advocate for Scotland in the late Liberal Administration, obtained the eighth place in the private members' ballot list for the Midwives Registration Bill, which is now under his charge. The Bill was introduced to the House of Commons on Feb. 11th when it passed its first reading and is now set down for second reading on May 11th. We understand also that the first place on the list for that day has been secured by Mr. BALFOUR, so that the Bill will now probably come to a division, unless—a contingency which always has to be reckoned with—Government should take the allotted time for Imperial affairs. The names on the back of the Bill, in addition to Mr. BALFOUR'S, so far as we know at present, are those of Mr. EGERTON and Mr. SKEWES-COX, both of whom have on other occasions had charge of substantially the same measure, Mr. COSMO BONSOR, Mr. J. H. JOHNSTONE, Mr. SCHWANN, Mr. WALTER HAZELL, and Mr. TENNANT. There is now no doubt, therefore, that the medical profession is face to face with a new piece of legislation the possibilities of which are far-reaching and important. What the result of the division on the second reading will be we do not attempt to guess; and what influence medical men at this stage of affairs can bring to bear upon Parliament, either by way of furthering or by way of preventing the second reading, is not very easy to gauge; but one thing is certain—the time for making up our minds with regard to the merits or demerits of the Bill has now come. We should add that Mr. BALFOUR'S Bill is the same Bill as was introduced in the House of Commons in February, 1897, by Mr. EGERTON, the text of which will be found in full in the issue of THE LANCET of Feb. 20th, 1897, p. 544. We recommend our readers to peruse the Bill carefully, for no one should express opinions on its merits or demerits without taking the trouble to master its provisions. Yet we have known this to be done.

It is universally allowed that the present system, whereby any woman, however ignorant, may attend another woman in childbed without any check being imposed on the possibility that she may not only kill the patient but constitute herself a focus for the spreading of puerperal fever, is one that requires a remedy. We are in the habit of talking of a Midwives Registration Bill as a bill for the relief of the sick poor, but a bill with such an object as this works directly as well as indirectly for the good of all classes. By the present Bill, which is stated in its memorandum to have been chiefly designed in order "to enable the public, and especially such of the poor as are in the habit of employing midwives, to distinguish between those midwives who have been trained and have given evidence of being competent for their duties and those who have not," it is certainly hoped to obviate the occurrence of gross cases of malpraxis and criminal carelessness examples of which we have occasionally chronicled in our pages, and in so far as this is the design of the Bill it deserves and has our support. But that support is very qualified, for we are not sure that the Bill will effect its avowed object, while it opens the door to abuses which may in the aggregate be worse for the public than the evils it proposes to remove, even if they are not so sensational in particular instances. Immediately we leave the pious aspirations of the memorandum and come down to details we are involved in practical difficulties for the solution of which the Bill offers in its phraseology or its provisions no facilities. Midwives always have existed and always will exist, and women, especially among the poorer class of the community, will continue to be attended by a midwife instead of a medical man, a choice which, though it may appear to well-regulated minds very foolish, must be reckoned with in dealing with the question and may be dictated by pecuniary considerations. This point is not in dispute at all: the question is how shall there be provided for those who require them midwives who shall be at the same time adequately instructed and properly subordinated to the medical profession? An Act is required which will on the one hand protect the poor from the ignorant, dirty, and degraded practices of certain so-called midwives and on the other will be able to supply an order of midwifery nurses who will not trespass upon the proper precincts of medical practice—who will not, in fact, practise in contravention of the Medical Acts. We look upon the present Midwives Registration Bill as an honest but unsuccessful attempt to arrive at a middle path between the two desiderata. Midwives by it are to be placed on a properly kept register after passing a proper examination. The scope of their duties and the stringency of their examinations are to be settled by a board consisting of twelve registered medical practitioners and six other persons to be appointed by the Privy Council. So far so good. Here we have the instructed midwife receiving her instructions from a board the majority of which is to be composed of medical men. But unfortunately the Bill omits entirely to say what instruction the midwife will receive and *what will be the limits of her sphere*. Not one hint is given as to the line which is to be drawn between the duties of the registered medical practitioner and the duties of the registered midwife. The medical profession is required to take all this, a most important part of the Bill, upon trust, and for our part we advise the medical profession to do nothing of the sort. It is possible to conceive a board, chosen, as this board is to be, by the councils of corporations and public bodies in coöperation with the Privy Council and not by the vote of the medical profession, that would often be at fault over practical points when attempting to decide upon the precise relations that should exist between general practitioners and persons who are to work under them. Before the medical profession can be expected to approve of this Bill it must be shown that the Medical Act of 1858, the Act whereby it is secured "that persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners," will not be contravened by the creation of an order of semi-qualified persons. So far from considering with some of the supporters of the Bill that the proper sphere of the new midwife and her curriculum of scientific education had better be left without Parliamentary discussion to the decision of a board, we consider that it is most important that those matters should be thrashed out at once. They are the essence of the Bill, for on their definition depends the whole question of whether the measure is to protect the poor or to expose the poor to more frequent risks.

Midwives, as we have said, are a recognised institution. The public intend to have them and the talk about dispensing with them entirely is idle nonsense, and remains idle nonsense even when based upon elaborate long-division sums to prove that if all the parturient women were divided up by all the names on the Medical Register there would only be an average of so many cases for every medical man. The quotient is uninteresting because all parturient women do not desire male attendants and all medical men do not desire to attend midwifery cases. The intervention of the midwife must be regarded as necessary, upon which it follows that she must be clean and also that she must not usurp the functions of the medical profession and so endanger the lives of her patients by undertaking work for which she has not received adequate medical and surgical instruction. Under Mr. Balfour's Bill such usurpation may take place—at any rate, all medical men have a right to assume that it may while the legal duties of the new midwife and the range of her education remain in doubt. For this reason, and this alone, we hold that Mr. Balfour's Bill should be resisted by the medical profession, though other points might be adduced, without taking captious exceptions to the wording, to prove that the measure is not very logically conceived. We instance in conclusion two such points. Firstly, the newly registered midwife would at once in great measure take the place of the unqualified assistant whom the General Medical Council's decision has recently doomed to extinction, for everyone knows that the chief use made of the unqualified assistant was as obstetric adjuvant to or substitute for his principal. Secondly, the Bill proposes to register existing midwives who can prove that they have been engaged in practising their art for two years. But if the Bill is required to relieve the poor from the perils incident upon the ministrations of these persons surely it is absurd for the Bill to legalise such ministrations.

The foundation of the Prince of Wales's Fund in commemoration of Her Majesty's most beneficent reign and for the support of the hospitals of the metropolis was an event of the greatest possible interest from many points of view. The Fund and the principles upon which it has been partially distributed are no doubt open to criticism. The Prince himself would be the last person to wish to discourage any criticism on the part of those who have sincerely at heart the welfare and the efficiency of the London hospitals. His own speeches on the occasion of the first annual meeting of the Council of the Fund were those of one who is not misled by the mere name of hospital into blind support of all abuses. But after all criticism may well wait till the virtues of the movement have been fully recognised.

The hospitals of London, like those of the provinces, being properly voluntary institutions for the relief of the sick poor when seriously diseased or suffering from the effects of bad accidents, owing to some want of thought or to misunderstanding on the part of the public, have come into a position of grave financial embarrassment, compelling a closure of wards that reduces their usefulness greatly. Their expenditure has exceeded their income, according to the Prince's estimate, by £70,000 a year. In many hospitals whole wards are closed, and one most meritorious institution, associated with some of the best work and most brilliant teachers of medicine, owes debts to its bankers or its tradesmen to the amount of £13,000. His Royal Highness saw in the circumstances of Her Majesty's Diamond Jubilee a chance for raising a Fund that would diminish this load of debt, and with the practical benevolence which characterises him threw himself into the promotion of a Hospital Fund as a most fit way of commemorating a reign conspicuous for its progress in humanity and in knowledge of medicine. He hoped to secure, mainly from those who had never systematically contributed to hospitals, from £100,000 to £150,000 a year. The result is that he has received up to Dec. 31st, 1897, £227,553 12*s*. 5*d*. Speaking roughly—for we have not been favoured with a report—this sum is made up of donations and annual subscriptions amounting to, say, £187,553 12*s*. 5*d*. and of the proceeds of the sale of hospital stamps amounting to about £40,000. The Distribution Committee have recommended the allocation to "the principal hospitals" of special grants of £22,050 and a gift to all hospitals on the basis of the Hospital Sunday Fund of £34,776 5*s*., making in all for the past year a gift of £56,826, the rest being invested. It is hoped that the annual subscriptions, amounting to £21,536, will be continued or increased, which sum with the interest on investments will be devoted as a yearly grant to the "deserving" hospitals. A very noticeable feature of the recent meeting of the Council of the Prince of Wales's Fund was the passing of a resolution, moved by Sir William MacCormac and seconded by the Rev. J. Guinness Rogers, appointing a committee of inquiry "to visit personally and examine the various hospitals of the metropolis with a view of ascertaining their present condition, needs, and merits for the allocation of the funds of 1898." The Prince spoke of this resolution as "perhaps the most important matter which we have before us to-day. ...... It will take time, of course, but I do not think it possible for us to keep to our original idea—i.e., *to assist the most deserving hospitals only—unless it is made quite clear to us which hospitals are deserving and which are managed in a proper way*." These are words that have the practical ring about them that characterises the Prince when he undertakes a cause. It cannot be denied that they commit the Council to a large and difficult undertaking. But it is high time that some body having the right and having the ability should undertake an inquiry into the management of hospitals. It is the more incumbent on the Prince's Council as the Council has formally declined to give its support to the creation of a Central Hospital Board, which might have undertaken such a duty with due respect to the governing bodies of the individual hospitals. When the magnitude and delicacy of the task are realised His Royal Highness may come to doubt whether his own somewhat small Council is able to undertake the whole of it. Possibly he may think well to seek the coöperation of the managers of the Hospital Sunday Fund, who have hitherto been singularly fearful of such inquiries. Perhaps the earnestness of the PRINCE and the greater courage of his Council may stimulate the older body to a more grave recognition of its responsibilities. The words of His Royal Highness which we have italicised above will certainly lead the public to expect guidance in their support of hospitals.

We are not disposed to be critical where there is so much to praise. We are not satisfied with the amount raised and it would be plausible to say that the sum would have been larger if different classes had been appealed to and if the effort had been limited to one year—a year which in its stimulus to all that is good can never be equalled in the time of the present generation. In our judgment hospitals must rely for their main support on the rich, on the comfortable, on those who do not need them and who, out of gratitude and out of their accumulations, can easily meet the needs of those who are poor and uncomfortable and without provision at home for the treatment of grave disease or accident. The appeal for small sums has had a belittling effect on a great movement and many people who could have given large ones have taken the cue from an appeal that was meant for others. The result is undoubtedly disappointing. But it is not the PRINCE'S fault, whose goodness and influence have never been better employed than on the present occasion. The cause of voluntary hospitals has secured in him a friend who will not be content with any ineffective help. More time must be given before judging what the PRINCE OF WALES'S Fund will really effect for hospitals; but its present comparative failure will not exhaust the efforts of His Royal Highness or make him less resolute to see that the hospitals of London are placed on a sound financial basis and administered on lines honourable alike to the rich and to the poor.

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THE case of ORMEROD *v.* the Corporation of Rochdale, which has just been the subject of a decision by Mr. Justice BRUCE, raises a number of important considerations in connexion with the duties and powers of medical officers of health in the seizure and condemnation of meat that is in their opinion unfit for food. In the case in question the health officer, the inspector of nuisances, and a veterinary surgeon attached to the Corporation of Rochdale all gave evidence to the effect that part of a carcase of a cow which had been seized on the authority of the health officer was unfit for food and it would appear that the owner of the carcase assented to its seizure. But before the carcase was destroyed the owner had an opportunity of getting the opinion of three other veterinary surgeons to the effect that the carcase was fit for human food and ought not to have been seized or destroyed.

The Rochdale case is one in which the carcase was that of an animal which had suffered from pleurisy and perhaps also from pneumonia; but difficulties of a precisely similar sort have constantly arisen when the seizure has been effected on account of tuberculosis. The Public Health Act, 1875, gives absolute discretion to the medical officer of health to seize meat if in his opinion it is "diseased, unsound, or unwholesome," but it reserves the power of actual condemnation to the magistrate. As a matter of practice, however, far more than nine-tenths of the meat seized never comes under magisterial condemnation, the butchers accepting the decision of the health officer rather than running the risk of publicity in open court. This presents the first element of difficulty in the Rochdale case—namely, did the butcher consent to the seizure and destruction of the carcase? This point may be the subject of further litigation and hence on this occasion we would only observe with regard to it that no medical officer of health should ever accept anything short of a written assent on the part of the owner of an unsound carcase to its seizure and destruction; indeed, it is not unusual for such officers to carry about with them forms ready prepared for signature.

When the Rochdale case came before the Manchester assizes the jury decided adversely to the view of the corporation and their officers who had declared that the meat was unsound and they awarded the plaintiff butcher £50 damages. Then arose a second difficulty. The corporation maintained that no action could lie against them because they were compelled under the Public Health Act to appoint a medical officer of health and because Section 116 of the same Act gave that officer absolute power to act on his own opinion as regards the seizure of meat. They therefore were not responsible for action taken by him under statutory powers specially conferred on him. On this point Mr. Justice BRUCE reserved judgment, but he has now decided that the corporation were responsible for the action of their officer, that as a matter of fact he acted in obedience to regulations the corporation had themselves laid down, and that he acted wrongfully in not adopting the statutory method of securing the destruction of the carcase on a magisterial decision. But from the report before us it would appear that this decision was given against the corporation partly because that body retained the power to remove their health officer on a three months' notice and to determine his salary and also that he had been appointed by the corporation to carry out regulations they themselves had laid down. It was also implied in the judgment that the matter might have been viewed from a different standpoint if the salary of the medical officer of health had been partly paid under an order of the Local Government Board and if the power to appoint and remove the officer had been subject to the control of the central authority. This seems to imply that a sanitary authority might possibly, under the latter circumstances, disclaim responsibility for the action of their officer and that the officer himself would be responsible in damages whenever his opinion was overruled. This aspect of affairs may turn out to be a very serious one for medical officers of health, but it would be improper to discuss it further in connexion with the Rochdale case because leave has been given to the corporation to appeal against the judgment of Mr. Justice BRUCE and it is not yet clear what the points are as to which the appeal will be directed. But in the meantime it will be well for medical officers of health to act either very strictly within the letter of the law or to obtain the written sanction of butchers and salesmen whose meat they seize before destroying it or otherwise preventing its being used for food.

Annotations.

"Ne quid nimis."

THE QUEEN'S VISIT TO NETLEY.

ON Friday, the 11th inst., Her Majesty the Queen, accompanied by the Princesses Henry and Louis of Battenberg, visited the Royal Victoria Hospital, Netley, as recorded in detail in another column. The primary object of the visit was to inspect and sympathise with the wounded soldiers from the North-west Frontier of India, but as up to this date only a comparatively small number of the sick and wounded from the front have arrived at our great base hospital Her Majesty was pleased to express her wish to see as many of the patients in hospital from all parts of her dominions as the time apportioned to her visit would allow. On the day of the Queen's inspection the number of men in hospital was rather less than 400, but during the next two months some hundreds of patients are expected from India, many of whom have been wounded in action or invalided from the seat of the frontier war. The Queen arrived at the north-west door of the hospital at 12.20 P.M.; she was received by Surgeon-Major-General Nash and his staff and was conducted round both the surgical and medical divisions of the hospital. The Queen's visit lasted over an hour, and before leaving the precincts of the building Her Majesty was pleased to express her entire satisfaction to the Principal Medical Officer. We hear that it is not unlikely that H.R.H. the Prince of Wales may visit the hospital at no distant date. The last time the Queen inspected at Netley was in May, 1885, when she decorated many of the men who had been wounded in the Egyptian campaign.

RESPONSIBILITY IN ADMINISTERING AN ANÆSTHETIC.

A DISCUSSION has been carried on in a provincial lay contemporary upon the question — Who is responsible in practice for the conduct of the administration of an anæsthetic? Several deaths occurred at a provincial hospital and upon these the local press, it appears, commented. The question of such responsibility is, however, one which has a much wider interest and importance. Usually the patient admitted into a hospital is received by a resident house surgeon or medical officer, who examines his condition and reports to his superior, the visiting surgeon. When an operation becomes imperative the latter decides upon it and an administrator of the anæsthetic comes upon the scene. He may be a house surgeon, senior student, or a special officer, a member of the staff specially appointed to give all anæsthetics. Who now decides upon what anæsthetic is to be given, what method employed and in extreme cases whether or not any anæsthetic shall be given? A hospital surgeon of long standing and wide experience, in commenting upon the subject, contends that these questions lie solely within the province of the surgeon in charge of the case, upon the ground that he, and he only, has the opportunity of studying the case and so is the best qualified to sit in judgment upon the points at issue. Upon the other hand, a gentleman in general practice writes that, at least as regards private practice, he considers the surgeon as the least competent, since the family doctor, he alleges, knows all about the patient, while the surgeon views him wholly from the standpoint of his surgical malady. Probably much may be said on either side. Certainly in cases when special anæsthetists are called in the problem is more complex than when the surgeon calls upon a house surgeon to give chloroform and also occasionally to assist him at the same time. If competent medical men who devote themselves to the study of what is admittedly a large subject and one not free from special difficulties and requiring some special training are found willing to practise solely in the capacity of anæsthetist—and that such is the case is shown in the past by the valuable work of such men as Snow and Clover—it becomes a grave question whether or not they should be regarded as mere experts in the methods of giving an anæsthetic and accepting no responsibility beyond that involved in the technique of their calling, or whether, on the other hand, they have a right to determine what anæsthetic is best in any given case under any given condition. It is urged on behalf of the anæsthetists with some show of reason that when an expert is called upon to give the anæsthetic, with him should rest the onus of selecting an appropriate anæsthetic and the responsibility of giving it in such a manner as to impede as little as possible the manipulation of the surgeon and afford the patient the greatest chance of getting safely through the operation. In all cases of special doubt or difficulty a consultation between the administrator and the operator should enable the former to examine the patient and ascertain the surgeon's views and wishes.

MELANCHOLIA AND NEGLECT.

AT the recent winter assizes held at Oxford a man named Frederick James Bayzaud, aged fifty-two years, formerly a college servant, was indicted for the manslaughter of his wife. In charging the grand jury Mr. Justice Day, the presiding judge, commented on the peculiar features connected with the case and remarked that in all his experience it had not fallen to his lot to try a case of a similar nature. Husband and wife appear to have lived happily together until 1896, when the latter became despondent and negligent, the result apparently of adverse circumstances. In November, 1896, their home was broken up and they went to reside with the husband's sister. A fortnight later Mrs. Bayzaud took to bed and never afterwards left it. At this time there was no suggestion of bodily illness, but she was evidently suffering from mental depression. No more was heard of her until Aug. 17th, 1897, when a nurse, Mrs. Cox, was called in to render assistance. The nurse found the patient in a dirty and neglected condition and she refused to interfere until the woman had been seen by a medical man. Thereupon Mr. Rivers Willson was sent for. He impressed upon the husband the necessity of cleanliness and proper nourishment. At the expiration of a few days' attendance he was told not to return as they were unable to pay his fees. Under the care of the nurse the patient improved, but the nurse left after a short stay. From Aug. 27th until Dec. 1st, 1897, neither medical man nor nurse was called in, but on the latter date the services of Mr. Willson and the nurse were again requisitioned. Mr. Willson found the patient dirty and emaciated and suffering from bed-sores. He again impressed on the husband the necessity of cleanliness, proper nursing, and proper liquid food and informed him that if they could not be procured it was his duty to apply to the parish authorities, but no such application was made. An application was made, however, to have the patient certified to be insane. With this view Mr. Hitchings saw the woman on Dec. 3rd, but he was unable to grant the necessary certificate; he suggested, however, that she should be sent to the Union Infirmary for further observation. The husband agreed, but failed to carry out his promise. He endeavoured to get his wife into the Home for Incurables, but unfortunately there was no room. The nurse for family reasons left on Dec. 3rd, after receiving the husband's promise to look after his wife and apply the necessary dressings. The woman died on Dec. 23rd. An inquest was held. The post-mortem examination revealed marked emaciation (the body weighing only 53 lb.), opacity of the membranes of the brain, tuberculous disease of both lungs, and several large bed-sores. The prosecution sought to establish that the woman's death had been accelerated by culpable neglect on the part of the husband. The nurse gave evidence as to the extremely filthy and neglected condition of the deceased and her surroundings. Mr. Rivers Willson was of opinion that death was hastened by want of proper feeding, cleansing, and nursing, and in this view he was supported by Dr. Collier, who stated that having heard the evidence he was of opinion that death resulted from three factors—viz., the mental condition, disease of the lungs, and neglect of proper nursing and feeding aided by the bed-sores. This witness did not see deceased either before or after death. Mr. Hitchings thought that the immediate cause of death was exhaustion from the discharge of the bed-sores and that her filthy condition would aggravate the sores. The defence set up was that the woman was suffering from melancholia and that the emaciation and bed-sores were the direct result of this disease. In support of this plea Mr. Sankey, of the Littlemore Lunatic Asylum, gave his opinion that the deceased died from melancholia, which was an insidious disease causing its victims to become negligent and emaciated. In cross-examination this witness stated that although the woman lay in bed unwashed for ten months it would not hasten the inevitable end and further that her condition would not necessarily hasten death. Three other medical witnesses testified that in their opinion death resulted from melancholia. The judge summed up rather in favour of the prisoner. The jury returned a verdict of "Not guilty" of manslaughter, but added a rider to the effect that there had been great neglect on the part of the husband. The whole case is a distressing and unsavoury one. It seems a pity that the poor woman was not removed to a public institution. The case was apparently one of aggravated melancholia or perhaps mental stupor, with which emaciation is often associated. The occurrence of the bed-sores might have been prevented by the exercise of proper care and attention, of which there was a sad lack on the husband's part. The marvel is that considering her surroundings the woman lived so long.

THE BOARD OF HEALTH IN NEW YORK CITY.

FOR some time past the majority of medical men in New York City have felt dissatisfied with many of the methods employed by the Board of Health. The fact is not denied that much good has been effected and that on the whole the sanitary condition of the city has been greatly improved within the past four years, mainly owing to the strict enforcement of the useful regulations of the board; on the other hand, it is considered that some of its regulations are not only useless but troublesome and even mischievous and that it has been granted by the legislature powers altogether too autocractic. For example, the late board took a stand on the question of the contagiousness of tuberculosis wholly at variance with the views of the greater part of the physicians of the city. Under its régime and under the regulations still existing it is made the duty of medical practitioners to report to the Board of Health every case of tuberculosis met with just as they would a case of small-pox, and further, another regulation requires every physician under penalty to report to the board the name of any other physician whom he has reason to believe has a patient under his care suffering from some tuberculous trouble, thus virtually making every medical man a spy upon the other. Again, the board not only manufactures antitoxin and vaccine virus, but sells it at cost price or below not only to the inhabitants of New York but to outsiders. Against these regulations a most emphatic protest was entered some time ago by the members of the New York County Medical Society (including among their numbers most of the profession in New York) on the grounds that the regulations in reference to tuberculosis were unnecessary and humiliating, while those relating to the sale of antitoxin and vaccine virus were objected to on the broad grounds that a municipality should not enter into business competition with its citizens. The classification of tuberculosis was characterised by a member of the County Medical Society as a step backward and a return to methods which were abandoned after a long trial in Europe more than a century ago. The medical profession of New York, therefore, have deemed it expedient to endeavour to curtail somewhat the arbitrary powers of the Board of Health and to have the obnoxious regulations abolished and to that end a Bill has been framed and presented to the legislature. It is explained that the Bill does not attack the board itself or wish to impair its demonstrated usefulness, but is simply aimed against the methods in which it has sometimes exercised its immense powers. It is not intended to prevent the preparation or use of vaccine by the department, but does propose to prevent its sale. It also restricts in a measure the preparation of antitoxins and withdraws the board's right to sell them. The sections of the charter relating to the Board of Health do not define the diseases that shall be considered contagious or pestilential; this has hitherto been left to the discretion of the board. In the Bill now before the legislature these diseases are specifically named.

THE OUTBREAK OF ILLNESS AT HATTON ASYLUM.

As all our readers have learned from us or different sources the attendants' ball at Hatton Asylum, Warwickshire, was held on Jan. 21st, and from the Sunday onwards the greater number of those who were present were seized with an illness characterised by severe abdominal pain, vomiting and diarrhœa. One death occurred, that of a "head nurse." Local opinion was greatly divided as to the nature of the malady, some of the medical men attributing it to some form of poisoning, whilst others declared that it was an outbreak of influenza with marked abdominal symptoms. The case for the poisoning theory rested on the coincidence that nearly all the cases appeared to occur shortly after the ball and in all but one instance (so far recorded) in those who had partaken of food within the asylum. It is natural that the asylum authorities should deny that the food-supply was tainted or in any way tampered with by the patients who assisted in the kitchen, as has been suggested. But the possibility that the food-stuff might have been affected and yet that this condition might not have been detected by the cooks is evident from Dr. Sidney Martin's remarks in Allbutt's "System of Medicine" (vol. ii., p. 789):—"Moreover, it is known from experiment that the inert toxic products of putrefaction are present in the earlier and not in the later (foul-smelling) stages of the process." The fact that in some of the persons attacked the symptoms did not set in until some days after the ball was greatly against the theory. The very explicit letter from Dr. Miller which we published in THE LANCET of Feb. 12th, p. 467, amply corroborated the opinion which we had previously formed. He pointed out that if the epidemic was due to ptomaine poisoning it was evident that all the food was in a diseased state, even to the jelly and the blancmange. We are glad that such a satisfactory explanation of the "mysterious epidemic" has been forthcoming from a trustworthy source.

KISSING THE BOOK.

AN interesting passage in support of the remarks which we have made from time to time upon this subject is to be found in the annual report of a medical officer of health, Mr. F. D. Lys, to his district council—namely, that of Wareham and Purbeck. Mr. Lys says: "The death of a police constable at Coombe in the parish of Langton in January was registered as due to acute ulceration of the throat and there is every reason to attribute his fatal illness to the dangerous practice, from a sanitary point of view, of kissing the book in being sworn. He had attended the sessions at Wareham and given evidence within a few hours of the commencement of the attack. The sanitary state of his cottage was satisfactory and the water-supply was proved by analysis to be excellent." This unfortunate case affords one more argument, and that a strong one, for doing away with a repulsive and useless custom. As we have so many times said before, either (and far preferably) the Scotch form of oath ought to be adhered to or if the book must be employed the laying of the hand upon it while repeating the words of the oath ought to be considered sufficient.

THE LONDON SCHOOL BOARD AND THE EXCLUSION OF CHILDREN FROM SCHOOL.

MR. HARRIS, the medical officer of health of Islington, discusses in his quarterly report for the third quarter of 1897 the manner in which certain regulations issued by the London School Board are carried out in practice. Regulation No. 148, paragraph iv., of the "Code of Regulations and Instructions for the Guidance of Managers, Correspondents, and Teachers" reads as follows: "Children excluded because of infectious disease or because of infectious disease in their homes, as defined in the 4th paragraph of Section III., must not be allowed to return to school unless a certificate has been received from the medical officer of health stating that the premises are free from infection. Head teachers will note that the certificate forwarded by the medical officer of health merely states that the premises from which the children come are free from infection, and does not certify that the children are in a condition to be permitted to resume attendance at school, for it may be that, though the premises are free from infection, the children coming from such premises may be sickening for an infectious disease. It will be necessary, therefore, for a further period of seven days to elapse, before the return of such children to school, unless the medical officer of health shall specially certify that a longer period is necessary." The provision here set forth remains in practice a dead letter—at least, this is Mr. Harris's contention. He thinks that the visitors and teachers who have so much at heart the attendance of the scholars evidently overlook this very sensible precaution, and he considers that there should be some person whose duty it is to see that the rules are faithfully carried out. We can offer no opinion as to whether or not the rule in question is carried out, but if it is not some reform should be brought about. Government solely on paper is both eminently misleading and unsatisfactory, and it is difficult to draw any legitimate inferences from a regulation which may or may not be in operation. This question of the adequate control of infectious disease among the school-attending population of London is clearly reaching a somewhat acute phase, and we notice that at the meeting of the Metropolitan Branch of the Society of Medical Officers of Health which is to be held to-night the question of the relationship between medical officers of health and the School Board for London in connexion with this matter will receive consideration. It appears, too, that the council will submit a report recommending that a communication be sent to the School Board pointing out that medical officers of health will be compelled in future to more frequently exercise their power of recommending the closure of schools if the Board does not coöperate with them in the prevention of infectious disease.

DIPHTHERIA MORTALITY IN GERMANY.

THE Imperial Statistical Office has recently published the returns of the causes of death in the towns of Germany of more than 15,000 inhabitants from the year 1885 to the year 1895. These returns show that from 1885 to 1894 there were 119,038 deaths from diphtheria or croup, the average number thus being 11,904 per annum. The maximum was reached in 1893 by 15,860 deaths and the minimum in 1888 by 9934 deaths. In 1895, when diphtheria antitoxin was first used on a considerable scale, the deaths went down to 7266. The diphtheria death-rate was 10·69 per 10,000 of the population in the preceding ten years and only 5·4 in 1895, so that the mortality had fallen 49·48 per cent. Of 100 deaths 4·53 were caused by diphtheria from 1885 to 1894 and only 2·53 in 1895. The decrease of the death-rate from diphtheria was almost uniform in every district of the empire; the prevalence of the disease was, however, about the same as it had been for the last twenty years, and it is therefore unquestionable that the serum treatment has had the effect of producing a remarkable improvement.

MEDICAL OFFICERS AND BOARDS OF GUARDIANS: A VERY HARD CASE.

A CASE of great interest to Poor-law medical officers has just been decided at Stowmarket county court. Dr. Orby R. M. Wood claimed the sum of £2 from the Stowmarket guardians for medical attendance in accordance with the order of their relieving officer. The plaintiff's solicitor (Mr. A. F. Vulliamy), instructed by the Medical Defence Union, stated that in March last Dr. Wood, one of the district medical officers, received an order from the relieving officer to attend on Mrs. Brinckley, who was on the eve of confinement. He attended her for a period of six weeks, inflammation of the veins of the legs having supervened. The guardians refused to pay the bill on the ground that the order was not a midwifery one. Mr. H. E. Wilkes, for the guardians, urged that the claim was barred because it had not been paid within the six months in which it was incurred. Mr. Wilkes also contended that the guardians could not pay because this was not marked on the order as a midwifery case. His Honour said if the medical officer attended upon the order he got no pay and if he did not attend he came in for a censure from the press. This was one of the shabbiest defences he had ever heard. His Honour in giving his reserved judgment stated that the defendants were bound by the act of the relieving officer and that they could not evade payment of the fee on the ground that the order was not a midwifery one. "I do not think," continued the judge, "the plaintiff established his claim to the £2, as the case was not, in my opinion, one of the greatest difficulty or requiring long subsequent attendance." On the matter of dates he thought the plaintiff must fail. The Act 22 & 23 Vict. c. 49 and 51 says that claims must be paid within the half year in which the same have been incurred or within three months afterwards. The half-year ended on Sept. 29th, therefore the plaintiff had up to Dec. 29th to get paid. But he never issued his summons until Dec. 24th at which date there was no court sitting until Jan. 21st so that he could not get paid by Dec. 29th. Judgment would therefore be for the defendants, but without costs. Leave, however, was given to appeal. It seems a very hard case. Dr. Wood was nonsuited because he did not enter a summons against the guardians until Dec. 24th. As Dec. 29th was the latest day by which he could get paid and no court sat until Jan. 21st he lost his action. But Dr. Wood had previously sent in two claims for his fee. The first was sent in within a month of March 2nd and the second within a fortnight from the first Apparently then those who owe money have only to refuse payment upon a demand and persist in the refusal until the legal time for payment is up, after which the creditor may whistle for his money. We await the result of the appeal, if one is entered, with interest.

THE GARBAGE-MONGER.

AT the Guildhall, on Saturday, Feb. 11th, Joseph Philip Green, innkeeper, of Bottisham, Cambridgeshire, was summoned for sending four pieces of diseased meat to the Central Meat Market intending them for sale as human food. Dr. Sedgwick Saunders described the meat as being in an abominable condition. Inspector Sampson, of the Cambridgeshire police, who served the condemnation upon the defendant, said that Green told him that he had eaten some of the meat himself. The defendant said he thought the meat was fit for food. Evidence was given that the defendant had left Bottisham without leaving any address and his goods were removed in a wrong name to Greenwich. The alderman sentenced him to three months' hard labour. Anyone who sells or tries to sell diseased meat or putrid fruit or fish or anything of the sort should be made to post a notice of his conviction upon his place of business. The same punishment should be meted out to adulterators of foodstuffs, a species of fraud which will never be stopped by such shilly-shallying Bills as the one which may or may not be discussed by the House of Commons this session.

A NURSING HOMILY.

THE Hon. Sydney Holland, it is pleasant to note, takes his duties as chairman of the London Hospital very seriously and in "two lectures to the nurses" which have been issued in pamphlet form he does his best to impress upon them the qualities that go to make a "good nurse" as well as to point the ideals to which they should strive to attain. Naturally enough his remarks are strongly tinged with commendation of the system of training in vogue at the London Hospital and it is very evident that under his direction and that of the lady who has so long and ably served at the head of the nursing department no efforts are spared to make that training thorough and the life of the hospital nurse agreeable. In his homely advice—some of which seems almost too obvious to need enforcing—Mr. Holland gives many practical hints which his audience doubtless appreciated, whilst he inculcates the importance of sympathy and unselfishness as the keynote of the nursing vocation. The lectures constitute a "lay sermon" which, coming from the official head of the hospital, was, we may be sure, listened to with attention, and there is certainly this to be said for it that it abounds in sterling common sense and is free from any approach to sentimentalism. It places the nurses' calling in its rightful position and will doubtless in its present form be perused with interest as well as profit by those engaged in this pursuit who have not enjoyed the privilege of being trained in an institution presided over by a gentleman who so sympathetically and earnestly enters into their life and duties. The publication will save the necessity of the example set by Mr. Holland being followed by others who occupy similar positions, for few, we imagine, would be equally competent for the task. Besides, if this were to be regarded as an essential part of the chairman's *rôle* many would shrink from such an undertaking by the side of which matters of finance and management would seem quite trivial.

A DISINFECTED NEWSPAPER.

ENTERPRISE and ingenuity are not wanting nowadays amongst the proprietors of newspapers, but a departure recently taken by a "northern daily" is certainly novel if not of any practical good. Impressed by the scare caused by an outbreak of small-pox the proprietors of the newspaper referred to have arranged to have impregnated, so it is stated, each issue of the paper with a disinfectant. The publisher thinks that he has thus converted the daily issue of his paper "into an agency for the widespread distribution of disinfecting influences and for the provision to all the readers of the means of safeguarding the home and the person." In taking this view he is, as we need hardly tell our readers, mistaken, and it is a pity that such a notion should be disseminated amongst the 60,000 (for this is the stated circulation of the paper) readers. But we fancy the public know by this time that immunity from contagious disease is not to be secured in this way. Such a method would have very little, if any, effect upon the air, the quantity of disinfectant being necessarily very minute. The germs of disease, it cannot be too widely known, are not in the habit, so to speak, of rushing to their own destruction on a surface which is antiseptic. A tray of permanganate or of most of the other disinfectants probably possesses but little influence over the air and to disinfect air and render it permanently sterile drastic methods are required which are for all practical purposes impossible. We submitted a copy of the newspaper to a current of steam in a still and the distilled product evinced a not very marked smell of tar oils. The newspaper may have been made aseptic, but the action of the antiseptic used would extend to no real purpose any further than that. Indeed, there is no useful end gained at all by the course adopted except perhaps to call the attention of the public to the fact and we hope to make them smile at the idea of it being a "safeguard against small-pox."

DEATHS WITHOUT OBVIOUS CAUSES.

ACCORDING to statistics 3000 deaths occur yearly in which the cause of death is uncertified. It is not common, however, to meet with cases in which, in spite of the most careful post-mortem examination, no cause of death can be found. Two remarkable examples were brought before the notice of Mr. Samuel F. Langham, the City and Southwark coroner, quite recently. Two children, brother and sister, aged respectively four years and nineteen months, were the subjects. About the middle of last November the girl was taken suddenly ill and was conveyed to the Evelina Hospital. She was found to be extremely weak and anæmic. Death occurred shortly afterwards. The day following the girl's admission the boy was taken ill, having similar symptoms to those of the girl. He also was conveyed to the hospital but died within twenty-four hours of his sister. A post-mortem examination was made in each case, but no cause of death could be assigned. Portions of the viscera were sent to Dr. Stevenson, but the most elaborate and careful examination failed to show any traces of poisoning. In old days the verdict of "Death by the visitation of God" would probably have been returned, but the jury in these cases returned a verdict that the deceased died at the Evelina Hospital but there was no evidence to show the cause of death in either case. It is well known that death may result from certain accidents, notably blows on the abdomen, without any internal injury being apparent, and the fatal result is supposed to be brought about by some reflex cardiac inhibition through the cœliac plexus. May it not be probable in such cases as we have just described that the cardiac inhibitory apparatus is the ultimate means which brings about the fatal termination? As far as we are aware the exact mode in which such deaths occur has not been worked out, but presumably the cause must be sought in the nervous system.

VENTILATION OF METROPOLITAN RAILWAY TUNNELS.

THAT the atmosphere in the tunnels of the railways of the metropolis is seriously vitiated and is injurious to health admits of no doubt. The state of things need not be described as the evil must be apparent to everyone who makes use of the underground system. From time to time a cry of indignation goes up from the public, but little or no notice is taken of it by the companies and the Board of Trade are powerless to move in the matter except to make suggestions which are never carried out. Is it not time therefore that Parliament should step in and promote a Bill to compel the companies to properly ventilate their tunnels in the interest of public health? We notice that Mr. Robert Cox, M.P., has issued in pamphlet form the memorandum which was submitted to the committee appointed by the Board of Trade, together with a verbatim reprint of the examination of the writer of the memorandum, Mr. James Keith, before the committee as given in their official report to the President of the Board of Trade dated Aug. 3rd, 1897, the whole pamphlet being a strong plea for the mechanical ventilation of the metropolitan railway tunnels. The observations which are made upon the committee's report are worthy of careful attention. If, as has been suggested, the panacea for the evil is to be electricity we may have to wait for another ten or twenty years before that agent as a motive power for heavy traffic can be satisfactorily adopted. Meanwhile, is the health of London to suffer in order that the companies may be saved expense?

HYSTERICAL ISCHURIA: VICARIOUS ELIMINATION OF UREA.

IN the *Progrès Médical* of Feb. 5th, 1898, Professor Guisy, of Athens, has recorded the following extraordinary case. A widow, aged thirty-nine years, had since the severe blow caused by the loss of her husband suffered from nervous attacks especially when worried. She trembled, had noises in the ears, severe headache, fell to the ground, and had hallucinations. One day the death of her eldest boy was announced; one of these attacks came on, after which she suffered from weakness of the legs and loss of sleep and appetite, and she wept continually. A few days afterwards she vomited several times a day and the quantity of urine passed became reduced to about a small teacupful every two or three days. On the eighth day of the suppression of urine a discharge of yellowish liquid with a urinous odour from the nose, eyes, ears and vagina began. When seen by Professor Guisy on the following day a disagreeable urinous odour was perceptible on approaching the patient, the eyes and nostrils were congested and swollen, and from them flowed continually a liquid looking like serum, a little cloudy, with an odour somewhat ammoniacal. From the ears the same liquid flowed but it was very pale. An analysis of the fluid showed 3·64 grammes of urea to the litre, some pus globules, and mucus. The patient continued to vomit; the fluid rejected also had a urinous odour and contained urea. There was neither diaphoresis nor diarrhœa. Hysterical symptoms — anæsthesia, paræsthesia, and pareses — were present. Gradual improvement took place. On the tenth day she vomited only four or five times, on the twelfth she commenced to micturate and passed 150 grammes of urine in twenty-four hours, and on the sixteenth 600 grammes. We consider that this case is in most of its features typical of a rare and little known condition—hysterical ischuria—and in one respect—the vicarious excretion of urea from the nose, ears, conjunctiva, and vagina—unique in medical literature. The question may occur to the reader, Was there not, as often happens in hysteria, deception on the part of the patient? The answer to this is that such an assumption is powerless to explain the most extraordinary feature of the case, for the vicarious urinary excretion was observed by Professor Guisy and the presence of urea demonstrated by chemical analysis. Moreover, as we have said, the case is in many respects typical, and it is not to be supposed that the patient had a scientific knowledge of her complaint. Indeed, the same doubt has been raised on the whole subject. In 1840 Laycock described oliguria and even total suppression of urine as a transient phenomenon. Charcot afterwards termed the condition hysterical ischuria, and vindicated its claim to a place in pathology, from which it had been discarded. Often for several days there is no secretion of urine and repeated vomiting occurs. The vomited matter may present, it is said, the appearance and give the odour of urine. Charcot pointed out that in experiments on animals vicarious elimination of urea from the intestine occurs. As far as we know in man the vicarious excretion of urea has never been proved in these hysterical cases by chemical analysis before, but in Bright's disease urea has been detected in the sweat. As to the explanation of the suppression of urine it is simply an example of functional disturbance which may be produced in any organ in hysteria. The peculiar manner of vicarious excretion will not appear so incredible when it is remembered that the normal functions of the organs which performed it are not more diverse from the renal function than are those of the intestine and skin, which can admittedly excrete urea. In the ears possibly the ceruminous glands were the agents of excretion. It is to be regretted that more detailed observations on this and other points are not given.

THE EYESIGHT OF SCHOOL-CHILDREN.

DURING the last few years the attention of the medical profession and of the public, who are equally interested, has been repeatedly directed to the defects of eyesight prevalent among school-children. This is true not only of our own country, but of America, France, Germany, and probably of most of the other European states. Private investigation as usual has led the way, as witness the efforts in this connexion made by Mr. Brudenell Carter, Mr. Simeon Snell, and others. According to M. Imbert and M. Truc, who have published a paper on the subject in the *Journal de Clinique et de Thérapeutique Infantiles* of Jan. 27th, 1898, the authorities of Montpellier are endeavouring to combat the evil by a process of systematic inspection of the children in the communal schools of that district. This clearly indicates an endeavour to do right. It is of course open to question how far a public authority is entitled to go in relieving the physical necessities of a population. Certainly not, we would say, to the extent of supplanting even by a little the exercise of parental responsibility. As surely, however, does the duty of advice and injunction belong to it in respect of weaknesses, physical, or mental, which are revealed in the ordinary course of school training. In order to ensure the efficient discharge of this duty there need be no elaborate system of inspection. The existing machinery should suffice. A schoolmaster if observant can without much difficulty tell by a child's attitude in the class whether sight is or is not markedly defective. If supplied with a sheet of well-sized test-types he could quickly ascertain with approximate exactness the normal or abnormal character of his pupils' vision at a distance of twenty feet and could refer any cases of defect to parents to procure appropriate medical treatment. Such auxiliary means as the form and position of school-desks, the lighting of schoolrooms, and the type of class-books must be regulated, as they already are, by the common interest of all the scholars. The subject is as wide as it is important, but we are nevertheless of opinion that it is capable of treatment by means which are neither complex nor expensive.

"PURE" DIPHTHERIA.

At a recent meeting of the Société Médicale des Hôpitaux Dr. Barbier communicated the results of his important and laborious researches on the clinical and bacteriological forms of diphtheria. He showed that cases of pure diphtheria due to infection with the bacillus only were clearly distinguishable from cases of modified diphtheria in which the additional infection of other microbes—streptococci, staphylococci, &c.—played a part. As a result he presented a clinical description of diphtheria much simpler and more definite than the existing one which confounds all forms. This pure diphtheria may be observed experimentally in animals in which the bacillus causes simple vaso-constriction and necrosis but never inflammation. But when diphtheria occurs in man it is usually in the modified form, for being but feebly contagious a pre-existing morbid condition of the affected surfaces is generally necessary to enable the disease to install itself. The diphtherias secondary to scarlet fever and measles are examples of this. In only 54 out of 221 cases examined bacteriologically was the diphtheria pure. Pure diphtheria is to be recognised clinically not by the appearance of the membrane but by the state of the throat especially; the mucous membrane is not inflamed but, on the contrary, rather pale, mucous or purulent secretion is absent, and adenopathy is absent or trifling. The temperature is but little elevated; it is at most a little over 100° or 101° F., and this only temporarily. The pulse is always small and rapid. There is little or no albuminuria. However benign may be the appearance of the throat the patients look ill and have a pale, leaden complexion, because they are under the influence of the diphtheria toxin. No matter what may be the extent of the membranes or the multiplicity of the localities attacked, recovery under the influence of antitoxin manifests itself on the day following injection and is completed in two or three days, rarely later. The prognosis is therefore very good. All Dr. Barbier's 54 cases, which included 13 laryngeal cases in which intubation had to be performed, recovered. There is only one danger in this form—extension of the disease to the bronchi, which may lead to suffocation. Dr. Barbier never observed paralysis in any of his cases—a remarkable fact. In modified diphtheria of the throat the mucous membrane is always red, sometimes it bleeds, and the tonsils are always swollen. The inflammation may be limited to the neighbourhood of the false membranes, confined to a part of the mucous membrane—for example, the uvula—or generalised. In the pharynx is seen muco-purulent matter, secreted there or coming from the nose or larynx. In almost all cases the lymphatic glands are enlarged. Though the appearance of the membranes is not characteristic, in most cases, and especially when there is staphylococcic infection, they are rather thick and extensive, and often the odour of the breath indicates decomposition which is caused by saprophytes. The nose is almost always attacked, and whether membrane exists or not there is a discharge, serous, purulent, or hæmorrhagic, containing numerous septic microbes. The temperature is higher than in the purer form—101·3° to 104°. Complications such as broncho-pneumonia, otitis and impetigo frequently occur, and in the worst cases septicæmia.

GONOCOCCI IN THE BLOOD.

Dr. Ahman has described in the *Archiv für Dermatologie und Syphilis* (vol. xxxix, part 3) a case in which gonococci existed in the blood. The patient, who suffered from urethral gonorrhœa complicated with multiple arthritis, tenosynovitis, epididymitis, and nephritis, was liable to feverish attacks, during one of which a Pravaz syringeful of blood was taken from a vein in the arm and this blood when spread over four ascites-fluid agar plates yielded pure cultures of the gonococcus. Dr. Ahman considers that this is the first instance in which general gonorrhœal infection of the system (blennorrhoische Allgemeininfection) has been directly proved, all previous attempts to cultivate gonococci from blood having failed, perhaps because an insufficient quantity of blood was employed.

THE MEDICAL SCHOOL OF CAMBRIDGE UNIVERSITY.

A circular has been addressed by Dr. Clifford Allbutt, the Regius Professor of Physic in the University, to the resident graduates of Cambridge pointing out the remarkable development of the medical and scientific work of the University and the no less remarkable absence of all proper accommodation for carrying on that work. The very existence of the medical school, to quote Dr. Allbutt's forcible words, "is jeopardised by the want of due provision for the ordinary work, and this at a time when in Europe and America schools of medicine, equipped in a way scarcely dreamed of here, are adding persistently to their resources and not only turning out apt pupils but also forwarding the progress in pathology and therapeutics which is so remarkable a feature of the medicine of our own time. To provide the buildings required a sum of at least £20,000 will be needed." Dr. Allbutt's object in sending out his letter to resident members of the Senate is to make the needs of the medical school known, for he feels rightly that many whose official stipends or private means will not enable them to offer great pecuniary assistance will yet be able to extend to one of the most practical and most successful sides of Cambridge education some indirect and valuable aid. A meeting of Cambridge medical graduates will be held in London on March 2nd, when the Vice-Chancellor (Dr. Alexander Hill, Master of Downing College), the Right Honourable A. J. Balfour, and Professor R. C. Jebb (the representative of the University in Parliament), among others, have promised to attend in support of the attempt to raise money for the urgent needs of the medical school. The Regius Professor's letter concludes with two promising pieces of information. The first is that a site for the projected new buildings has been assigned to the authorities of the medical school "almost without discussion"; the second is that the Mercers' Company have already granted a generous donation and that there is good reason for believing that other City companies will follow suit. The following subscriptions towards the new schools are already announced: The Mercers' Company, £1050; Professor Clifford Allbutt, £250; Professor Bradbury, £100; Dr. W. A. Brailey, £20; Mr. F. Deighton, £21; Dr. J. Griffiths, £50; Sir Reginald Hanson, £100 (on condition that nine other non-medical graduates give the same sum); Mr. H. W. Hoffmann, £100; Lady Humphry, £300*; Mr. and Mrs. A. P. Humphry, £200*; Miss Humphry, £100*; Dr. L. Humphry, £100*; and Dr. Donald MacAlister, £50*. The last five donations, which are marked with an asterisk, are to be allocated to such part of the buildings as may be dedicated to the memory of the late Sir George Humphry, to whom the Medical School of Cambridge University owes an inextinguishable debt.

Mr. T. Horlock Bastard, who died on Feb. 12th at his country seat, Charlton Manor, near Blandford, Dorsetshire, at the great age of one hundred and one years, was a man of marked scientific attainments. He had also studied the scholastic systems of foreign countries, being an enthusiast in matters of education. Some years ago he provided a middle-class school in Blandford and he was a supporter of charitable and philanthropic institutions in the district. He retained all his mental faculties to the end of his very long life.

Before the Indian Section of the Society of Arts at the Imperial Institute yesterday (Thursday) afternoon Mr. H. M. Birdwood, C.S.I., delivered an interesting address on the Plague in Bombay. The address was a practical and historical *résumé* of the events of this disastrous epidemic from its commencement to the publication of the report of General Gatacre's Committee,[1] and cannot fail to do good by informing the public of what has really taken place in India.

On Tuesday next, Feb. 22nd, there will be an adjourned discussion at the meeting of the Royal Medical and Chirurgical Society upon Mr. Marmaduke Sheild's paper, "Immunity and Latency after Operations for Reputed Carcinoma of the Breast." Mr. Pearce Gould will continue this interesting debate.

The first Hunterian Society Lecture for 1898 will be given by Mr. H. T. Butlin at the London Institution on Feb. 23rd, at 8.30 P.M. Mr. Butlin's subject is—"What operation can do for Cancer of the Tongue." Members of the profession are invited to attend.

Mr. Pearson Robert Cresswell, F.R.C.S. Edin., senior surgeon to the Merthyr General Hospital and Lieutenant-Colonel Commandant 3rd V.B. Welsh Regiment, has received from the Queen the Companionship of the Bath.

Dr. Louis Parkes will deliver a lecture on Blots in our System of Sanitary Administration: Why Epidemics Occur, on Monday, Feb. 21st, at the Sanitary Institute, Parkes Museum, Margaret street, W.

The Executive Committee of the General Medical Council is summoned to meet on Monday next at 1.30 P.M.; the Penal Cases Committee will meet at 4.30 P.M. of the same day.

H.R.H. **the Duke of York** has graciously consented to be President of the National Society for the Employment of Epileptics.

Bath Eye Infirmary.—The annual meeting of the Bath Eye Infirmary was held on Feb. 7th under the presidency of Mr. Alderman Bartrum. The income from all sources was about £600 and there was a favourable balance of £38. The medical report showed that 262 in-patients had been admitted as contrasted with 405 in 1896. The out-patients numbered 1808.

THE QUEEN'S VISIT TO NETLEY.

> "My work shall answer since I knew the right and did it."—Tennyson.

Among the many noble qualities which have ever characterised Her Majesty the Queen there is none which more endears her to the public than her sympathy with the afflicted and suffering. This has often been displayed in the case of her wounded soldiers on their return to their native land and was recently exemplified in her visit to the Royal Victoria Hospital, Netley, on Friday, the 11th inst., to see and encourage those who have lately been invalided from the North-west Frontier of India and from other parts of her dominions. The effect of this visit by the Queen to the sick and wounded cannot but be gratifying to the whole army and cheering to the sufferers, as showing the warm interest taken in them by Her Majesty and the members of the Royal family. The visit on the present occasion is all the more to be appreciated as it involved a great amount of exertion and personal fatigue on the part of the Queen.

Although Her Majesty desired the visit to be regarded as a private one, the inhabitants of the village near which the great hospital is situated were anxious to show their loyalty, and from an early hour in the morning sightseers poured into Netley from the surrounding districts. A rather foggy early morning was succeeded by brilliant sunshine, and though the wind was rather cold the weather was decidedly good for the time of year.

The Royal party travelled from East Cowes on the Royal yacht *Alberta*, commanded by Rear-Admiral Fullerton, A.D.C., and on arriving at the Clarence Pier at Portsmouth they were met by Admiral Sir Michael Culme-Seymour, Bart., G.C.B., Commander-in-Chief at Portsmouth, and escorted to a special train in readiness. A start was at once made and at 12.10 P.M. the train steamed into Netley Station. On alighting Her Majesty was received by General Davis, C.B., commanding the Southern District, and the following officers:—Colonel Creagh, Assistant-Adjutant-General, in command of the troops stationed at Netley; Brigadier-General the Hon. Henry Crichton, commanding the Hampshire Volunteers; Colonel Auld, A.A.G.; Major Williams, A.A.G.; Major Ward, Chief Constable of Hampshire; and Major Sumner, A.D.C. to General Davis. As the Queen took her seat in her carriage the band of the training ship *Mercury* played the National Anthem and Her Majesty gave them a pleasant smile. The Royal party drove to the Royal Victoria Hospital in open carriages amid hearty cheers and through roads lined by spectators. The route taken was *viâ* Station-road, along the shore and through the hospital grounds. A guard of honour consisting of three officers, one hundred rank and file and the Queen's colour, with the full band of the 2nd Battalion of the Shropshire Light Infantry, was drawn up in front of the hospital, while at the pier head the Royal standard was hoisted. As the Royal carriages approached the band played the National Anthem. Her Majesty, who was accompanied by Princess Beatrice and Princess Louis of Battenberg, and attended by Lady Lytton and the Hon. Mrs. Grant as her ladies-in-waiting, and by Sir Fleetwood Edwards, Colonel Sir H. Byng and Major the Hon. C. Legge as equerries, arrived at the north-west door of the building at twenty minutes past twelve o'clock. There special preparations had been made for Her Majesty to insure ease in alighting from her carriage. Under the directions of Captain C. R Stevens, R.E., a platform covered with red cloth had been run out under the portico and was so arranged that its end could be fitted close up to the carriage at a moment's notice; both the platform and portico were tastefully decorated with shrubs and flowering plants. On arrival Her Majesty was received by General Davis, C.B., who immediately introduced Surgeon-Major-General Nash, M.D. Edin., the Principal Medical Officer at Netley, who in his turn presented the following members of his staff to Her Majesty: Surgeon-Colonel J. Lane Notter, M.D. Dub., Professor of Hygiene in the Army Medical School; Surgeon-Colonel W. F. Stevenson, M.B. Dub., Professor of Military Surgery in the Army Medical School; Brigade-Surgeon-Lieutenant-Colonel W. E. Webb, M.D. Aberd., in charge of the Medical Division of the Hospital; Surgeon-Lieutenant-Colonel W. L. Chester,

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[1] The Lancet, Jan. 22nd, 1898, p. 250.

M.B Dub., in charge of the Army Lunatic Asylum at Netley; Surgeon-Major W. Dick, M.B. Edin, in charge of the Surgical Division of the Hospital; and Surgeon-Major M. Kelly, M.D. R.U.I., his staff officer. Her Majesty then entered her wheeled-chair at the entrance to the corridor of the hospital and, after Surgeon-Major-General Nash had presented Miss Helen Norman, the lady superintendent of nurses at Netley (who was wearing her decorations of the Royal Red Cross and Egyptian medals), was wheeled by her Indian attendant along the corridor as far as the lift. During this short journey she conversed with Surgeon-Major-General Nash, who had the pleasure of telling her that this was the second time he had been on duty at Netley during her visits, for thirty-four years before, when a candidate for Her Majesty's commission, he had had the honour of explaining the nature of the cases in the ward then under his charge. The Queen, Princess Beatrice, Princess Louis of Battenberg, Surgeon-Major-General Nash, and Captain Stevens, R.E., then entered the hydraulic lift, which was draped with Union Jacks and lighted by lamps, and on an order being given by the last-named officer were conveyed to the top floor of the hospital—the surgical division.

On arrival in the surgical section, the Principal Medical Officer inquired from Her Majesty whether she desired only to see the men from the North-west Frontier or all the patients in the division, to which Her Majesty returned the gracious answer that she wished to see as many of those in hospital as the appointed time for her visit would permit. The Queen's chair was then wheeled into each of the wards of the "A" division of the surgical side of the building by her Indian attendant, where she entered into conversation with very many of the men in her kindly, sympathetic manner, offering words of comfort especially to those of the patients who were confined to their beds. On the first occasion when Her Majesty desired to say a few words to a sufferer in bed she alighted from her chair and walked to the bedside to do so, but as it was found possible for the wheeled chair to be brought close alongside the beds such extra fatigue was subsequently spared to Her Majesty. In the wards the Queen was accompanied by the two Princesses and her ladies-in-waiting and occasionally by Sir Fleetwood Edwards, who from time to time reminded the Principal Medical Officer of the all too quickly passing hour. Her Majesty's suite and the rest of the staff remained in the corridors during the visits, following her as she went from ward to ward. Through the surgical wards Her Majesty was conducted by Surgeon-Major-General Nash and Surgeon-Major Dick, who duly explained the nature of the injuries. Her Majesty addressed Private Davis, of the Buffs, and asked if he was getting on well; he was wounded at Inayate Kell by a ball which shattered the right leg, and the limb had been removed below the knee in the field hospital by Surgeon-Major Tyrrell. Private Edwards, of the Royal West Kent Regiment, who was struck by a shot in the cheek on Sept 30th at Agra, the ball passing out at the neck, was asked by the Queen if he suffered much pain, and he replied in the negative. To Private Lever, of the Buffs, who had received a flesh wound of the right thigh at Dubbi, and to whom Princess Beatrice had spoken sympathetically on her previous visit, her Royal Highness said: "You seem to be a little better than when I was last here?" Lever was suffering from rheumatic pains and the Queen coming to his side asked in what engagement he had been wounded, and expressed her sorrow at hearing that he was still suffering. Among the other wounded men to whom the Queen offered sympathetic remarks were Private Meager of the West Kent, who had received a gunshot wound of the right leg by a ball fracturing the fibula, at the engagement of Agra; Private Brodford, of the Royal West Surrey, who was wounded in the left upper arm; Private Hefferman, of the Buffs, also suffering from a bullet-wound of the arm received at Dubbi on Sept. 16th; Private Clipsham, of the Royal West Kent, who had been shot through the spine and right kidney while with General Blood on Oct. 3rd at Badali; and Trooper Peters, of the 7th Hussars, who was wounded in Mashonaland on July 19th, when under the command of Captain Carew at Magoondoo Krall. In the last-named patient special interest was shown, Princess Beatrice reminding the Queen that the trooper belonged to the regiment in which Prince Alexander of Teck, is serving.

When the tour of the surgical division was accomplished it was found that only a quarter of an hour remained, but Her Majesty expressed a wish to see as much of the medical division as possible. Descending by the lift she was met in the medical section by Brigade-Surgeon-Lieutenant-Colonel W. E. Webb, M.D. Aberd., who with the Principal Medical Officer showed the Royal party round six or seven of the wards where the former briefly explained the nature of the cases. The Queen inquired from Surgeon-Major-General Nash at what temperature the wards were usually kept, and remarked that some of them appeared to her to be rather warm. Her Majesty evinced the greatest sympathy with the patients, and in the condition of Trooper Grey, of the 11th Hussars, who is suffering from paralysis, showed much interest. On hearing that Miss Norman, the lady-superintendent of nurses, took special interest in the case, Her Majesty desired that she should come forward. "Have you lost the use of your limbs?" asked the Queen. "Yes, your Majesty," replied the sufferer. "Tell me how it happened," said the Queen. "Through sunstroke whilst marching at Rawal Pindi, your Majesty," he answered. "I have been here two years," he added. Her Majesty, when turning to proceed, remarked, "I do hope you will soon get better." The face of each patient gladdened as his Sovereign addressed him. The feeling way in which the Queen spoke to the men was most touching and must have left an impression that will not be effaced from their memories while life lasts. From the wards which it was found impossible for the Queen to visit those of the patients who were deemed sufficiently convalescent were summoned, being drawn up in line along the corridor out of which the wards open and through which Her Majesty passed in her chair.

The inspection completed the Royal party descended by the lift to the ground floor of the hospital, where, in the lower corridor, Her Majesty was pleased to express to Surgeon-Major-General Nash how satisfied she was at all she had seen and at all the arrangements for the care of the sick and wounded. The Principal Medical Officer expressed his regret to Her Majesty that her visit had not taken place after the arrival of a larger number of men from the North-west Frontier, as some hundreds of men are likely to be admitted to the hospital during the next two months. Accompanied by Surgeon-Major-General Nash, Her Majesty then passed from the hospital, along the platform to her carriage, where he took leave of her. The Royal visit lasted rather more than an hour and during the time the band of the Shropshire Light Infantry played a selection of airs.

The scene outside the hospital was a brilliant one as the Queen passed to her carriage, for the sunbeams were shining and dancing on the Southampton Water, the band played the stately strains so deeply loved, while from the crowds of people in the grounds burst hearty cheers to greet their Sovereign after her gracious act of kindness. On either side of the platform along which the Queen passed were grouped the wives and children of the officers stationed at Netley with a few officers not on duty, the less privileged public being confined to the lawn outside the parallelogram of gravel in front of the hospital, where the men of the Northumberland Fusiliers, under Lieutenant W. H. Wild, kept order. Although Her Majesty appeared well for her years, it was apparent that the spectacle of the sick and wounded had considerably affected her and that the exertion of walking from her chair to the carriage was not unattended with much effort. To many were brought home most vividly her kindness and thoughtfulness in thus coming to express her sympathy with her suffering soldiers.

THE DRAINAGE OF BOMBAY AND BANDORA.

The prevalence of plague at Bombay and in the neighbourhood of that town renders all proposals for dealing with the drainage of this locality more particularly welcome. As the plague spreads but too readily from one place to another such questions are not merely matters of local interest. The habits, however, of the native population render the adoption of a general system of drainage very difficult; and at Bombay there is a further obstacle due to the fact that in several districts it is impossible to obtain a sufficient fall to build self-cleansing sewers. It has consequently been necessary to resort to artificial means. On the western side of the peninsula on which the town of Bombay is built is situated the outfall of the sewage system. This spot is called Love Grove, but there are large sections of the city from which direct gravitation to Love Grove is impossible. Further, these districts are far apart and therefore the sewage of one low-lying section cannot be lifted with that of another low-lying section, but each section must be dealt with separately. Yet to establish in every section a pumping station with a powerful steam-engine to raise the sewage is not very practicable. Suitable sites for these pumping stations would have to be obtained and such sewage pumps would scarcely be considered as ornamental to the town. In any case they would be very costly. The town authorities have therefore resorted to what is considered a cheaper system and which at all events does not present the same inconveniences. They are establishing at Love Grove air-compressing machinery which will supply the power to raise the sewage in the low-lying districts. It is proposed to treat each of these districts as a separate entity, though they are all to be supplied with mechanical force from the one central point. The necessity for the local lifting of sewage arises, as in the Old Racecourse section, from the fact that the ground is below the level of the main collecting sewer, which has its outlet at Love Grove; or because, as in the Mazagon district, there is some high level ground separating that district and the main sewer; or because, as in the Parel district, both these causes render communication by gravitation with the main sewer altogether impossible.

Some years ago air-compressing machinery was built for the Colaba district and it has worked so successfully that a central air-compressing station is now in course of construction at Love Grove and the power there generated will be employed first to raise the sewage of the Mazagon district. Subsequently the system will apparently be extended to the Parel, Old Racecourse, Malabar and Cumballa Hills, Elphinstone reclamation, Fergusson-road, and Chinchpokli districts or sections.

The Mazagon section is to the eastern side of the peninsula, overlooking the harbour, comprising the Kasara basin, several landing stages, &c. It has an area of 405 acres, a population of 21,000, and allowances have been made for a prospective increase of 12,500 more inhabitants. There are numerous cesspools in this district and some flat-bottomed masonry drains that discharge in the Kasara basin and other parts of the harbour. In a word, the drainage of the district is unsatisfactory and unscientific. Of course, flat-bottomed and masonry drains cannot be self-cleansing. Two pneumatic ejectors, to raise the sewage so that it may drain off to the other side of the peninsula and fall into the sea at Love Grove instead of, as at present, into the harbour, will be placed near the Roman Catholic cathedral. These ejectors will have a capacity of 1200 gallons each. Two more ejectors of a capacity of 250 gallons each will be placed in the Port Trust Property near Tank Bandar. The sewage of the Mazagon district will not have to travel far to reach either one or the other of these two ejector stations, therefore a sufficient fall can be given to the sewers to ensure that they shall be self-cleansing. Pipe sewers will be laid, the minimum but general size being nine inches in diameter. The flow is calculated at 6 cubic feet of sewage per head per diem, one-half flowing in eight hours, which is equal for that time to 9 cubic feet per head. Adding 10 per cent. for flushing purposes this would give 1434 gallons per minute. The gradients of most of the 9-in. sewers will be equal to 1 in 154 or more, giving a velocity when half full of 3 ft. 6 in. per second, and of 3 ft. 2 in. when only a quarter full. No gradient is less than 1 in 200, but this only occurs in a very few instances, and it gives a flow of 3 ft. when half full and of 2 ft. 10 in. when a quarter full. To ensure a sufficient supply of water to the sewers there will be 14 flush-tanks and to prevent any stoppage a manhole will be built wherever there is a deviation from the straight line. In no case will there be a distance of more than 200 ft. between any two manholes. The exhaust air from the ejectors will be utilised to induce a current that will serve to ventilate the sewers. The pneumatic ejectors, constructed according to the Shone system, will lift the sewage through a dynamical head equivalent to a vertical height of 47·83 ft. and 43 ft. for the smaller ejectors. From the pneumatic ejectors the sewage will be propelled in sealed iron mains of 16 in. and 8 in. diameter to existing sewers in the Frere-road and the Victoria-road, whence it can flow by gravitation to the outfall at Love Grove. These ejectors, as is well known, are placed underground at the lowest point in the sewage system. They occupy very little room and no more interfere with the traffic or general appearance of a town than, for instance, similar ejectors used for raising the sewage of the Houses of Parliament and which are placed between Westminster Bridge and the Clock Tower. Such is in its broad lines the scheme of drainage proposed and partially adopted for Bombay. Its chief defect rests in the fact that it is only partially applied and is not to be extended at once to all the districts which at present are so imperfectly drained. Of course, it is easy to understand that the town authorities should desire to proceed prudently step by step. But as they have already had a lengthy experience of the system in the Colaba district, as it has also been applied in many English, American and continental towns, and as the opinion of technical authoritirs in Bombay seems to be generally in its favour, there is no very good reason to justify further hesitation. On the other hand, the recurrence of plague renders it very urgent that a proper system of drainage should at once be introduced in, not one, but in all the districts that need such reform.

Though the municipality of Bombay, considering the present distressful conditions, may perhaps be acting somewhat too slowly and prudently, the neighbouring municipality of Bandora is much further behind the times. We have received a report on the sanitation of Bandora prepared by Mr. John Wallace, C.E., giving advice which he describes as "very far from perfection," but which he hopes will in time be improved as people are better educated on such subjects. Mr. Wallace argues that in India a system of sanitation must not be based on an absolute standard taken from text books, but on the present habits of the people. As, however, these habits have endured not for hundreds but for thousands of years if good sanitation must wait till they are altered it is to be feared that any radical improvement is still far out of sight. Mr. Wallace says: "It is quite useless for any governing body to adopt any system of control which they know perfectly well they cannot carry out or a standard of cleanliness and order that they cannot possibly maintain." Undoubtedly perfection will only be attained when an intelligent and enlightened public thoroughly seconds the efforts of the authorities; but how is such intelligence to be developed? The mistake is not in attempting to install a perfect system, but rather in expecting such a system to fully succeed, while the people it is intended to benefit have not yet learned to appreciate its merits. On the other hand, object lessons are by far the most effective method of education, and in England the mass of the people only realised the superiority of sewers over cesspools after sewers had been built. The prosperity of Bandora and its revenues depend on its reputation for salubrity and we are told that the engineering difficulties to be overcome are but slight. Why, then, should half or, indeed, only quarter measures be proposed? We are further informed that there is daily a fluctuation of barometric pressure equal to three-tenths of an inch and that on such occasions a process of breathing goes on in the ground by which air enters and issues from the earth mixed with the gases of decomposition. As the ground at Bandora has a temperature of 80° and as a temperature above 45° facilitates the decomposition of organic matter the importance of preventing contamination of the subsoil becomes obvious.

Mr. Wallace first urges that the water-supply of Bandora should be largely increased, then the main drainage channels ought to be completed. After that proper street gutters should be provided and their contents conveyed to the sea by occasional washing with salt water. So that solid refuse should not be thrown into the gutters depôts or dustbins should be provided. As this work progresses the cesspit should be dug out and filled in with good earth. The 19,000 inhabitants of Bandora produce each an average of 0·24 lb. of solid excreta and 1·51 lb. of liquid. To this Mr. Wallace adds a quarter of a pound of water for ablution and thus estimates the daily total in round figures at 2 lb. each person or 17 tons for the entire population. The solid portion of the night-soil is removed by eighty-nine male and female scavengers, who carry 110 loads daily in old kerosine tins, disposing of the contents along the seashore. As the load weighs about 25 lb. this represents the removal daily of about 2750 lb. of night-soil. But the total solid excreta produced daily amounts to 4560 lb. Mr. Wallace does not propose to do away with this system, but only seeks to render it more efficacious by better discipline and by the employment of soil-carts and improved hand-pails. The solid excreta collected by the scavengers and the contents of the cesspits removed by bullocks in tank carts ought, it is suggested, to be discharged into the tidal current of the creek running to Mahim, and here a pipe should be laid for a distance of 1500 feet to convey the sewage to the tidal current where it would be diluted at a safer distance. But at least some of the sewage could be carted to the neighbouring cultivated land and there converted into market produce as is actually done at Madras. This would be an economy for the cultivators who are now obliged to purchase fish manure. To teach the cultivators the value of town sewage it is proposed that the municipality should establish a model farm near the town.

Mr. Wallace further explains that there are 281 sullage pits within the municipal area of Bandora which receive urine, household water, and solutions of nightsoil. These are emptied at intervals of from one to three days, but as most of them are not watertight a portion of their contents escapes into and befouls the surrounding subsoil. Then only twenty-six loads of this sullage water are removed per day, making a total of 4000 gallons which are discharged into the sea at three different places. Reckoning the average consumption of water four and a half gallons per day, of which four gallons become sullage water, this gives a total of 507 loads of 150 gallons. Of this only 26 loads are removed and 481 loads remain in the town. The foul water that thus remains within the town is not thrown into the sullage pits but out into the streets or lanes where it sinks into the soil. These figures surely denote the utter inefficacy of a system which depends upon carts and manual labour. Were it possible to render such a system effective the army of scavengers that would have to be employed would probably cost as much as a proper system of drainage by sewers, not to mention the daily crowding of the streets with carts and pails containing offensive matter. It is to be regretted that Mr. Wallace has not taken the bull by the horns and proposed bolder and more radical measures.

GLOUCESTER AND SMALL-POX.

IN 1887, a few months after the Royal Commission on Vaccination was appointed, the *Vaccination Inquirer* wrote that "Halifax, which has so strangely lagged behind, is about to come into line with Keighley, Dewsbury, Bradford, Leicester, Oldham, Gloucester, Falmouth, and other towns where vaccination has been left optional." Eight towns are named here. Before the Royal Commission had concluded its sittings necessity had arisen to obtain special reports regarding outbreaks of small-pox in no less than six of these eight towns. The worst outbreak was in Gloucester.

Dr. Coupland's report on Gloucester forms a blue book of over 180 foolscap pages, illustrated by eight plates and fifteen spot-maps, and containing numerous statistical tables. It records the most serious local epidemic of small-pox which has occurred in this country within recent years. To the student of epidemiology the outbreak is of great interest in many respects. It occurred in a town which had attained to a higher degree of neglect of vaccination than even Leicester had reached; a town which had by written representation and by oral testimony declared to the Royal Commission on Vaccination that the absence from it of small-pox was due to the attention paid by it to sanitation; a town the freedom of which alike from vaccination and small-pox had been brought under the notice successively of a Liberal Home Secretary and a Conservative Lord of the Treasury in a letter published by one of the most reputable opponents of vaccination, the librarian of the National Liberal Club. The epidemic is interesting alike in its slow beginning, its sudden and extensive spread, and its even more sudden and complete decline. And it is no less interesting as affording an example of a strenuous endeavour on the part of a community to combat small-pox by those measures which have come to be associated with the name of Leicester and which have for years been advertised and belauded by anti-vaccinationists all over the country not merely as constituting a successful method of dealing with small-pox outbreaks, but as being the only successful method. To those who pay attention to what may be called the psychology of anti-vaccination the epidemic is of further interest in the scope it has afforded for the play of fancy and neglect of fact and disregard of consistency on the part of prominent opponents of vaccination, native or imported.

The practice of infantile vaccination had been rapidly diminishing in Gloucester for a decade previous to the epidemic. During the ten-years 1885–94, a summation of the annual official returns of the Gloucester Union shows that of 14,867 children born alive only 3155 had been registered as successfully vaccinated, that of these 3155 vaccinations more than two-thirds belonged to the first two years of the decade, and that during its last six years the registrations had shown in a total of 9047 births only 300 vaccinations, and that in the last year, 1894, the births had been 1492 and the vaccinations 34. Prosecutions had been abandoned from February, 1887, and the place had become a very paradise of anti-vaccination. The motion to cease prosecutions was submitted at a meeting of the board of guardians by Mr. J. B. Karn, who said that though not himself an anti-vaccinator, no mischief had been proved to proceed from a policy of *laisser faire*. Mr. A. Rice supported him and pinned his faith on sanitation. Mr. H. Drinkwater, on the other side, declared that, be a community ever so healthy and sanitation ever so perfect, small-pox would spread if vaccination were neglected. To Montreal, he urged, where vaccination had not been attended to, small-pox had come in 1885 and in consequence trade had been destroyed and the city deserted, and in the end vaccination had been largely resorted to. Notwithstanding this warning, which reads now almost like a prophecy, the motion was carried by 12 votes to 10 in a meeting of 32. Referring to the abandonment of vaccination the London *Evening Standard* wrote in August of the same year that Gloucester was likely to become "a place destined when an outbreak of small-pox takes place to suffer a terrible calamity." This was quoted by the *Vaccination Inquirer* with the lofty remark that "Rubbish like the foregoing is common." It was in the same issue that the *Inquirer* congratulated itself on Halifax coming into anti-vaccination line with the other seven towns which have now become the subject of so many small-pox reports by Dr. Coupland.

For a decade previous to 1887 there had been little small-pox in Gloucester, and this happy condition of things continued after vaccination fell into disuse, so that near the end of 1891 the board of guardians and the local anti-vaccinators alike thought it only proper to acquaint the Royal Commission with the facts regarding the abandonment of the teaching of the Berkeley physician whose statue adorns the Gloucester Cathedral. Accordingly the guardians prepared a report, in the course of which they declared: "Small-pox, in common with all zymotic diseases, arises from uncleanness, personal, municipal, or both; impurities in the air we breathe, in the water we drink, or the food we eat. The removal of the wrong conditions of life, the cultivation to the utmost of health as the true antidote of disease; these principles influence our town council, medical and sanitary officers, and the low death-rate of the city proves that they are sufficient—the death-rate comparing favourably with any other town in the kingdom in spite of its low-lying position upon the lower lias clay of the Severn valley. The death-rate in 1886 was 14·3, in 1887 13·2, and in 1888 14·4 per 1000 inhabitants." Concerning this report of the Gloucester guardians the *Vaccination Inquirer* could hardly contain itself. "Gloucester has done splendidly," it gleefully declared. "Supported, as we understand it is to be, by careful evidence on the facts, such a document cannot fail to be of the greatest service and we beg to tender our thanks to the citizens of the fine old city," and so forth. Alack a day! little did the *Inquirer* know what was before it, and how, in a desperate endeavour "to save (anti) vaccination from reproach" it would be forced to turn round on the "fine old city" and denounce it as a hotbed of filth and nastiness.

The secretary to the local Anti-Vaccination Society, Mr. George Newman, gave evidence before the Royal Commission. He urged that Gloucester was a very sanitary place. Under cross-examination and in reply to specific questions he said there had been no fresh drainage of late years and that the water-supply had been defective. Notwithstanding he had no hesitation in answering "Yes" to the question as to whether there had been any sanitary activity in the town. "Gloucester is a very clean town," he declared. In reply to the question, "And have sanitary matters been attended to much more of late years?" he put aside any such limitation of time and answered, "I think we have always been well abreast of sanitary improvements." He evidently considered that the condition of Gloucester water and drainage had no bearing on small-pox.

What he had to complain of, however, was the hospital. "Q. 18,234. Have you got any system in Gloucester like the Leicester system, and so forth? A. No, I do not think so. Our hospital is nothing like so good as the Leicester one.—Q. How many beds have you got in your hospital? A. I really do not know.—Q. Is it in the town or outside? A. It is outside the town; it is a one-storey building and I should think they have perhaps got a dozen beds.—Q. What is the population of Gloucester? A. 40,000.—Q. That is not a very large provision for infectious diseases? A. No, they are thinking of building another, because they said if there had been any other disease running it would have been rather too crowded." By and by we shall see that this question of the hospital bulks very largely in anti-vaccination apologetics for the Gloucester small-pox disaster. In the issue of the *Inquirer* for October, 1897, the above evidence is quoted, and is prefixed by the statement, "Mr. Newman, of Gloucester, shows how at the date of his evidence, in 1891, before Gloucester passed through her time of trial, the hospital accommodation was known to be entirely inadequate for coping with any serious outbreak of disease." But the *Inquirer* very well knows that between 1891 and the onset of the epidemic the hospital accommodation was increased threefold or fourfold. Instead of "perhaps a dozen beds" it had forty-eight beds, and instead of these being devoted to "any other disease" they were confined to small-pox alone. Yet the *Inquirer*, with a perverted ingenuity which changes white into black and truth into falsehood, tells its readers that "before Gloucester passed through her time of trial the hospital accommodation was known to be entirely inadequate," while as a matter of fact the amount of accommodation when the epidemic began was very considerably beyond the standard usually aimed at for all infectious diseases by any community. Excepting that the *Inquirer* had no convenient peg on which to hang the sophistry it might as well have gone back to a time when Gloucester had no hospital and have declared that "before Gloucester passed through her time of trial hospital accommodation was known to be entirely wanting." The Royal Commission on Vaccination in its report gives great consideration to the case of "honest anti-vaccinators." Is the *Inquirer* their mouthpiece?

Mr. Newman was also asked whether he thought the suppression of small-pox or the suppression of vaccination the more important, and this elicited his views on pathology. "I believe that you cannot have small-pox, if you ask my personal belief (and I should not think of giving it unasked), unless persons have the small-pox in them, and then that being so it is far better for it to come out, and being out it is practically got rid of." Being asked, "How long do you think it would be in before it comes out?" he explained: "I should not say it was small-pox. If he has impure matter in him, dirt of any sort, it may come out in small-pox if small-pox is about. Perhaps he may have typhoid fever if that was about. It is far better to have small-pox to be thrown on the external skin than to have it thrown on the more delicate internal skin ...."

The other Gloucester witness was Mr. Rice, who had in 1887 told the guardians of his faith in sanitation, and who in 1891 told the Royal Commission that Gloucester would not receive a suggestion of compulsory re-vaccination, and that he believed a great many working men "would suffer imprisonment, fine, or anything else, rather than that they would consent to it." Yet without fine or imprisonment Gloucester by the end of 1896 had become the best re-vaccinated town in Her Majesty's dominions.

(*To be continued.*)

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on Feb. 10th, the President, Sir WILLIAM MACCORMAC, Bart., being in the chair.

The SECRETARY reported the death of Mr. Edward Lund, past Member of the Council and of the Court of Examiners. A resolution was passed that "the Council do hereby express their deep regret at the death of their former colleague Mr. Edward Lund and their sincere sympathy with the members of his family in the loss which they have sustained. The Council do also record their appreciation of the services rendered by Mr. Lund to the College as a member of the Council and of the Court of Examiners and their remembrance of the kindly nature which won for him the goodwill and esteem of all who knew him."

The Council did not confirm the resolution adopted by them on Dec. 9th, 1897, in reply to the third resolution carried at the annual meeting of Fellows and Members, but adopted the following in lieu thereof: "That the mover and seconder of the third resolution carried at the annual meeting of Fellows and Members be informed that on June 10th, 1897, the Council passed a resolution to the effect that they are willing to consider any evidence which may be submitted to them respecting canvassing for patients, either directly or indirectly, by any individual Fellow or Member of the College, with a view to determining whether or not such Fellow or Member has been guilty of a breach of the by-law. To this resolution the Council adhere, but in the opinion of the Council so long as so many different and dissimilar institutions are included under the denomination of medical aid associations, many of them, such as the friendly societies, being legalised institutions, the Council cannot make any general pronouncement respecting the connexion of medical men with these associations."

In reply to a communication received from a Member of the College respecting a provident association in a provincial town the Council decided to state, in reference to the two questions submitted to them, that they are of opinion: (1) that if well-to-do members of a provident association avail themselves of the services of the medical officers of that association without adequately remunerating them such conduct is reprehensible; and (2) that the Council have no control over the management of such associations and they consider that the proper way to deal with such an abuse is to submit the facts to the managing officials.

The PRESIDENT reported that he had attended on Dec. 13th the opening ceremony of the Mason University College, Birmingham.

The PRESIDENT also reported that he and Mr. Howse, in pursuance of the resolution of the Council of Dec. 9th last, had attended as the representatives of the College the conference held at the University of London on Dec. 14th, in reference to what steps should be taken in relation to the proposed legislation for the University, and that they had also on Jan. 24th taken part in a deputation to the Lord President of the Council for the purpose of urging his lordship to reintroduce in the coming session of Parliament the London University Commission Bill of last session.

A letter was read from the committee of delegates of the metropolitan medical schools asking the College to join a deputation to the metropolitan Members of Parliament to ask their support in carrying the promised London University Commission Bill. It was resolved that:

> "The College, in conjunction with the Royal College of Physicians, is willing to join the deputation provided that it is not proposed by the deputation to urge amendments."

A letter was read offering to the College a framed copy in oils of the portrait of Sir Erasmus Wilson which was painted by Mr. Stephen Pearce and exhibited at the Royal Academy in 1872. The offer was accepted with thanks.

The PRESIDENT called the attention of the Council to the proposed legislation in Italy enacting that qualified medical men of other countries shall not in future be allowed to practise in Italy without holding the degree of an Italian university. The consideration of this subject was postponed.

The Senior VICE-PRESIDENT reported that the PRESIDENT had consented to deliver the next Hunterian Oration and accordingly declared Sir William MacCormac, Bart., to be appointed Hunterian Orator for 1899.

Mr. T. PICKERING PICK was appointed Bradshaw Lecturer for 1898

The SECRETARY suggested that he should be authorised to remove from the list of Members published in the College Calendar the names of all Members admitted before the year 1835 whom he might be unable to trace as still living. No resolution on the matter was passed.

Mr. TWEEDY moved that Clause 4 of Section XXIII. of the regulations of the Council relating to meetings of Fellows be altered to the following: "4 A meeting shall be held in each year on the first Thursday in July after the annual election to the Council on that day." The resolution was carried.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE tenth meeting of the Royal Commissioners was held in the Moses Room of the House of Lords on Monday, Feb. 14th. All the Commissioners were present, but Mr. Cripps, Q.C., left about half-an-hour after the commencement of the sitting. Mr. G. L. Gomme, statistical officer to the London County Council, was examined by the CHAIRMAN. His evidence occupied the whole of the sitting. Counsel representing the water companies very frequently assisted the witness by reading sections from Acts of Parliament relating to matters under consideration, which dealt chiefly with the purchase of the undertakings of various provincial water companies by municipal authorities. Before the examination was commenced Mr. RICKARDS, counsel for the Chelsea Company, rose to explain that he accepted as correct the figures which had been sent in by the company in their Parliamentary return and on the accuracy of which he had thrown doubt at the last meeting of the Commissioners.

Mr. GOMME was first examined with regard to the purchase of the two companies which formerly supplied Glasgow with water. These undertakings were bought in 1855. At that time it was admitted that the supply of water was inadequate both in quantity and quality and the corporation of Glasgow had already determined that they would get a new supply from Loch Katrine.

Mr. POPE, Q.C., pointed out that at the time of purchase the water-supply of the companies was obtained from the River Clyde, which was notoriously impure. Under the superintendence of Mr. Bateman, the engineer, the water was conducted from Loch Katrine and the work was carried out in about ten years; the new supply was commenced in the year 1865.

The CHAIRMAN suggested that as the corporation had decided to get the new supply from pure sources the money spent in purchasing the undestakings of the companies really amounted to a dead loss of the amount paid.

With regard to the expenses of the water supplied to the consumers it was said that the water rent paid was gradually reduced during the four years preceding 1890. In the case of Glasgow, however, there is a "rate in aid" of the water-supply and the financial aspect of the case cannot therefore be judged entirely from a study of the figures of the amounts paid in water rents. The "rate in aid" is given partly for the water used for street watering and for the supply of the municipal buildings. The water-supply from Loch Katrine is not all used by the city of Glasgow.

Mr. POPE pointed out that the city is surrounded by a number of police boroughs and that these are supplied with water by an arrangement made with the municipal authorities of Glasgow. With regard to the supply of these outlying authorities the Act of Parliament under which the Glasgow water-supply was carried out provided that the municipal authorities of the city should not be compelled to supply the parts around, but that if they did so the maximum amount which they were allowed to charge should be limited. The water from the Clyde is still used for trade purposes.

In the case of Birmingham the water undertakings were purchased in the year 1875. A full account of the transaction is given in the appendix to Sir William Harcourt's report on the London water-supply. With regard to the amount charged at Birmingham Mr. GOMME admitted that the amount paid by the inhabitants of Birmingham for water rents in the case of houses under £30 a year was greater than in London. The water is supplied by the Birmingham municipal authorities to four outlying urban and five rural districts and the charges are the same as those made in the city.

The purchase of the water undertakings at Sheffield was quoted by Mr. POPE as the leading example of compulsory sale on the part of a water company which was not a defaulting one. The purchase was made in the year 1887. In the case of Sheffield a large amount of money was expended on the repair of the reservoir which had burst and to pay for this misfortune it was found necessary to raise the charges to the extent of 25 per cent. for some years.

The next case brought under the consideration of the Commissioners was that of the Stockton and Middlesborough Company, and with regard to the conditions of purchase Mr. BAGGALLAY, Q.C., Mr. POPE, Q.C. and other counsel came to the aid of the witness to supply details with which he appeared to be unacquainted. After the purchase of the water company's undertakings a Water Trust was formed to make arrangements with regard to the supply of the districts around. The water was taken from the River Tees and, as Mr. Balfour Browne pointed out, it has since been necessary to obtain an entirely new supply from the Lune and Balder. This was done at a cost of nearly £1,000,000. The water of the Tees is now used for trade purposes.

In answer to questions by Major-General SCOTT it was stated that the trade supply of Middlesborough amounted to something like 77 per cent. of the total amount, whereas in London it was only about 25 per cent. of the amount supplied.

Mr. GOMME, in answer to the CHAIRMAN, said that as a matter of fact he did not think that the water-supply in the cases which had been considered could well be compared with the case of London. With regard to the cost of administration he pointed out that at Birmingham the pipes belonging to the corporation go under the pavement as far as the house of the consumer and this is not the case in London. The witness complained also that in the case of London the water companies paid too much in dividends.

A table was put in showing the dividends paid from 1851–1871, from which it appeared that most companies had paid increasing dividends. Several tables were put in and some were rejected, the CHAIRMAN remarking that the Commissioners did not wish to have tables for the mere pleasure of looking at them if they did not teach anything.

Mr. GOMME thought that the figures proved either that the expenses of the West Middlesex Company had been unduly starved until they paid their full dividends or that when they had arrived at such a state of prosperity as to pay their full dividends they had spent money too freely.

The meeting was adjourned until the following day.

The eleventh meeting of the Royal Commissioners was held on Tuesday, Feb. 15th. With the exception of Mr. Cripps, Q.C., all the Commissioners were present. Sir George Bruce left soon after the commencement of the sitting.

The examination of Mr. GOMME was continued and the witness put in a large number of tables dealing chiefly with the financial aspect of the metropolitan water companies. The first table, however, had reference to various provincial water-supplies and gave in tabular form statistics of the water undertakings of the county boroughs in England and Wales in which the works are in the hands of the corporation. In Southampton, Hastings, and Worcester the whole of the expenses of the water-supply are paid for directly from the rates.

The witness was asked whether it would be possible to frame regulations by which a water authority could regulate the companies' undertakings with regard to engineering problems. This question arose out of the suggestion that in the case of some companies these arrangements were not kept in a proper state of efficiency. The witness suggested that an engineer might frame rules which could be carried out by a control authority. Some details were given with reference to the water paid for by the County Council for trade purposes, including that supplied to the places called by the witness the "Council's parks." Mr. Gomme suggested that if a system of control were adopted the capital of the various undertakings should be reduced to the actual money value of the works which are at present in use. This suggestion the CHAIRMAN characterised as "very drastic control."

Mr. DE BOCK PORTER inquired whether the witness did not mean rather that the capital should be written down after a valuation of the plant and that this writing down was a thing usually done in commercial undertakings in all cases in which the plant was liable to depreciation.

In answer to Major-General SCOTT witness said that expert evidence as to the value of the plant would be required; and in answer to further questions he said that the things which he considered obsolete were disused works and engines. Before the year 1852 disused pipes and even coal were put down to capital account, but since the appointment of the official auditor the accounts had been under control and in one case, that of the Grand Junction Company, a considerable amount which the company wished to place to the capital account was disallowed. In the case of a disused station Major-General SCOTT suggested that it would not necessarily be without value, as, for example, the Battersea station, which belonged to the Southwark and Vauxhall Company. The witness said that alteration in the authorised capital of the companies could only be made by Act of Parliament.

Major-General SCOTT pointed out that in a revaluation of a company's plant certain difficulties would arise; for example, how often would it be necessary to make the valuation and would it be necessary in the case of substitution of new machinery for old? He pointed out the difficulty which would arise in case Parliament should be appealed to every year on such a matter. A map was put in showing the price charged in water rents in various parts of the metropolitan area. From this it appeared that the eastern and southern districts were highly rated.

The CHAIRMAN suggested that it was said that the price of water in the City equalled that of beer and the City Remembrancer said that they did not wish it raised to the price of wine. With regard to water rents the Chairman said he could not understand the prejudice which seemed to exist against paying for water by meter.

Some information was given with regard to the supply of water from wells. The Government well in St. James's, Westminster, supplies some houses in St. Martin's-in-the-Fields and in the parish of St. Margaret and St. John as well as the Government Offices. There were altogether about 340 private supplies on the north and 135 on the south of the Thames. In this computation the railway offices were not included. With regard to the amount of water used the witness was asked whether in his opinion more water would be used at a given house situated in the west-end of London or in a house in a poor district supposing that in the two cases the number of inhabitants was the same. In reply the witness said that in his opinion more water would be used in the poorer house because he thought they might do their washing at home.

The next meeting of the Commissioners will take place on Monday, Feb. 21st, in Committee Room A, the Moses Room, in which all the previous meetings have taken place, being no longer available.

THE BATTLE OF THE CLUBS.[1]

GATESHEAD.

As will be seen from the letter which we publish below, the town of Gateshead has set an example which it would be well for every other town and city in the kingdom to follow. If the medical profession were as well organised everywhere as it is in Gateshead we should hear little more of club abuses. Even an association like the Gateshead one cannot make sure, however, that a non-unionist may not descend upon the town, but probably if he did he would not make very much out of it. We can only express a hope that the practitioners of "canny Newcassel," as the great James Pigg used to call it, will follow suit and unite with their Gateshead brethren.

To the Editors of THE LANCET.

SIRS,—The various evils under which the profession groans have elicited many more or less useful suggestions for their cure. Perhaps the record of what we have done here may interest some of your readers and may seem worthy of imitation. During the election of Representatives on the General Medical Council in 1896 the practitioners of Gateshead were called together to discuss the advisability of some united action. We met twice at the house of one of our senior practitioners, Mr. Ridley. At the close of our second meeting, at which we had a very representative gathering, it was suggested that a permanent association should be formed for medico-ethical purposes. The proposal was taken up with an enthusiasm which proved its worth in a very practical manner. In less than a month every practitioner in the place gave in his adhesion to the association. When we consider that the association is not a mere debating society for the delivery of academic views on things in general but a real working organisation, it will be admitted that this result is creditable to the practitioners of a town of over 100,000 inhabitants. I have not heard of any other town of the same size where *all* the practitioners are banded together for ethical and defensive purposes.

Our rules are few but strict, imposing exclusion from the association and professional ostracism on any member deliberately breaking any engagement entered into by the association as a body. Our officials are also few, consisting of a president, who is only eligible for one year, an honorary secretary who is also treasurer, and another elected member, who with the above forms the executive. We meet once in two months but may have, and have had, a special meeting at any time to consider matters of special importance.

The association though young has already proved valuable in many instances. We met the delegates of the friendly societies and showed them that their present rate of payment—3*s.* per annum per member—is neither fair to us nor honourable to them. We resolved, and every member signed a document to this effect, that we will make no new engagement with any friendly society at less than 4*s.*, and already several lodges are paying that figure. We have resolved to attend no juvenile lodge at less than adult rate and that we will have no dealings with female lodges. So far our members have stood loyally together, and by all one can see the first defaulter will have an exceedingly unpleasant time of it. Not the least of our association's advantages is that we are getting to know one another better and a distinctly friendly feeling is growing up between men who a year or so ago contented themselves with the merest acknowledgment on meeting and not always that.

On Jan. 12th, 1898, under the chairmanship of our president, Dr. Newcombe, we had our first annual dinner and every member (with a very few unavoidable exceptions) was present. We had few toasts but plenty of music, and a most enjoyable evening was spent. So enjoyable and successful was the gathering that it was generally felt that we should publish the fact in the hope that the idea may be followed by practitioners in other towns. At the establishment of this association we received valuable information from the Manchester Medical Guild, the Portsmouth Medical Union, and the Newbury and District Medical Society as a result of an appeal through the medical journals. As an established and so far successful body we desire to render thanks to our friendly advisers.

We do not wish to give the impression that we in Gateshead have reached the millennium. Far from that. Being practically a part of the neighbouring city of Newcastle-on-Tyne, where there is no ethical organisation, we are constantly threatened with opposition from that quarter. There are many other difficulties in the way common to all towns. Our association, however, has had such a good effect in promoting friendliness and *esprit de corps* that we fully believe that in the formation of such localised societies lies the secret of effective resistance to unfair demands on the profession. Any information regarding our association will be gladly given by,

Yours faithfully,
ALFRED COX, M.B. Durh.,
Hon. Sec., Gateshead Medical Association.
Cotfield House, Gateshead.

THE MANCHESTER GUILD AND THE NATIONAL DEPOSIT FRIENDLY SOCIETY.

A branch of the National Deposit Friendly Society having been started in the Manchester district, the Manchester Guild have considered the attitude which the medical profession ought to adopt towards the society. We have already printed in THE LANCET[2] the severe words which the Guild considered it its duty to utter about the society and it is to be sincerely hoped, to quote the identical words employed, "that the practitioners of Manchester and district will have sufficient respect for their professional independence to prevent any one of them supporting this plausible but unsatisfactory scheme of medical aid."

We congratulate the Guild (which is also doing good work in the cause of hospital reform) upon so unequivocally taking the responsibility of giving sound advice. We have received a criticism of the method of the National Deposit Friendly Society from Mr. R. H. Wolstenholme, for more extended reference to which we hope to find space. Mr. Wolstenholme's article shows the attitude of the Manchester Guild to be perfectly right.

BRITISH OPHTHALMIC HOSPITAL, JERUSALEM.

THIS hospital, which forms part of the work carried out by the English Branch of the Order of St. John of Jerusalem, has been in operation in the Holy Land since 1882. It has now twenty beds for in-patients. Dr. W. E. Cant, the surgeon of the hospital, under whose charge it has been since 1888, sends the following particulars of the surgical practice during a period of ten years just completed.

The circumstances of ophthalmic diseases in Palestine bring especially into prominence those of the external parts of the eye which, with the operative work especially connected with those diseases, occupy the greater part of the surgeon's attention, whilst diseases of the interior of the eye, refraction errors, &c., which are most prominent at home, are subordinated. The most important part of the hospital work consists chiefly in the operative surgery for sequelæ of the contagious ophthalmia of the country, which exists in an endemic form and breaks out as an acute epidemic every year and almost exactly at the same time of the year, the end of July and beginning of August, continuing throughout the autumn well into the winter until the colder weather and rains set in. In the first half of the year scarcely any acute cases come under notice. A great number of eyes are annually destroyed, a vast number permanently damaged, and the seeds of long standing and permanent disease are sown wholesale.

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[1] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from THE LANCET Office, price 1s.

[2] THE LANCET, Dec. 11th, 1897.

Amongst the results requiring operative treatment, trichiasis and entropion stand numerically by far the first, as evidenced by the numbers here adduced, which of course constitute but a small fraction of the whole throughout the country. A great many of the cases are very severe and extreme; more often both upper lids are affected and not unfrequently the lower in addition. Judging from the trouble patients will take to travel long distances and their anxiety for operation it would appear that they experience much discomfort from the disease and derive relief from the operation. The number of lids which have been operated upon in the period mentioned amounts to 6037 upper lids and 169 lower lids. Many methods have been adopted for the former, but after trial Snellen's operation modified and considerably extended in degree, and sometimes with canthoplasty in addition, has been chiefly used, as soundest in its principle of action and simple in its performance. For the lower lid several methods have been used, according to varying conditions, more or less original.

The operation next most frequently called for is iridectomy for artificial pupil for adherent cicatrix of the cornea and leucomatous opacity following the ulcers of acute ophthalmia. The iridectomies numbered 714, of which 549 were for this purpose. The aim in these cases is more often to give to helpless persons sufficient sight to see their way about and to go about their business than to afford much visual acuity. Staphylomata of the cornea are exceedingly common as another result of the destructive ulcers of acute ophthalmia; they afford in their different degrees a large field for surgical experience. As an ultimate radical measure the operation of abscission of the staphyloma, closing the wound with the conjunctiva only with a *suture en bourse*, has been adopted in just upon fifty cases. The method seems a good one, affording frequently a stump scarcely diminished in size and one suitable for a country where there is great objection to submitting to the mutilation of total excision and where the people are mostly unfit to manage an artificial eye. Ulcers are extremely frequent, sometimes destroying the whole cornea or the whole of both corneæ; they often of course require surgical measures. Disease of the lacrymal apparatus also is common and pterygium abounds, both affording scope for surgical interference.

The old-fashioned phagedænic ulceration of former times appears to be not uncommon here and a number of patients the subjects of bad cicatricial ectropion present themselves; twelve of these have been operated upon for restoration of lids, in the majority of the cases by pedunculated flaps. Ectropion from permanent thickening of the conjunctiva is also rather frequent and in a good many cases Dr. de Wecker's operation and very ingenious sutures have been adopted; one of the patients presented permanent and extreme eversion of all four lids. Indeed, the effects of severe disease in this country allowed to go on unchecked or aggravated by native methods of treatment are often extremely striking, such as are not seen in civilised countries. Cataract extractions numbered 302, and needling operations, together with all secondary cataract operations, 141. These are not numerous certainly. Panas speaks in his "Traité des Maladies des Yeux" of cataract not being abundant in Egypt; whether this is so here or whether it is from the fact that the natives still adhere very greatly to their old methods in surgery as well as in other matters is uncertain. They still have free recourse to the older and more violent surgical procedures and huge cauterisations, setons, and issues of years' standing, cataplasms for acute ophthalmia unremoved from the eye for some days, as well as to charms, witches, and quackery in abundance, loving still those things that have about them the charm of mystery.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 7036 births and 4448 deaths were registered during the week ending Feb. 12th. The annual rate of mortality in these towns, which had been 18 7 and 19 2 per 1000 in the two preceding weeks, further rose last week to 20·7. In London the rate was 22 2 per 1000, while it averaged 19·6 in the thirty-two provincial towns. The lowest rates in these towns were 11·3 in Croydon, 14·1 in Cardiff, 14·8 in Wolverhampton, and 14·9 in Bradford; the highest rates were 24·0 in Bristol, 24·3 in Brighton, 26·1 in Swansea, and 26 3 in Plymouth. The 4448 deaths included 497 which were referred to the principal zymotic diseases, against 488 and 453 in the two preceding weeks; of these, 171 resulted from measles, 123 from whooping-cough, 77 from diphtheria. 49 from diarrhœa, 43 from scarlet fever, and 34 from "fever" principally enteric). No death from any of these diseases was recorded last week in Wolverhampton; in the other towns they caused the lowest death-rates in Norwich, Croydon, Burnley, and Gateshead, and the highest rates in Birkenhead, Bristol, Derby, and Brighton. The greatest mortality from measles occurred in Brighton, Bristol, Swansea, Birkenhead, Halifax, and Sunderland; from scarlet fever in Leicester and Birkenhead; from whooping-cough in Brighton, Plymouth, Derby, and Sheffield; and from "fever" in Burnley. The 77 deaths from diphtheria included 45 in London, 4 in West Ham, 4 in Birmingham, 3 in Manchester, and 3 in Leeds. No fatal case of small-pox was registered during last week in any of the thirty-three large towns and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2871, against 3149, 3061, and 3964 on the three preceding Saturdays; 232 new cases were admitted during the week, against 248, 244, and 209 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 471 in each of the two preceding weeks, declined to 468 last week, but slightly exceeded the corrected average. The causes of 62, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Blackburn, Preston, and Newcastle-upon-Tyne.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 17·4 and 18·0 per 1000 in the two preceding weeks, further rose to 20·1 during the week ending Feb. 12th, but was 0·6 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·3 in Perth and 16 4 in Dundee and in Leith to 21·1 in Aberdeen and 22 4 in Glasgow. The 607 deaths in these towns included 21 which were referred to whooping-cough, 21 to diarrhœa, 12 to measles, 6 to scarlet fever, 6 to diphtheria, and 6 to "fever." In all, 72 deaths resulted from these principal zymotic diseases, against 67 and 66 in the two preceding weeks. These 72 deaths were equal to an annual rate of 2·4 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 27 and 21 in the two preceding weeks, were again 21 last week, of which 15 occurred in Glasgow, and 3 in Paisley. The 12 deaths referred to measles showed a further increase upon those recorded in recent weeks, and included 11 in Glasgow. The fatal cases of diphtheria, which had been 3 and 8 in the two preceding weeks, declined to 6 last week, of which 3 occurred in Glasgow and 2 in Edinburgh. The 6 deaths from scarlet fever corresponded with the number in the preceding week, and included 3 in Glasgow and 2 in Edinburgh. The 6 fatal cases of "fever" showed a further increase upon recent weekly numbers, and included 2 in Glasgow and 2 in Aberdeen. The deaths referred to diseases of the respiratory organs in these towns, which had been 92 and 117 in the two preceding weeks, further rose to 126 last week, but were little more than half the number in the corresponding period of last year. The causes of 42, or nearly 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28 9 and 32·8 per 1000 in the two preceding weeks, further rose

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1898.

(*Specially compiled for* THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1898.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,504,766**	**3**	**1300**	**924**	**1**	**181**	**1**	**20**	**393**	**—**	**2823**	**8·2**	**—**	**473**	**67**	**161**	**294**	**—**	**35**	**1**	**37**	**1068**	**3·1**	**7605**	**22·0**	**134**
West Districts.																										
Paddington	127,480	—	28	18	—	4	—	—	13	—	63	6·4	—	5	1	7	3	—	3	—	2	21	2·1	172	18·2	125
Kensington	172,174	—	34	13	—	3	—	1	15	—	66	5·0	—	8	4	6	2	—	1	—	1	22	1·7	294	22·3	157
Hammersmith	107,370	—	26	9	—	3	1	—	9	—	48	5·8	—	7	—	—	2	—	—	—	2	11	1·3	137	16·8	106
Fulham	125,275	—	58	37	—	6	—	—	16	—	117	12·2	—	17	6	9	3	—	1	—	1	37	3·9	187	19·5	136
Chelsea	96,713	—	27	22	—	3	—	1	8	—	61	8·2	—	17	—	5	1	—	—	—	—	23	3·1	180	24·3	143
St. George Hanover-square	80,608	—	12	5	—	3	—	—	3	—	23	3·7	—	10	1	—	2	—	1	—	—	14	2·3	91	14·7	168
Westminster	52,574	—	17	7	—	1	—	—	7	—	32	7·9	—	10	2	4	7	—	—	—	—	23	5·7	115	28·5	144
St. James Westminster	22,200	—	2	4	—	1	—	—	1	—	8	4·7	—	3	—	—	—	—	—	—	—	3	1·8	44	25·8	216
North Districts.																										
Marylebone	140,483	—	27	14	—	4	—	—	13	—	58	5·4	—	5	1	5	3	—	1	—	2	17	1·6	237	22·0	98
Hampstead	78,755	—	11	11	—	—	—	—	2	—	24	4·0	—	11	—	3	10	—	—	—	—	24	4·0	88	14·6	101
St. Pancras	243,416	—	50	44	—	16	—	—	23	—	133	7·1	—	23	2	6	9	—	3	—	1	43	2·3	466	25·0	133
Islington	344,616	—	70	47	—	17	—	5	22	—	161	6·1	—	43	4	17	16	—	2	—	6	88	3·3	563	21·3	125
Stoke Newington	34,660	—	5	3	—	—	—	—	4	—	12	4·5	—	—	—	1	4	—	—	—	—	5	1·9	43	16·2	91
Hackney	219,630	1	73	71	—	17	—	2	26	—	190	11·3	—	25	2	10	22	—	3	—	2	64	3·8	358	21·2	141
Central Districts.																										
St. Giles	37,519	—	12	2	—	—	—	—	9	—	23	8·0	—	2	—	1	1	—	—	—	1	5	1·7	78	27·1	203
St. Martin-in-the-Fields	12,424	—	2	2	—	—	—	—	—	—	4	4·2	—	1	1	1	—	—	—	—	—	3	3·1	20	21·0	164
Strand	23,284	—	3	2	—	—	—	—	1	—	6	3·4	—	2	—	—	—	—	—	—	—	2	1·1	44	24·6	83
Holborn	30,046	—	6	15	—	1	—	—	2	—	24	10·4	—	6	—	3	—	—	—	—	—	9	3·9	82	35·6	254
Clerkenwell	66,120	—	18	30	—	3	—	—	3	—	54	10·6	—	4	1	2	11	—	1	—	—	19	3·7	133	26·2	190
St. Luke	41,076	—	14	12	—	1	—	—	5	—	32	10·2	—	3	—	1	4	—	1	—	—	9	2·9	97	30·8	104
City of London	29,088	—	5	7	—	5	—	—	1	—	18	8·1	—	3	—	2	—	—	—	—	—	5	2·2	50	22·4	147
East Districts.																										
Shoreditch	121,485	—	27	20	—	6	—	—	10	—	63	6·8	—	29	2	6	30	—	1	—	—	68	7·3	301	32·3	184
Bethnal Green	129,027	—	53	38	—	6	—	—	20	—	117	11·8	—	7	3	8	26	—	1	—	2	47	4·7	275	27·8	176
Whitechapel	80,659	—	12	15	—	2	—	—	11	—	40	6·5	—	1	1	1	1	—	—	—	—	4	0·6	128	20·7	88
St. George-in-the-East	49,241	—	18	4	—	3	—	—	3	—	28	7·6	—	6	—	—	10	—	1	—	3	19	5·1	115	31·1	152
Limehouse	58,661	—	18	16	—	1	—	—	7	—	42	9·3	—	5	1	2	7	—	—	—	—	15	3·3	109	24·2	121
Mile End Old Town	112,528	—	52	15	—	2	—	1	7	—	77	8·9	—	11	2	1	17	—	1	—	—	32	3·7	181	21·0	91
Poplar	170,220	2	81	41	—	12	—	1	13	—	150	11·5	—	27	3	7	31	—	3	—	—	71	5·4	353	27·0	153
South Districts.																										
St. Saviour Southwark	24,562	—	6	11	—	—	—	—	2	—	19	10·1	—	5	—	2	2	—	—	—	—	9	4·8	62	32·9	256
St. George Southwark	60,466	—	15	22	—	4	—	—	7	—	48	10·3	—	15	1	5	1	—	—	—	1	23	6·0	136	29·3	140
Newington	123,183	—	39	25	—	3	—	1	10	—	78	8·3	—	18	4	6	—	—	—	—	1	29	3·1	223	23·6	117
St. Olave Southwark	11,288	—	6	3	—	—	—	—	4	—	13	15·0	—	3	—	1	1	—	—	—	—	6	5·8	21	24·3	147
Bermondsey	85,738	—	21	11	—	5	—	—	2	—	39	5·9	—	17	2	2	3	—	2	—	—	26	4·0	170	25·9	114
Rotherhithe	40,849	—	17	2	—	2	—	—	1	—	22	7·0	—	1	1	1	4	—	—	—	1	8	2·6	54	17·2	112
Lambeth	304,073	—	75	43	—	9	—	—	39	—	166	6·7	—	31	5	7	12	—	3	—	3	61	2·6	542	23·2	118
Battersea	171,921	—	91	65	1	5	—	1	18	—	181	13·7	—	27	7	9	8	—	2	1	2	56	4·2	266	20·2	133
Wandsworth	202,528	—	73	49	—	7	—	1	11	—	141	9·1	—	13	3	6	8	—	1	—	—	31	2·0	245	15·8	148
Camberwell	261,189	—	73	60	—	6	—	2	18	—	149	7·4	—	39	3	7	11	—	1	—	2	63	3·1	382	19·1	137
Greenwich	180,441	—	66	69	—	11	—	—	20	—	166	11·2	—	5	2	4	11	—	1	—	2	25	1·8	268	19·4	133
Lewisham (excluding Penge)	88,562	—	9	13	—	5	—	—	3	—	30	4·4	—	2	—	1	4	—	1	—	—	8	1·2	100	14·7	95
Woolwich...	41,478	—	20	7	—	2	—	1	2	—	32	10·1	—	5	1	2	1	—	—	—	1	10	3·1	73	22·9	146
Lee	39,717	—	15	16	—	—	—	3	5	—	39	12·8	—	—	—	1	3	—	—	—	1	5	1·6	51	16·7	182
Plumstead	62,531	—	24	14	—	1	—	—	6	—	45	9·4	—	2	1	—	3	—	—	—	—	6	1·3	65	13·6	88
Port of London	—	—	—	—	—	1	—	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 23 cases of membranous croup.

† Including deaths from membranous croup.

to 34·9 during the week ending Feb. 12th. During the past six weeks of the current quarter the death-rate in the city has averaged 32·1 per 1000, the rate during the same period being 22·2 in London and 18·7 in Edinburgh. The 234 deaths registered in Dublin during the week under notice showed an increase of 14 upon the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 17 and 14 in the two preceding weeks; of these, 7 resulted from "fever," 3 from scarlet fever, 3 from diarrhœa, 2 from diphtheria, 2 from whooping-cough, and not one either from small-pox or measles. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 2·7 in London and 1·9 in Edinburgh. The deaths referred to different forms of "fever," which had been 8 and 7 in the two preceding weeks, were again 7 last week. The fatal cases of scarlet fever, which had been 3 and 2 in the two preceding weeks, rose again to 3 last week. The 2 deaths from whooping-cough showed a slight further decline from those recorded in recent weeks. The 234 deaths in Dublin last week included 39 of infants under one year of age and 57 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons showed an increase upon recent weekly numbers. Nine inquest cases and 5 deaths from violence were registered; and 88, or more than a third, of the deaths occurred in public institutions. The causes of 16, or nearly 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1898.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during January in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 8·2 per 1000 of the population, estimated at 4,504,766 persons in the middle of this year. In the three preceding months the rates had been 16·0, 12·7 and 9·8 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in St. James Westminster, Hampstead, Stoke Newington, St. Martin-in-the-Fields, Strand, and Lewisham; while they showed the largest excess in Fulham, Hackney, Bethnal Green, Poplar, St. Olave Southwark, Battersea, and Lee. Three cases of small-pox were notified in London during January, against 1, 3 and 1 in the three preceding months; of these 2 belonged to Poplar and 1 to Hackney sanitary areas. No small-pox case was admitted into any of the Metropolitan Asylum Hospitals during January, and no patients remained under treatment at the end of the month. The prevalence of scarlet fever in London showed a further decline from that recorded in the three preceding months; this disease was proportionally most prevalent in Fulham, Bethnal Green, Mile End Old Town, Poplar, St. Olave Southwark, Battersea, and Woolwich sanitary areas. The Metropolitan Asylum Hospitals contained 3021 scarlet fever patients at the end of January, against 3571, 3731, and 3507 at the end of the three preceding months; the weekly admissions averaged 232, against 350, 367, and 272 in the three preceding months. The prevalence of diphtheria in London showed a marked further decline from that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Hackney, Holborn, Clerkenwell, St. Saviour Southwark, Battersea, Greenwich, and Lee. There were 1055 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of January, against 1029, 1042, and 1066 at the end of the three preceding months; the weekly admissions averaged 132 against 155 and 151 in the two preceding months. The prevalence of enteric fever in London during January showed a further decline from that recorded in recent months; this disease was proportionally most prevalent in Hackney, City of London, St. George-in-the East, Poplar, and St. George Southwark sanitary areas. The Metropolitan Asylum Hospitals contained 106 enteric fever patients at the end of January, against 177, 155, and 116 at the end of the three preceding months; the weekly admissions averaged 17, against 23 and 17 in the two preceding months. Erysipelas showed the highest proportional prevalence in Fulham, St. Giles, St. Luke, Bethnal Green, and Whitechapel sanitary areas. The 20 cases of puerperal fever notified in London during January included 5 in Islington, 3 in Lee, 2 in Hackney, and 2 in Camberwell sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, January 29th, the deaths of 7605 persons belonging to London were registered, equal to an annual rate of 22·0 per 1000, against 16·1, 19·0, and 21·3 in the three preceding months. The lowest death-rates during January in the various sanitary areas were 13·5 in Plumstead, 14·6 in Hampstead, 14·7 in St. George Hanover-square and in Lewisham (excluding Penge), 15·8 in Wandsworth, 16·2 in Stoke Newington, and 16·7 in Lee; the highest rates were 28·5 in Westminster, 29·3 in St. George Southwark, 30·8 in St. Luke, 31·1 in St. George-in-the-East, 32·3 in Shoreditch, 32·9 in St. Saviour Southwark, and 35·6 in Holborn. During the four weeks of January 1068 deaths were referred to the principal zymotic diseases in London; of these, 473 resulted from measles, 294 from whooping-cough, 161 from diphtheria, 67 from scarlet fever, 37 from diarrhœa, 35 from enteric fever, and 1 from an ill-defined form of continued fever. These 1068 deaths were equal to an annual rate of 3·1 per 1000; in the various sanitary areas the lowest zymotic death-rates were recorded in Hammersmith, St. Giles, Strand, Whitechapel, Lewisham, and Plumstead; and the highest rates in Westminster, Shoreditch, St. George-in-the-East, Poplar, St. Saviour Southwark, St. George Southwark, and St. Olave Southwark. The 473 fatal cases of measles were more than double the corrected average number in the corresponding periods of the ten preceding years this disease showed the highest proportional fatality in Westminster, Holborn, Shoreditch, St. Saviour Southwark, St. George Southwark, and Bermondsey sanitary areas. The 67 deaths referred to scarlet fever were 16 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Fulham, Newington, and Battersea. The 161 fatal cases of diphtheria almost corresponded with the corrected average number; the mortality from this disease was highest in Paddington, Fulham, Westminster, Holborn, Bethnal Green, St. George Southwark, and Battersea sanitary areas. The 294 deaths from whooping-cough were 15 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Clerkenwell, Shoreditch, Bethnal Green, St. George-in the-East, Mile End Old Town, and Poplar. The 35 fatal cases of enteric fever were 16 below the corrected average number; the mortality from this disease showed no marked excess in any of the sanitary areas. The 37 deaths from diarrhœa were 19 below the corrected average number. In conclusion, it may be stated that the mortality in London from these principal zymotic diseases during January was nearly 20 per cent. above the average, owing to the excessive fatality of measles.

Infant mortality in London, measured by the proportion of deaths of infants under one year of age to registered births, was last month equal to 134 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in Stoke Newington, Strand, Whitechapel, Mile End Old Town, Lewisham, and Plumstead; and the highest rates in St. James Westminster, St. Giles, Holborn, Clerkenwell, Shoreditch, and St. Saviour Southwark.

THE SERVICES.

NAVAL MEDICAL SERVICE.

THE following appointments are announced: — Fleet-Surgeon Leonard H. Kellatt to the *Vernon*; Staff-Surgeon Timothy J. Crowley and Surgeon Edward Sutton to the *Bonaventure*; James H. Robertson, M.B., to be Surgeon and Agent at Portpatrick; and Staff-Surgeon Geo. W. Bell to be Fleet-Surgeon.

ARMY MEDICAL STAFF.

Surgeon-Major Frederick S. Heuston, F.R.C.S. Irel., from the Seconded List, to be Surgeon-Major, *vice* A. Perry, retired.

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JANUARY, 1898.

(*Specially compiled for* THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1898.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,504,766	3	1300	924	1	181	1	20	393	—	2823	8·2	—	473	67	161	294	—	35	1	37	1068	3·1	7605	22·0	134
West Districts.																										
Paddington	127,480	—	28	18	—	4	—	—	13	—	63	6·4	—	5	1	7	3	—	3	—	2	21	2·1	172	18·2	125
Kensington	172,174	—	34	13	—	3	—	1	15	—	66	5·0	—	8	4	6	2	—	1	—	1	22	1·7	294	22·3	157
Hammersmith	107,370	—	26	9	—	3	1	—	9	—	48	5·8	—	7	—	—	2	—	—	—	2	11	1·3	137	16·8	106
Fulham	125,275	—	58	37	—	6	—	—	16	—	117	12·2	—	17	6	9	3	—	1	—	1	37	3·9	187	19·5	138
Chelsea	96,713	—	27	22	—	3	—	1	8	—	61	8·2	—	17	—	5	1	—	—	—	—	23	3·1	180	24·3	143
St. George Hanover-square	80,608	—	12	5	—	3	—	—	3	—	23	3·7	—	10	1	—	2	—	1	—	—	14	2·3	91	14·7	168
Westminster	52,674	—	17	7	—	1	—	—	7	—	32	7·9	—	10	2	4	7	—	—	—	—	23	5·7	115	28·5	144
St. James Westminster	22,200	—	2	4	—	1	—	—	1	—	8	4·7	—	3	—	—	—	—	—	—	—	3	1·8	44	25·8	216
North Districts.																										
Marylebone	140,483	—	27	14	—	4	—	—	13	—	58	5·4	—	5	1	5	3	—	1	—	2	17	1·6	237	22·0	98
Hampstead	78,756	—	11	11	—	—	—	—	2	—	24	4·0	—	11	—	3	10	—	—	—	—	24	4·0	88	14·6	101
St. Pancras	243,416	—	50	44	—	16	—	—	23	—	133	7·1	—	23	2	5	9	—	3	—	1	43	2·3	466	25·0	133
Islington	344,616	—	70	47	—	17	—	5	22	—	161	6·1	—	43	4	17	16	—	2	—	6	88	3·3	563	21·3	155
Stoke Newington	34,560	—	5	3	—	—	—	—	4	—	12	4·5	—	—	—	1	4	—	—	—	—	5	1·9	43	16·2	91
Hackney	219,630	1	73	71	—	17	—	2	26	—	190	11·3	—	25	2	10	22	—	3	—	2	64	3·8	358	21·2	141
Central Districts.																										
St. Giles	37,519	—	12	2	—	—	—	—	9	—	23	8·0	—	2	—	1	1	—	—	—	1	5	1·7	78	27·1	203
St. Martin-in-the-Fields	12,424	—	2	2	—	—	—	—	—	—	4	4·2	—	1	1	1	—	—	—	—	—	3	3·1	20	21·0	154
Strand	23,284	—	3	2	—	—	—	—	1	—	6	3·4	—	2	—	—	—	—	—	—	—	2	1·1	44	24·6	83
Holborn	30,046	—	6	15	—	1	—	—	2	—	24	10·4	—	6	—	3	—	—	—	—	—	9	3·9	82	35·6	254
Clerkenwell	66,120	—	18	30	—	3	—	—	3	—	54	10·6	—	4	1	2	11	—	1	—	—	19	3·7	133	26·2	150
St. Luke	41,076	—	14	12	—	1	—	—	5	—	32	10·2	—	3	—	1	4	—	1	—	—	9	2·9	97	30·8	104
City of London	29,088	—	5	7	—	5	—	—	1	—	18	8·1	—	3	—	2	—	—	—	—	—	5	2·2	50	22·4	147
East Districts.																										
Shoreditch	121,486	—	27	20	—	6	—	—	10	—	63	6·8	—	29	2	6	30	—	1	—	—	68	7·3	301	32·3	184
Bethnal Green	129,027	—	53	38	—	6	—	—	20	—	117	11·8	—	7	3	8	26	—	1	—	2	47	4·7	275	27·8	176
Whitechapel	80,559	—	12	15	—	2	—	—	11	—	40	6·5	—	1	1	1	1	—	—	—	—	4	0·6	128	20·7	68
St. George-in-the-East	48,241	—	18	4	—	3	—	—	3	—	28	7·6	—	5	—	—	10	—	1	—	3	19	5·1	115	31·1	152
Limehouse	58,661	—	18	16	—	1	—	—	7	—	42	9·3	—	5	1	2	7	—	—	—	—	15	3·3	109	24·2	121
Mile End Old Town	112,528	—	52	15	—	2	—	1	7	—	77	8·9	—	11	2	1	17	—	1	—	—	32	3·7	181	21·0	91
Poplar	170,220	2	81	41	—	12	—	1	13	—	150	11·5	—	27	3	7	31	—	3	—	—	71	5·4	353	27·0	153
South Districts.																										
St. Saviour Southwark	24,562	—	6	11	—	—	—	—	2	—	19	10·1	—	5	—	2	2	—	—	—	—	9	4·8	62	32·9	256
St. George Southwark	60,466	—	15	22	—	4	—	—	7	—	48	10·3	—	15	1	5	1	—	—	—	1	23	5·0	136	29·3	140
Newington	123,183	—	39	25	—	3	—	1	10	—	78	8·3	—	18	4	6	—	—	—	—	1	29	3·1	223	23·6	117
St. Olave Southwark	11,288	—	6	3	—	—	—	—	4	—	13	15·0	—	3	—	1	1	—	—	—	—	5	5·8	21	24·3	147
Bermondsey	85,738	—	21	11	—	5	—	—	2	—	39	5·9	—	17	2	2	3	—	2	—	—	26	4·0	170	25·9	114
Rotherhithe	40,849	—	17	2	—	2	—	—	1	—	22	7·0	—	1	1	1	4	—	—	—	1	8	2·6	54	17·2	112
Lambeth	304,073	—	75	43	—	9	—	—	29	—	156	6·7	—	31	5	7	12	—	3	—	3	61	2·6	542	23·2	118
Battersea	171,921	—	91	65	1	6	—	1	18	—	181	13·7	—	27	7	9	8	—	2	1	2	56	4·2	266	20·2	133
Wandsworth	202,526	—	73	49	—	7	—	1	11	—	141	9·1	—	13	3	6	8	—	1	—	—	31	2·0	245	15·8	148
Camberwell	261,189	—	73	50	—	6	—	2	18	—	149	7·4	—	39	3	7	11	—	1	—	2	63	3·1	382	19·1	137
Greenwich	180,441	—	55	69	—	11	—	—	20	—	155	11·2	—	6	2	4	11	—	1	—	2	26	1·8	268	19·4	133
Lewisham (excluding Penge)	88,562	—	9	13	—	5	—	—	3	—	30	4·4	—	2	—	1	4	—	1	—	—	8	1·2	100	14·7	96
Woolwich...	41,478	—	20	7	—	2	—	1	2	—	32	10·1	—	5	1	2	1	—	—	—	1	10	3·1	73	22·9	146
Lee	39,717	—	15	16	—	—	—	3	5	—	39	12·8	—	—	—	1	3	—	—	—	1	5	1·6	61	16·7	182
Plumstead	62,531	—	24	14	—	1	—	—	6	—	45	9·4	—	2	1	—	3	—	—	—	—	6	1·3	65	13·6	68
Port of London	—	—	—	—	—	1	—	—	1	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 23 cases of membranous croup.

† Including deaths from membranous croup.

to 34·9 during the week ending Feb. 12th. During the past six weeks of the current quarter the death-rate in the city has averaged 32·1 per 1000, the rate during the same period being 22·2 in London and 18·7 in Edinburgh. The 234 deaths registered in Dublin during the week under notice showed an increase of 14 upon the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 17 and 14 in the two preceding weeks; of these, 7 resulted from "fever," 3 from scarlet fever, 3 from diarrhœa, 2 from diphtheria, 2 from whooping-cough, and not one either from small-pox or measles. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 2·7 in London and 1·9 in Edinburgh. The deaths referred to different forms of "fever," which had been 8 and 7 in the two preceding weeks, were again 7 last week. The fatal cases of scarlet fever, which had been 3 and 2 in the two preceding weeks, rose again to 3 last week. The 2 deaths from whooping-cough showed a slight further decline from those recorded in recent weeks. The 234 deaths in Dublin last week included 39 of infants under one year of age and 57 of persons aged upwards of sixty years; the deaths of infants showed a slight decline, while those of elderly persons showed an increase upon recent weekly numbers. Nine inquest cases and 5 deaths from violence were registered; and 88, or more than a third, of the deaths occurred in public institutions. The causes of 16, or nearly 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JANUARY, 1898.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during January in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 8·2 per 1000 of the population, estimated at 4,504,766 persons in the middle of this year. In the three preceding months the rates had been 16·0, 12·7 and 9·8 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in St. James Westminster, Hampstead, Stoke Newington, St. Martin-in-the-Fields, Strand, and Lewisham; while they showed the largest excess in Fulham, Hackney, Bethnal Green, Poplar, St. Olave Southwark, Battersea, and Lee. Three cases of small-pox were notified in London during January, against 1, 3 and 1 in the three preceding months; of these 2 belonged to Poplar and 1 to Hackney sanitary areas. No small-pox case was admitted into any of the Metropolitan Asylum Hospitals during January, and no patients remained under treatment at the end of the month. The prevalence of scarlet fever in London showed a further decline from that recorded in the three preceding months; this disease was proportionally most prevalent in Fulham, Bethnal Green, Mile End Old Town, Poplar, St. Olave Southwark, Battersea, and Woolwich sanitary areas. The Metropolitan Asylum Hospitals contained 3021 scarlet fever patients at the end of January, against 3571, 3731, and 3507 at the end of the three preceding months; the weekly admissions averaged 232, against 350, 367, and 272 in the three preceding months. The prevalence of diphtheria in London showed a marked further decline from that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Hackney, Holborn, Clerkenwell, St. Saviour Southwark, Battersea, Greenwich, and Lee. There were 1055 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of January, against 1029, 1042, and 1066 at the end of the three preceding months; the weekly admissions averaged 132 against 155 and 151 in the two preceding months. The prevalence of enteric fever in London during January showed a further decline from that recorded in recent months; this disease was proportionally most prevalent in Hackney, City of London, St. George-in-the East, Poplar, and St. George Southwark sanitary areas. The Metropolitan Asylum Hospitals contained 106 enteric fever patients at the end of January, against 177, 155, and 116 at the end of the three preceding months; the weekly admissions averaged 17, against 23 and 17 in the two preceding months. Erysipelas showed the highest proportional prevalence in Fulham, St. Giles, St. Luke, Bethnal Green, and Whitechapel sanitary areas. The 20 cases of puerperal fever notified in London during January included 5 in Islington, 3 in Lee, 2 in Hackney, and 2 in Camberwell sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, January 29th, the deaths of 7605 persons belonging to London were registered, equal to an annual rate of 22·0 per 1000, against 16·1, 19·0, and 21·3 in the three preceding months. The lowest death-rates during January in the various sanitary areas were 13·5 in Plumstead, 14·6 in Hampstead, 14·7 in St. George Hanover-square and in Lewisham (excluding Penge), 15·8 in Wandsworth, 16·2 in Stoke Newington, and 16·7 in Lee; the highest rates were 28·5 in Westminster, 29·3 in St. George Southwark, 30·8 in St. Luke, 31·1 in St. George-in-the-East, 32·3 in Shoreditch, 32·9 in St. Saviour Southwark, and 35·6 in Holborn. During the four weeks of January 1068 deaths were referred to the principal zymotic diseases in London; of these, 473 resulted from measles, 294 from whooping-cough, 161 from diphtheria, 67 from scarlet fever, 37 from diarrhœa, 35 from enteric fever, and 1 from an ill-defined form of continued fever. These 1068 deaths were equal to an annual rate of 3·1 per 1000; in the various sanitary areas the lowest zymotic death-rates were recorded in Hammersmith, St. Giles, Strand, Whitechapel, Lewisham, and Plumstead; and the highest rates in Westminster, Shoreditch, St. George-in-the-East, Poplar, St. Saviour Southwark, St. George Southwark, and St. Olave Southwark. The 473 fatal cases of measles were more than double the corrected average number in the corresponding periods of the ten preceding years this disease showed the highest proportional fatality in Westminster, Holborn, Shoreditch, St. Saviour Southwark, St. George Southwark, and Bermondsey sanitary areas. The 67 deaths referred to scarlet fever were 16 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Fulham, Newington, and Battersea. The 161 fatal cases of diphtheria almost corresponded with the corrected average number; the mortality from this disease was highest in Paddington, Fulham, Westminster, Holborn, Bethnal Green, St. George Southwark, and Battersea sanitary areas. The 294 deaths from whooping-cough were 15 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Clerkenwell, Shoreditch, Bethnal Green, St. George-in the-East, Mile End Old Town, and Poplar. The 35 fatal cases of enteric fever were 16 below the corrected average number; the mortality from this disease showed no marked excess in any of the sanitary areas. The 37 deaths from diarrhœa were 19 below the corrected average number. In conclusion, it may be stated that the mortality in London from these principal zymotic diseases during January was nearly 20 per cent. above the average, owing to the excessive fatality of measles.

Infant mortality in London, measured by the proportion of deaths of infants under one year of age to registered births, was last month equal to 134 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in Stoke Newington, Strand, Whitechapel, Mile End Old Town, Lewisham, and Plumstead; and the highest rates in St. James Westminster, St. Giles, Holborn, Clerkenwell, Shoreditch, and St. Saviour Southwark.

THE SERVICES.

NAVAL MEDICAL SERVICE.

THE following appointments are announced:—Fleet-Surgeon Leonard H. Kellatt to the *Vernon*; Staff-Surgeon Timothy J. Crowley and Surgeon Edward Sutton to the *Bonaventure*; James H. Robertson, M.B., to be Surgeon and Agent at Portpatrick; and Staff-Surgeon Geo. W. Bell to be Fleet-Surgeon.

ARMY MEDICAL STAFF.

Surgeon-Major Frederick S. Heuston, F.R.C.S. Irel., from the Seconded List, to be Surgeon-Major, *vice* A. Perry, retired.

The under-mentioned Surgeon-Captains to be Surgeon-Majors (dated Jan. 30th, 1898): Michael T. Yarr, Langton P. Mumby, Charles H. Melville, Bernard L. Mills, George S. Cardew, Horace Cocks, James B. Wilson, John G. Black, John Kearney, Francis A. Saw, Frederick W. G. Hall, Arthur Kennedy, Henry P. G. Elkington, John B. W. Buchanan, Frederick T. Skerrett, Henry M. Adamson, Tudor G. Lavie, Herbert Brown, Thomas H. Corkery, Warren R. Crooke-Lawless, Walter P. Squire, Stanley J. W. Hayman. The undermentioned surgeons on probation to be Surgeon-Lieutenants: Hubert Oliver Browne Browne-Mason, Frederick Septimus Penny, Brian Watts, Henry Graham Martin, John Gerald Barne, Frederick Fitzgerald Carroll, John Duncan Graham Macpherson, William Parnell Gwynn, Standish de Courcy O'Grady, Augustus Henry Owen Young, Ernest Albert Bourke, Montague Marmion Lowsley, Alfred Crichton Lupton, Gerald Bayley Carter, Norman Hamilton Ross, Percy Hildebrand Collingwood, Charles John O'Gorman.

Surgeon-Major Seymour has left for India.—Surgeon-Lieutenant Cochrane will shortly embark for Bombay.—Surgeon-Captain MacCarthy has joined at Woolwich for duty.—Surgeon-Major Parkes relieves Brigade-Surgeon-Lieutenant-Colonel Mackinnon at Reading.—The following officers have been detailed for duty in Egypt: Brigade-Surgeon-Lieutenant-Colonel Barrow; Surgeon-Majors Robinson, Barnes, and Stuart; Surgeon-Captains Borradaile and Malder; Surgeon-Lieutenants Bliss, Cummins, and Hopkins.

INDIA AND THE INDIAN MEDICAL SERVICE.

The Queen has approved of the following admissions to the Indian Medical Service:—To be Surgeon-Lieutenants: Thomas Henry Delany, John Walter Forbes Rait, Stewart Ranken Douglas, Eugene John O'Meara, Godfrey Tate, Roy Fearon Baird, Andrew Thomas Gage, George Campbell Laing, George McPherson, Spencer Hunt, Alfred George Sargent, Walter Hulbert Cox, de Vere Condon, Henry Albert John Gidney, Henry Kirkpatrick, Frederick Durand Stirling Fayrer, Padmahar Krishna Chitale, and William Lethbridge. The Queen has also approved of the transfer of the under-mentioned officer to the Half-pay List: Surgeon-Lieutenant-Colonel Hugh McCalman, M.D. Aberd., Bombay Establishment. The Queen has approved of the retirement from the Service of the under-mentioned officers: Surgeon-Lieutenant-Colonel Gordon Price, M.D. R.U.I., Bengal Establishment; Surgeon-Lieutenant-Colonel Henry Adey, Bombay Establishment, and Surgeon-Lieutenant-Colonel Hormasji Dadabhai Masani, Bombay Establishment.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: Surgeon-Major J. E. Squire, M.D. Lond., to be Surgeon-Lieutenant-Colonel, and to command, under the provision of paragraph 55A of the Volunteer Regulations, 1897.

VOLUNTEER CORPS.

Rifle: 4th (Nottinghamshire) Volunteer Battalion the Sherwood Foresters (Derbyshire Regiment): Surgeon-Lieutenant H. P. Job to be Surgeon-Captain. 2nd Volunteer Battalion the King's (Shropshire Light Infantry): Surgeon-Major R. de la P. Beresford to be Surgeon-Lieutenant-Colonel. 1st Middlesex (Victoria and St. George's): Frederick John McCann, M.D. Edin., to be Surgeon-Lieutenant. 2nd (Renfrewshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Major W. G. Stevens to be Surgeon-Lieutenant-Colonel.

VOLUNTEER INFANTRY BRIGADE.

Home Counties Brigade: Surgeon-Major W. H. Bull, 1st Bucks Volunteer Rifle Corps, to be Brigade-Surgeon-Lieutenant-Colonel on being appointed Senior Medical Officer to the Brigade.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain W. C. James, M.D. Aberd., resigns his commission; Surgeon-Lieutenant H. P. Job to be Surgeon-Captain. Surgeon-Lieutenant J. C. Wright, M.B. Cantab., 2nd West Riding of Yorkshire Volunteer Artillery to be Surgeon-Lieutenant.

THE INDIAN FRONTIER WAR.

Since our last report regarding the progress of affairs on the Indian frontier fresh intelligence has been received from which we learn that Sir William Lockhart has postponed his departure from India in order to devise new plans for a recommencement of operations against the Afridis unless they submit before the 23rd inst. The tribes have been warned accordingly and in the event of their refusal an advance will at once be made against them; indeed, an advance has, as far as the still unsubmissive Zakka Khels are concerned, already commenced from Mamani. Meanwhile, the preparations for the intended attack on the Afridis are being rapidly completed and the force is now equipped with the best transport available. The debate in the House of Commons on the Indian frontier question has shown that there was, after all, little or no essential difference between the last and the present Government in regard to the policy it was deemed desirable to follow, but unfortunately the circumstances in which the Indian Government were placed by the widespread revolt among the frontier tribes left them no option in the matter; they were most reluctantly compelled to embark on this frontier war in order to avoid incurring a very serious risk of worse evils in the near future, and it is highly probable that whether Sir Henry Fowler or Lord George Hamilton happened to have been Secretary of State for India would have practically made but little difference—there would have been no escaping the exigencies of the situation occasioned by the revolting tribes. The cost of the war and the losses sustained have, no doubt, been disproportionately large as compared with what has been gained, but it is a mistake to suppose that the power of the Afridis—the only tribe on the border that remains unsubmissive—has not been materially weakened even if it has not been already broken. Our losses on the Indian frontier from June 10th to Feb. 7th have been heavy. They have amounted to 684 British and 1233 native troops. They include 43 British officers killed, 90 wounded, and 12 soldiers missing. Several hundred followers are believed to have been killed or are missing. In spite of the enormous strain to which our government of India has been subjected of late by plague, pestilence, and famine, as well as war, its stability remains unshaken. Nor is the tribal revolt on the frontier the only opposition with which the Government has to contend at the present time, for it has also had a serious rising in Baluchistan on its hands.

THE SERVICE EXAMINATIONS.

We herewith print the lists of the successful candidates for commissions in Her Majesty's Army Medical Staff and Indian Medical Service. It will be remembered that some months ago it was decided that all the candidates should be examined on one list and that after the examination they should be allowed to elect for their service before joining at Netley. The system was, we understand, introduced in order to facilitate the obtaining of candidates for the Army Medical Staff. The following results, as far as the Army Medical Staff is concerned, show a lamentable failure. Not only have the authorities failed to obtain anything like the number of men which they required to fill the vacancies advertised, but it will also be observed that only one candidate on the Army Medical Staff list could have obtained a commission in the Indian Service.

ARMY MEDICAL STAFF.

Names and order of merit.	Marks.	Names and order of merit.	Marks.
1. W. H. S. Nickerson	2775	12. H. J. Lobbin	2154
2. A. E. Walter	2693	13. A. R. O'Flahertie	2148
3. G. S. Nickerson	2617	14. H. Herrick	2127
4. A. E. Weld	2504	15. C. W. Mainprise	2103
5. J. S. Gallie	2474	16. G. J. S. Archer	2069
6. G. B. Crisp	2439	17. R. S. H. Fuhr	2066
7. H. B. G. Walton	2324	18. H. O. Hall	2056
8. W. Jagger	2323	19. F. J. C. Hefferman	1994
9. A. B. MacCarthy	2275	20. J. Cowan	1965
10. R. Selby	2196	21. H. P. Hewitt	1943
11. A. B. Tnorp	2163		

INDIAN MEDICAL SERVICE.

Names and order of merit.	Marks.	Names and order of merit.	Marks.
1. T. Hunter	3470	9. G. F. S. Genge	2904
2. W. R. Battye	3345	10. E. F. G. Tucker	2886
3. H. B. Meakin	3215	11. W. G. Liston	2876
4. G. Hutcheson	3157	12. F. S. C. Thompson	2806
5. R. W. Anthony	3066	13. H. J. R. Twigg	2770
6. G. E. Stewart	3046	14. C. W. McG. Orpen	2745
7. H. Boulton	2994	15. T. S. Novis	2721
8. J. W. Watson	2962		

DEATHS IN THE SERVICES.

Surgeon-General Samuel Fuller, M.R.C.S. Eng., L.S.A., at Woodlands, Orchard Hill, near Bideford, on Feb. 7th, from carcinoma of the throat, in his sixty-fifth year. The deceased had served with distinction through the Indian

Mutiny and in the Egyptian War of 1882. Since his retirement from the army Surgeon-General Fuller had lived at Northam, and for some ten years had been a highly respected member of the District Council. He was unmarried. The funeral took place in Northam churchyard on Feb. 10th with many tokens of respect.

Surgeon-Lieutenant-Colonel D. C. M'Fall, M.R.C S. Eng., at his residence, Warrington, on Monday, Feb. 8th, aged sixty-six years. It was only last year that the deceased officer resigned medical charge of the 8th and 40th depôts stationed at Warrington. His career in the medical services was a distinguished one. He entered the naval service as surgeon in the Baltic fleet, and subsequently passed through the Crimean war. He left the navy, became connected with the 87th Royal Irish Fusiliers, the 34th Foot, known as the Border Regiment, and the 80th Royal Irish Fusiliers. With those regiments he served twenty years in India. He was engaged in the Indian Mutiny. In India he rendered great service in helping to stamp out more than one epidemic of cholera, and was several times recognised and mentioned in the War Office despatches.

Deputy Surgeon-General W. Ord-Mackenzie (retired), aged eighty-four years. He joined the Army in 1842 and served for many years with the old 3rd King's Own Light Dragoons under the old regimental system. He retired as a Regimental Surgeon-Major in 1866 with the honorary rank of Deputy Surgeon-General.

THE MILITARY DESPATCHES RELATING TO THE INDIAN FRONTIER.

We are very glad to notice that the work done by the medical services in the late operations on the Indian frontier are handsomely recognised in General Bird's despatch on the Tochi Field Force and in that of the late General A. Yeatman-Biggs dealing with the operations in the Kurram Valley in the autumn of last year. These despatches have received the concurrence and approval of the Governor-General in Council and of the Commander-in-Chief in India and have been recently published in the official *Gazette* of this country. General Bird says: "The losses by disease have, I regret to say, been very heavy, three British officers and over one hundred British soldiers having died from sickness, besides fifty native soldiers and many followers. Great numbers have been invalided or are still in hospital. The Medical Department has been exceptionally hard worked throughout the expedition and my best thanks are due to all ranks of the profession." The Medical Department was administered by Surgeon-Colonel R H. Carew, D.S O., Army Medical Staff, and General Bird brings to special notice the names of the following officers for good work performed: Surgeon-Lieutenant-Colonel W. A. Simmonds and Surgeon-Major H. C. Hudson, both of the Indian Medical Service, and Surgeon-Captain L. P. Mumby, M.B. Lond , Army Medical Staff. General Yeatman-Biggs specially mentions Brigade-Surgeon-Lieutenant-Colonel W. R. Murphy, D.S.O. and Surgeon-Captain C. B. Prall of the Indian Medical Service.

THE SOUDAN CAMPAIGN.

The appearance in the papers of the names of several officers of the medical staff who are to take part in the Soudan expedition forcibly reminds us of the fact that an Anglo-Egyptian force will soon be advancing in the direction of Khartoum. General Gatacre, who it will be remembered recently did excellent work in Bombay in connexion with the plague, has found a new and probably a more congenial sphere for the display of his energies as a general in command of the British troops. He is labouring hard at Dekhish and Abu Dis in fitting his brigade for the work before them. Since he arrived in camp we are told that the regimental canteens have been closed as far as the sale of spirits and intoxicating liquors are concerned. The troops are in excellent health and condition and in good fettle, as has been proved by the way in which they have stood long marches, manœuvring and field-firing in the desert. General Gatacre's brigade comprises the Lincolnshire, Cameron Highlanders and Warwickshire regiments among others. The medical arrangements for the advance of the expeditionary force are ready and most of the medical officers with the Egyptian or British Army have already had field experience in Egypt and on the Nile.

Her Majesty the Queen has expressed a wish to Miss H. Norman, R.R.C., Lady Superintendent of Nurses at the Royal Victoria Hospital, to be furnished with photographs of the wounded men from the North-west Frontier of India whom she inspected at her visit to the hospital last week. The men are extremely pleased and gratified at this further mark of Her Majesty's kindness.

Surgeon-Major-General W. Nash, M.D. Edin., Army Medical Staff, Principal Medical Officer at the Royal Victoria Hospital, Netley, arrived at Osborne and had the honour of dining with the Queen and the Royal Family.

Correspondence.

"Audi alteram partem."

THE "OVERCROWDING" OF CEMETERIES AND THE PRACTICE OF CREMATION.

To the Editors of THE LANCET.

SIRS,—You will doubtless have observed in the *Times* of Dec. 22nd, 1897, a leading article on the so-called "overcrowding" of cemeteries and on the practice of cremation as a suggested alternative for it. It may also have struck you that while this suggestion was based on a statement the accuracy of which modern science is not prepared to admit and which cannot fail sooner or later to receive due correction, the article referred to left altogether unnoticed, and as if it had never formed part of the question, the explanation of the real cause of that so-called "overcrowding" and the no less obvious remedy for it which I had furnished to the same paper, and which it had found wholly satisfactory, years before. It may also have occurred to you as unfortunate that, owing to the overcrowded state of its columns, nearly a month elapsed before room could be found for the insertion of that *résumé* of the whole case which the omission in question rendered imperative, and which necessarily occupied the whole of the space which the editor was able to place at my disposal. It follows, therefore, that, in this way and up to now, the *Times* has had the whole field of uncontradicted assertion to itself.

Now, Sirs, the very last thing I would have you suppose by the explanation I am here giving you is that I mean by it to reflect on the course pursued by the present editor of the *Times*. The *Times* is a newspaper, and nothing is more natural than that a newspaper which has been led to believe a statement which jumps with its opinions but of the technical value of which it has no means of judging, should make the most of it—even of such a statement as this: "It is hardly disputed that infections may be propagated through the earth from the bodies of the dead"; and again: "By the act of interment we literally sow broadcast through the land innumerable seeds of pestilence which long retain their vitality, many of them destined at some future time to fructify in premature death or ruined health for thousands"! What, Sirs, even if the editor had given me the opportunity, could I oppose to such a statement as this? Could I simply say that it was not true? Who on the whole editorial staff or among the majority of its readers would be in a position to say whether it was or not? In a word, what would a discussion raised on such a foundation in a public journal avail to prove either one thing or the other? What more, therefore, could I say than that I was prepared to wait for such a capable and disinterested inquisition into the truth of it as a jury of experts could alone pronounce?

That for the moment, then, has been my answer to an article the value of which depends mainly on the accuracy of this statement. Meantime, the only thing that "has been thrown broadcast through the land" has been the statement itself.

But there is a point which, though barely touched upon by the article referred to, a great newspaper like the *Times* and its many intelligent readers *are* capable of judging of—and that is the facility afforded by the practice of cremation for the commission of crime. I propose, therefore, to offer its editor another letter on this part of the subject.

I am, Sirs, yours faithfully,

F. SEYMOUR HADEN.

Woodcote Manor, Alresford, Hants, Feb. 4th, 1898.

"THE PATHOLOGY AND TREATMENT OF GOUT."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 12th Dr. Rudolf raises, *àpropos* of my paper on the Pathology and Treatment of Gout published in THE LANCET of Jan. 15th last, the interesting question as to whether the uric acid found in the blood and connective tissues in gout may not be a by-product in the obscure conditions producing that disease. In my opinion the reason why deposits of sodium biurate are so frequently found at post-mortem examinations in the joints of persons who have suffered from granular kidney disease but have never been known to suffer from ostensible gout during life is that in such cases the deposition of the biurate into the joints has been very slow and gradual and has never become excessive, whereas a somewhat sudden and copious deposit is required to produce an attack of acute or subacute gout and a considerable amount must be present in the joints to produce the deformities of chronic gout. Although I do not think that uric acid can be considered a by-product in gout, yet I am quite at one with Dr. Rudolf in considering that it is not the primary cause of the disease. The primary pathogenic factor in gout is, I believe, a functional or organic affection of the kidneys which interferes with the complete elimination of the uric acid manufactured in those organs and so allows absorption of the non-excreted portion of the uric acid to take place into the general circulation. This view renders it quite intelligible why uric acid can always be found in the blood in cases of granular kidney disease and the fact that it is found in smaller proportions than in cases of gout explains why the deposition of the biurate into the joints may be so slow and gradual as not to produce the symptoms of ostensible gout. I am, Sirs, yours faithfully,

Weymouth-street, W., Feb. 12th, 1898. ARTHUR P. LUFF.

To the Editors of THE LANCET.

SIRS,—The following remarks are suggested by Dr. Rudolf's letter under the above heading in THE LANCET of Feb. 12th.

Ostensible gout is unquestionably acute articular inflammation. That the deposit of sodium biurate in articular tissues is a competent factor of inflammation is scarcely open to doubt. Hardly less doubtful can it be that if such deposition takes place very slowly there are many persons whose tissues so irritated will not react so energetically as to exhibit acute inflammation. This being so it fully explains how urates may be found post mortem in the joints of persons who have never suffered from ostensible gout. Various as is the susceptibility of the articular tissues of different individuals to inflammatory reaction on injury there are probably none so slightly susceptible as not to be acutely inflamed by a sudden and copious deposition of sodium biurate and probably none sufficiently susceptible to be similarly affected if the deposition takes place by slow degrees. The "something more" than the presence of urates in the joints which is necessary for the production of ostensible gout is therefore simply susceptibility of the articular tissues to inflammation, and that this susceptibility varies in different persons and in the same persons at different times experience daily tells us.

I am, Sirs, yours faithfully,
P. GOWAN, M.D. Edin.

Upper Woburn-place, W.C., Feb. 12th, 1898.

HEREDITY IN CANCER.

To the Editors of THE LANCET.

SIRS,—May I take leave to point out that in your necessarily condensed report of the discussion on Cancer at the West London Medico-Chirurgical Society in THE LANCET of Feb. 12th you attribute to me a statement which, correct in itself, yet apart from the context expresses the exact opposite of what I said and have contended for years?

My reference was to a paper in the *British Medical Journal* of Oct. 10th, 1885. This was an analysis of 1075 cancer cases with some near relative similarly affected in 15·7 per cent. Three sets of control-statistics drawn from medical men, tuberculous patients, and people with miscellaneous ailments gave a rather larger ratio—roughly speaking, 20 per cent.—with "cancer in the family." The necessary inference was that hereditary influences as a predisposing cause of cancer are *nil*. Apart from statistics, the strongest argument against heredity to my mind is afforded by the fact that no case ever arises without a direct and definite exciting cause whether there be cancerous relatives or not.

I am, Sirs, your obedient servant,

Gloucester-place, W., Feb. 14th, 1898. HERBERT SNOW.

"THE NOTIFICATION OF INFLUENZA."

To the Editors of THE LANCET.

SIRS,—With due deference to Dr. W. Woodward I beg to submit that his idea of notifying influenza is altogether impracticable. The means available for diagnosis as far as I am aware in the hands of general practitioners are so equivocal and hence the diagnosis so uncertain that it is obvious innumerable cases of common febricula accompanied with pain or other catarrhal conditions especially in the hands of whimsical practitioners would be notified as such and it would be an extremely delicate and invidious task to gainsay any given practitioner on this account and as a consequence the greatest confusion would prevail and an intolerable burden be thrust upon the already overburdened ratepayers, and the whole system of notification would probably be brought into contempt. If I am correct with regard to the uncertainty of diagnosis it follows that the statistics from which Dr. Woodward imputes from 50 to 100 deaths weekly in London from the complaint in question must be swallowed with a grain of salt.

I am, Sirs, yours faithfully,

Peckham, S.E., Feb. 5th, 1898. CLEMENT H. SERS.

THE ASYLUMS BOARD "SCAPEGOAT."

To the Editors of THE LANCET.

SIRS,—The dismissal of Mr. A. T. O. White from the superintendentship of the Darenth Imbecile Asylum for reasons which, as you have already pointed out, are obviously insufficient calls imperatively for action on the part of our profession to protect a professional brother. The facts (and many now know them) do not warrant the punishment inflicted by the committee, which is equivalent to a fine of several thousand pounds, besides the unjust moral infliction and subsequent loss from damage to professional reputation. A medical man with an imputation against him is often driven to practise abroad, so that the punishment in this case not only represents a great loss of deferred pay in the prospect of pension, but may also be equivalent to life-long banishment from his native country.

I suggest that a committee or deputation be formed to wait on the Poor-law Board to demand that a searching inquiry be held. An inquiry by unbiased, independent men, from what I know of the actual facts, could not, I believe, arrive at any other conclusion than a condemnation of the Special Committee and a total exculpation of the medical officer.

In conclusion, I would add that in thirty years' experience of committees of institutions dealing with medical men I have never known or heard of so great an injustice.

I have the honour to be, Sirs, your obedient servant,

Feb. 16th, 1898. MEDICO-PSYCHOLOGICUS.

"DR. CLIFFORD ALLBUTT'S 'SYSTEM OF MEDICINE.'"

To the Editors of THE LANCET.

SIRS,—A suggestion that a "tropical edition" of this work should be published is put forward in THE LANCET of Feb. 12th by "Civil Surgeon." May I add on the same side that one copy at least would have a hearty welcome from,

Sirs, yours faithfully,

Newcastle-on-Tyne, Feb. 12th, 1898. TRAVANCORE.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—The following candidates having passed the examination for the Licence in Medicine of the Royal College of Physicians of Ireland were admitted as Licentiates on Friday, the 11th inst.: James Douglas Macdonogh, L.R.C.S. Irel., and William Arthur Winter, M.D. Dubl.

JERRY-BUILDING AT BELFAST.

(FROM OUR SPECIAL COMMISSIONER.)

(Continued from p. 316.)

ONE of the great evils of Belfast is the promiscuity of pigs, poultry, ponies, donkeys, horses, and cows—all living, if not actually under the same roof as human beings, still on the same premises, in small backyards totally unsuited for the purpose. With regard to cows this is especially dangerous, for there is the further risk of contamination of milk. The condition of three or four dairies which I visited while examining some of the worst property in Belfast was sufficiently bad in itself to account for the prevalence of epidemic disease. In the south side of the town I came upon an unpaved back yard which was reeking with liquid manure. This manure issued from the cow stables that gave on to the yard. The water for the dairy purposes was taken from an unprotected cistern which was suspended over a dirty closet. Manure heaps were piled up close to this cistern. A grid in the middle of the yard allowed the liquid portions of the manure to flow into the sewer when the amount was more than the unpaved soil of the yard could absorb. As if the stench of the manure was not sufficient, there issued from this untrapped grid the effluvia of the sewers. Now close at hand there was a big wooden tub in which the milk cans were washed. The water used for this purpose looked very repulsive, and no wonder, for each time a can or a milkpail was lifted off the ground near the tub, a certain amount of manure stuck to it and was therefore conveyed to the water in which it was washed. Thus the milk is carried to the customers in cans that have been washed with water that is mixed with manure. In such dirty water pathogenic germs if once introduced would multiply with great facility, nor is it easy to see how a tub made of so porous a substance as wood can be satisfactorily disinfected. The mere scouring-out of such a tub would not suffice. Steam under pressure should be discharged inside, but of course there is no apparatus for such an operation. Overlooking this filthy yard there was a whole row of houses, the bedroom windows of which on being opened must give admittance to the odours generated by the manure-sodden earth of the dairy yard.

From this dairy I went to a very quiet, broad, respectable-looking street. The houses here are rented for about £20 a year and to judge from the general appearance such a neighbourhood should be free from any conspicuous sanitary defects. In the backyards or gardens there are water-closets situated by the side of ashpits. Over the closets are large, flat cisterns measuring about 4½ ft. by 3 ft. and only twelve inches in depth. The water-line comes up to about nine inches; so there is a wide but shallow expanse of water which is uncovered and spread out to receive the dust blown from the ashpit which is placed not farther than five feet below and which is likewise uncovered. This ashpit measures about 5 ft. by 6 ft. The water from the uncovered cistern feeds the water-closet underneath and in many instances the kitchen tap beyond. In some cases, however, the connexion between the houses and these cisterns have been cut off and the house supply comes direct from the main, the cistern serving only to flush the closet. This is certainly very much to be preferred than any attempt to improve the cistern. What has been done for some of the houses should be done, and this at once, for all the houses. At the same time the water-closets should be carefully examined. One of these closets, I found, instead of draining into the sewer, simply emptied itself into the ashpit of the next-door house. If in the comparatively rare instances where the water-closet system has been adopted it does not work any better than this, it can scarcely be considered as an improvement. In another street, but close at hand, I visited a middle-class house where the water came from a cistern placed under the apex of the roof. It was covered over with two ill-fitting and loose boards that were black with the soot from the surrounding chimneys. The lead flashings holding the cistern were so turned as to let in the water from the roof. Near at hand in the yard below was an uncovered ashpit from which the dust might be blown on to the roof and thus mix with the water drunk in the house. Most of the cisterns, however, are not under the roofs of the houses, but in this part of the town are frequently in very exposed positions on the top of outbuildings, and can easily be reached from the back passages, where these passages exist. As they are either not covered at all or very inefficiently covered there is nothing to prevent mischievous boys from throwing things into them and the hurling of a dead cat into a neighbour's cistern is considered a good practical joke. Before leaving the comparatively prosperous south side of the town I was shown, near to Great Victoria-street, a house which had its ashpit close against the back bedroom wall. The liquid from this ashpit saturated the ground below the floor of the house and the odour was perceptible in the dwelling room. When it was emptied the garbage, &c., from the ashpit had to be carried through these rooms. At the back of this house there were a cattle yard and piggeries. A little further on, but still close to one of the handsomest thoroughfares of Belfast, I came upon a cottage inhabited by a poor woman and a number of children. There was hardly any furniture in the place but dirt in abundance. Behind the ground-floor living-room the small pantry and sink were within 7 ft. of an open ashpit and privy combined. The children had not taken the trouble to go to the privy but had instead made use of the very small yard. The mother on her side had not taken the trouble to clear the mess away. There were no signs of washing. The children grovelled about in a half-naked and filthy condition and breathed a very foul atmosphere. Immediately opposite there was a house where four pigs were kept in a backyard that only measured 11 ft. by 15 ft. About half this yard was walled off for the pigs and the pigsty extended to within two feet of the back window. In the yard of a similar house next door three pigs were kept and the filth from these pigsties has to be carried through the houses, for there are no back passages. Of course, the pigs likewise pass through what should be the parlour. The street is paved with cobbles. The subsoil was made up of the contents of ashpits and road scrapings. The subsoil is thus not only foul of itself but is rendered more foul by leaking ashpits and the filth of the piggeries. It would be necessary not merely to destroy these houses but to dig up the earth on which they stand and cart it all away.

Leaving the south side and striking out for the western part of the town I visited, off the Shankhill-road, some of the poorest and most miserable dwellings I have ever seen. The living-room of one little cottage was below the level of the street. A few fragments of brick tiles showed that there had formerly been some sort of flooring though now there was nothing but the bare earth. The window and door were so small that the light was insufficient. Coming through the backdoor right into the middle of this room lay the trunk of a large tree. The people inside were engaged in wood-chopping. Two old women crouched over a small fire. One of them held in her arms a baby that seemed more dead than alive, such was the ghastly pallor of its face. An old man with bent back groped about picking up and chopping bits of wood. It all seemed like a hut in a dark and abandoned forest rather than a house in the midst of a great and prosperous city. To reach the backyard I had to climb over the trunk of the tree, and there I found so much water, mud, and filth that a plank had been laid down to step upon. This plank lay between the scullery which stood out into the yard and a rough hutch made of old planks by some unskilled amateur. There was only just room to pass between these two structures. Beyond the scullery stood a privy and an ashpit and inside the hutch a donkey was located in company with some live poultry. There was no back passage; therefore to reach the street the donkey must pass through the living-room of the house. The manure from the donkey hutch and the contents of the ashpit and privy must likewise be taken through the house, but to judge by the accumulation of dirt the scavengers do not pass here very often. The rent paid for this house is 2*s.* a week and it is not worth more. If nothing can be done for human beings certainly the Society for the Prevention of Cruelty to Animals might interfere on behalf of the donkey. Nor is this a solitary case, for in another little house close at hand a pony is kept in a similar manner and the yard where it lives is full of fæcal matter. There is by the street door a partition wall which screens off a bed from the entrance, but this is now crumbling to pieces and threatens to fall on the bed. The inmates tried to sleep in the scullery behind this one room, but they found that there were large holes in the ceiling which let the rain through.

Entering a street in this neighbourhood where there had been several cases of typhoid fever, I looked into a house where one of the inhabitants had recently recovered from this disease. This house was exceptionally clean; everything was tidy, bright, and well kept; the yard also was well swept, but here was an ashpit and privy combined and also an open untrapped drain which discharged sewer air within seven feet of the bottom of the bed where the person who had suffered from typhoid fever was in the habit of sleeping. Then, immediately behind the wall of the yard there is a large dairy and piggery from whence bad odours were wafted into the house. It was no easy matter to gain access to this dairy nor could I wonder at the care with which the doors were locked considering the state of things which was revealed when once I got inside. At the time of my visit there were no less than thirty-two cows kept in this yard. Right against the wall which separated the small backyard of the house where there had been a case of typhoid fever, a gigantic manure-heap rose to a height of about seven feet. Of course, the part that rested against the wall was the highest. In length the dungheap must have measured some thirty feet and fifteen feet in width, and it extended to the wall of the yards of other houses besides the one mentioned. Against these yard walls there was also a shed where nine pigs and some cows were kept together. One cow standing aside in a corner was ill and had bandages round its leg. In a small separate shed, in another part of the yard, I heard a cow moaning piteously. Looking through an opening between the boards that formed the side of this shed I saw a copious suppuration coming from the cow's eye. In the other sheds the cows were so closely packed that they could not lie down without touching each other. No spot in these sheds or in the yard was free from the actual presence of manure or the splashings of manure. It would be impossible for any person to keep himself clean in such a place and no attendant in this yard could be in a fit condition to milk cows or to touch milk cans. Milk ought not to be allowed to remain anywhere near such overcrowded and badly kept cattle-sheds, yet this is where the cows are milked and the milk-cans washed. For this latter purpose there is in about the centre of the yard a stone trough poised over liquid manure and within two or three feet of a grid which leads down to the sewer. The ground worn away all round this grid has been so hollowed out as to form a sort of moat always full of liquid manure. This entrance to the drain is untrapped and it does not drain the yard properly because it is higher than a part of the surrounding ground. On the other hand, it discharges sewer air upon the water trough. In consequence of the stagnation of manure there was a very pungent smell of ammonia. The yard has neither cement nor concrete. There is nothing to prevent the manure sinking into and fouling the subsoil. No wonder that there were several cases of typhoid fever in the street that runs behind this yard.

The condition of the ashpits and privies combined is in some of the houses most revolting. It sometimes happens that they are quite unapproachable and it is scarcely surprising that the inhabitants prefer to soil their back yards than to venture into their privies. It often also happens that the open and unprotected privy is immediately outside and under a bedroom window. The drains which carry away the rain-water from the back yards are sometimes untrapped and thus simply ventilate the sewer into this confined space and this within a few feet of the windows. Many of the houses are in a dilapidated condition, and I noticed that some were tied up with iron stays to prevent them from falling into the streets.

In the North Queen-street district I came across yet another dairy which was combined with a bakery. Passing through the baker's shop and entering the yard behind the first object that attracted my attention was a big wooden cask or tub full of water. This water came direct from the main and should therefore be clean, but the cask was so placed that it must also receive rain-water from a temporary zinc roof placed over a cowshed. Further, this water, being uncovered, could absorb the effluvia given off by the surrounding manure and by the drain which an inefficient bell-trap failed to intercept. A part of the yard was only rendered accessible by planks of wood, such was its sloppy condition. The bakery faced a cowshed. A cat from the stables was playing among the flour. At the end of this compartment was the oven. Behind the oven, but placed right against the wall of the oven, stands the water-closet. This closet is so badly jointed that the water comes out from under the pan each time that it is flushed and saturates the subsoil under, and the wall of, the baking oven. This juxtaposition of a leaking closet and of bread-baking is, to say the least of it, not appetising; but within a few feet of the oven there are cows and the mess cows make, and above both the bakery and the cows there are some bedrooms. In such cramped premises as these it is impossible to prevent the effluvia from the cowsheds entering the bakehouse, to say nothing of the water from the leaking closet which is heated and evaporated by the baking oven.

A private house in this neighbourhood rented at 4*s.* a week was pointed out to me because its inmates had suffered a good deal of sickness, scarlet fever, measles, &c. Here, in the back yard, measuring about 10 ft. by 5 ft., I found that the privy was only separated from the scullery by a wall four and a half inches thick and that it stood nine inches higher than the scullery floor. By the privy and forming part of it was an open ashpit full of disgusting filth. The rain keeps this filth in a constant state of moisture, so that the excremental matter percolates through the rotting wall of the scullery, and yet against this wall there are shelves where cooking utensils are placed. On the morning of my visit some potatoes, ready peeled for cooking, were piled up against that part of the wall which was permeated with the moisture from the privy. When it rains the amount of water coming through the wall from the privy and into the scullery is much greater, and the scullery is only separated from the living-room by a door which generally remains open.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Royal Infirmary.

THE annual meeting of the Manchester Royal Infirmary was held on the 12th inst. The chairman of the board of management, Mr. E. S. Heywood, was able to report that "financially the infirmary was quite sound," and the convalescent hospital and the Cheadle asylum, its two great dependencies, were in a satisfactory condition. At the latter two new wings have been completed and further extensions will shortly have to be made. He paid a touching tribute to the memory of the late Professor Lund and spoke of the proposed scheme for the sale of a large portion of the land round the infirmary and the building of another hospital as requiring the sanction of the corporation and likewise of the trustees. This scheme, which has not been really laid before the medical staff, is disapproved by some of its members, and Dr. Harris moved an amendment to the report so far as the proposed scheme is concerned. On Jan. 11th, 1897, it was decided by the trustees to rebuild the infirmary on the present site and this decision has not been rescinded. Nothing, however, has been done in face of the determined opposition of the corporation. If the suggested scheme is adopted the infirmary, Dr. Harris said, would retain a portion of land too small to provide the whole accommodation required for patients but yet too large for the requirements of an emergency, accident, and out-patient hospital. "If they decided to go elsewhere for the main portion of the hospital, they ought," he said, "as trustees, to sell the whole of the site and with the money so obtained build and endow the new hospital elsewhere." He also spoke of the pavilion and block systems for hospitals and was satisfied that the former was "an ideal of pre-antiseptic days" and that a non-pavilion hospital could give all the requirements wanted and be perfectly sanitary. Mr. G. A. Wright seconded the amendment, which was supported by Mr. Hardie, who has given much attention to hospital construction. The long discussion that took place shows that there is much difference of opinion as to what ought to be done and in the end Dr. Harris withdrew his amendment as it was agreed to add a sentence to the report to the effect that the scheme would be submitted to a special meeting of the trustees as soon as possible. Letters appeared in yesterday's papers from Dr. Leech and Dr. Judson Bury taking exception to the action of Dr. Harris in moving his amendment without consulting the medical board and also criticising his views. So the matter stands for the present. In my opinion it would be better to sell the whole of the site and build elsewhere on a plot large enough for a pavilion hospital if that is thought best—and it certainly gives more light, easier ventilation, and spreads the sick and injured over a larger area than the block plan—both in the interests of the city and of the infirmary. The scheme of the "sixes," the name given to the joint committee of the corporation and the infirmary board, is an objectionable compromise that would spoil the finest site in the city, leave the present infirmary cramped within its narrowest bounds, too large and yet too small—a shabby monument of an incomplete and unsatisfactory scheme, wasteful of the money both of the corporation and the infirmary, wasteful as to administration, and wasteful of the time and energies both of students and of hospital staff.

The Position of a Medical Officer of Health.

A case was decided at the Manchester Assizes on the 11th inst. by Mr. Justice Bruce which has some interest to medical officers of health. An action was brought by a butcher against the corporation of Rochdale for damages on account of trespass by the medical officer of health for the borough and a meat inspector, who condemned some meat the plaintiff had exposed as unfit for food and ordered it to be destroyed, the case not being taken before the justices. There was the usual discrepancy of evidence, the plaintiff and various experts saying it was good against the opinion of the medical officer, the inspector, and a veterinary surgeon. The medical officer stated that the case was not taken before the justices as he wished to do the plaintiff as little injury as possible and that the latter consented to its removal and destruction. Counsel for the corporation submitted that the medical officer was not a servant of the corporation, the appointment being compulsory under the Public Health Act, and that the corporation were not liable therefore for what he did. The jury found for the plaintiff and gave him £50 damages, subject to the decision of the point of law. The question raised subsequently came on for argument and the judge now gave his decision. He said that neither under the local Acts in force at Rochdale nor under the Public Health Act, 1875, had either of the officers in question any authority to destroy meat without an order of the justices, and the question arose as to whether the corporation was liable for the acts of the officers. In the resolution of the corporation appointing the medical officer of health it was stated that in any case which he might think desirable he should himself inspect any animal or meat exposed for sale which was deemed to be diseased or unsound. If he found such was the case he could give instructions for the animal or the meat to be destroyed. The power to appoint the medical officer was vested in the corporation, who were authorised to fix and pay his salary and who had conferred upon them power of removal. So far as he had ascertained there was no reservation of those powers, and the appointment was in that respect unlike the power conferred by the Public Health Act in cases where the salary of the medical officer was paid partly out of money voted by Parliament and where the power to appoint and remove was subject to the control of the Local Government Board." He thought that in this case the medical officer, and of course the inspector, must be regarded as the servants of the corporation. He considered that the medical officer was acting within the scope of his duties, and though he had neglected to take the proper steps—as to bringing the case before the justices—"the irregularity was in the course and manner of doing something they were authorised to do." Judgment was given for the plaintiff. There seems to have been no doubt of the accuracy of the view held by Dr. Henry, who has had eighteen years' experience as medical officer of health for Rochdale, as to the condition of the meat, but the moral may be drawn that it is not well to give the vendor the option of going before a justice or of having the meat destroyed without that proceeding in order to shield him from exposure.

Death from Lead Poisoning.

On the 11th inst. Mr. Smelt, the city coroner, held an inquest on the body of a man, aged forty-seven years, who had worked as a glass-cutter for a firm in Ancoats. It seems that some time ago he showed symptoms of lead poisoning and was advised to take certain precautions. He was ill but went to his work on the 5th inst., became worse and was removed to the Ancoats Hospital, but after receiving attention there was taken home and died on the 6th inst. His work included putting the finishing polish on glass with putty powder which contains lead. A certificate of death from epilepsy had been given by a medical man and the factory inspector had only accidentally learned that he had lead poisoning, to which Dr. Reynolds stated his death was due. The coroner said that the certificate given to a certain extent was incorrect, as it did not suggest that lead poisoning had brought on the epilepsy or had anything to do with the death. "He hoped that medical men would be more careful in such cases, so as to obviate the risk of deaths of this nature being passed over without inquiry."

The late Professor Lund.

In the appreciative sketch of the career of the late Professor Lund which appeared in THE LANCET of Feb. 12th it is noted that his funeral was largely attended. It may perhaps be allowable to say that there was evidenced a special desire to show respect to his memory on the part of the governing body of the infirmary where his chief surgical work was done and where his demonstrations in the early days of antiseptic surgery did so much to forward its progress, by his colleagues on the staff of the infirmary, by the Owens College and the various hospitals and societies of Manchester and Salford, and by many of the practitioners of the large district in which he was known and respected.

Feb. 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Professor Sir W. T. Gairdner on the Prevention of Disease.

THE Senate of the University of Glasgow, following the precedent of former years, has again during the present session arranged a series of lectures open to the public, and it was as a contributor to this series that Professor Sir William Gairdner addressed a large audience on the 14th inst. on the Prevention of Disease. At the commencement of his lecture he reminded his audience that for ten years he had been medical officer of health for the city and expressed his belief that no one could adequately teach curative medicine without a knowledge of preventive medicine. The prevention of disease was no doubt in one sense included in the subject of public health, but it was also in a special sense within the department of a professor of medicine, because the prevention of disease in the family, in the individual, and among groups of individual persons was as much a part of the duty of the practitioner as was the cure of disease when this actually existed. The close association between prevention and cure was conspicuously illustrated by such a disease as scurvy, and this further emphasised the importance of the investigation of the causes of diseases, a lesson which was also pressed home by the great cholera epidemic of 1832. Sir William Gairdner spoke in high terms of the work of such sanitary reformers as Sir Edwin Chadwick, Lord Shaftesbury, Lord Playfair, and Dr. Southwood Smith, who initiated the great movement for improving the health of towns. He considered, however, that the first application of the clear light of science to the history of epidemic or other diseases was the invention of the mode of expressing the death-rate by the late Dr. Farr, which furnished an accurate foundation upon which the relative freedom from disease of different places may be calculated on the basis of the incidence of the deaths in the different places. Dr. Farr found that there were only three districts in England in which the death-rate was as low as 15 per 1000; that in fourteen it was 16 per 1000; and that in forty-seven it was 17 per 1000. He therefore found that to get a sufficiently broad basis for his statement he must take 17 per 1000. As showing the improvement that had taken place Sir William Gairdner mentioned the fact that Dr. Tatham, the present head of the Statistical Department, had found that he could operate with a death-rate of 15 per 1000, and that one-sixth of the population of England in 263 districts had a death-rate below 15 per 1000 in the period 1881-90, and that fully a quarter of the population was below the standard of Dr. Farr. With regard to the reduction of the death-rate in Glasgow Sir William Gairdner referred his audience to Dr. Russell's admirable book on "The Evolution of the Function of the Public Health Administration," and remarked that whereas in his own day the death-rate reached as a rule 30 per 1000 it had now shrunk to about 20 per 1000. This gain was largely due to increased cleanliness, and whilst much yet remained to be done on the old lines—and in particular in the direction of preventing the occupation of houses totally unfit for habitation—the notification of infectious diseases and the immunisation principle were amongst the newer apparatus of sanitary science, and these and other developments of the more recent pathology might be expected to furnish still further triumphs. At the close of his lecture Sir William Gairdner read to his audience, the text of a memorandum which he had submitted to the University Court in connexion with the teaching of Public Health in the university. In this the urgent necessity of the foundation of a professorship and laboratory is insisted on and the opportunity at present afforded by the vacancy in the chair of Forensic Medicine is pointed out. The present arrangements for touching the subject in the university are condemned as most incomplete and most unsatisfactory. Another suggestion which has been made is to transfer the endowment of the present chair of Forensic Medicine to a new chair of Public Health and to allow the former subject to be taught by a lecturer. Certainly it is absurd to pay a sum of £600 per annum to a chair the duties of which may apparently be discharged by the delivery of fifty lectures to medical students and a few lectures to students of law. All this could be efficiently undertaken by a lecturer at a much smaller salary, but the proposal above alluded to involves legal difficulties and possibly may suggest questions as to whether other endowments are wisely spent in the payment of professors whose sole duty seems to be the annual delivery of a statutory number of dictation lectures.

Royal Lunatic Asylum, Aberdeen.

The ninety-seventh annual report—for 1897—shows that the number of patients in this asylum is now 765, which closely approaches the limit of 792 fixed by the scheme of increased accommodation sanctioned in 1892. The extension of the heating system to Elmhill House (for patients of the middle and wealthier classes) and the new laundry, together with heating and ventilation of the new hospital, have cost nearly £3000; the electric light for the whole buildings has cost £5000; and £2000 extra were spent in a basement floor for the new hospital. The laundry and work-room block now in course of construction (including additional dayroom and dormitory accommodation for female patients) will cost between £8000 and £9000 before it is finished. Cornhill-road has been diverted at an expense of £1500 and the outlay for additions and improvements at Daviot Branch Asylum has been upwards of £5000. It is recommended that two wings (for sixty patients) be erected in the rear of the new hospital at a cost of about £8000 and that some detached buildings be converted into good dayrooms and dormitories for sixty patients at a probable expense of £1500. As soon as these works are finished the reconstruction of the front buildings will be proceeded with. Altogether it is said that in addition to the expenditure of £50,000 sanctioned by the managers in 1892 there has been, or will be, required a further outlay to the extent of about £35,000. It is proposed to borrow the money on the security of the assets, the debt to be paid off within thirty years. It has been arranged to acquire on favourable terms seventy-six acres of additional land at Hilton and Cornhill, Aberdeen, for the healthy employment of inmates at agricultural work. The income for the year, exclusive of the sum credited to new hospital and reconstruction account, amounted to £27,504 and the expenditure, including the sum of £2000 reserved for deterioration, to £26,397. Of the surplus of £3107, £2000 have thus been carried to a reserve for depreciation and £1107 applied towards the cost of the extension and improvements scheme. There were admitted last year 233 patients, the discharges numbered 142 and the deaths 56. The total number of cases under treatment was 969. The rate of recovery, says Dr. W. Reid, physician superintendent, compares favourably with the average of former years.

Proposed New Lunatic Asylum, Aberdeen.

In connexion with the scheme to build a new poorhouse to take the place of the two existing institutions of the kind in Aberdeen the General Lunacy Board for Scotland has indicated that it does not approve of lunatic and ordinary paupers being accommodated in the same establishment and has suggested that the territory of Aberdeen Parish Council be formed into a lunacy district. The works committee of the parish council accordingly recommend that a new district asylum be built near Aberdeen for 400 patients at an expense, including land, of £64,000, that the West Poorhouse and ground on the east side of King-street be sold, and that additions and alterations be made at the East Poorhouse so as to accommodate all the in-door ordinary poor of the city. These alterations would cost £3764, which, after giving credit for £23,419 4*s.* as the value of the property to be sold, would leave the net first cost of the new scheme at £44,344 16*s.*

Feb. 15th.

IRELAND.

(From our own Correspondents.)

Cork-street Fever Hospital, Dublin.

At a meeting of the Managing Committee of this hospital held on the 10th inst. the registrar reported that during the month of January 227 cases had been admitted, the bulk of the patients being sufferers from scarlet fever. Enteric fever had been less prevalent than during the corresponding period of recent years but of a more severe type, while during the latter half of the month influenza and influenza complicated with pneumonia were common. Typhus fever has again disappeared from Dublin. In reference to the new convalescent house at Beneaven it is satisfactory to note an increase in the number of those who avail themselves of its advantages before returning to their homes. All the beds are occupied at present.

Death of Mr. T. Hamilton Burke.

A well-known and much esteemed member of the medical profession in Dublin—Mr. T. Hamilton Burke—has just passed away at an advanced age. For more than fifty years his name appeared on the roll of Fellows of the Royal College of Surgeons in Ireland, where his personality was well known. Commencing his career as medical officer to the Dispensary and Hospital at Westport he subsequently became one of the medical inspectors under the Local Government Board and filled that position until he retired some years ago as senior medical officer of that service. His funeral, which was largely attended, took place on the 11th inst.

Sudden Death of Two Medical Practitioners.

Dr. P. L. Ahern, of Milford, county Cork, was recently attacked with a malignant form of typhoid fever, to which he quickly succumbed, his death having taken place on the 10th inst. A telegram announcing his sudden and grave illness was despatched to his brother, Mr. James Ahern, of Fermoy, and was received by the latter during his convalescence from severe rheumatic fever. In his weakened condition the shock was too much for him and he died at once from syncope. Both medical men were young but well known and much esteemed in the south of Ireland.

The Royal Medical Benevolent Fund.

The committee of the Belfast and District Branch of the Royal Medical Benevolent Fund have made a very strong appeal to the medical profession in Belfast through the local secretary, Dr. John McCaw, basing their request for further subscribers largely on the fact that last year the Central Committee of the society gave £90 to the widows and orphans of medical men of the local branch and that further aid is urgently needed. It is hoped that this request will be liberally responded to.

Belfast Asylum.

From the report of the Inspector of Lunatics, Dr. G. P. O'Farrell, I learn that although this asylum is calculated to accommodate 400 patients there are now resident in it nearly 700, but as it is likely that the present building will be vacated in a few years the inspector did not feel justified, notwithstanding this great overcrowding, in urging any addition which would entail a large expenditure. The capitation cost of maintenance was £22 8*s.* 9*d.* At the meeting of the Governors held on Feb. 14th the secretary of the Belfast Nurses' Home wrote protesting against the new fever hospital being built at Purdysburn and appealing to have it placed instead in the present lunatic asylum grounds within safe distance of the New Royal Victoria Hospital. By such an arrangement the probationers of the New Royal Victoria Hospital could have a fixed period of training in the nursing of infectious diseases. At present all the nurses trained in the Royal Hospital get their experience of infectious diseases in the fever block there and the public who afterwards employed them had benefited by this training; but were the new city fever hospital built at Purdysburn, the secretary of the Nurses' Home says, such an arrangement would be manifestly impossible. The chairman (Professor Cuming, M.D. R.U.I) said this subject was a matter for the Corporation and the Asylum Board could not hear it.

Medical Men and Clerical Work.

At a meeting of the Belfast board of guardians held on Feb. 8th a statement was read on behalf of the resident medical staff of the Infirmary protesting against the imposition made upon them of clerical duties formerly performed by an inmate of the establishment. As a result of the new system two of the house surgeons were engaged at the books up to 2 A.M. on Sunday, Feb. 6th, all day on Sunday until 1 A.M. on Monday, and on the Monday from 10 A.M. till 6 P.M., and afterwards from 10 P.M. until 2 A.M. on Tuesday morning, yet the books for the current week were not properly opened. Admissions, discharges, and deaths were in arrears, and one house surgeon was left to attend to 1300 patients in the infirmary and his whole time would be fully occupied by attending to admissions without paying a single visit to patients in the wards. It seems that the clerk, who had been removed from his former post to other duties, although he worked from ten to fourteen hours daily (Sundays included), could only do a portion of the work, the important items being always performed by the medical staff. The resident staff protest against the new rule that they must personally enter in the weekly return and diet bill every entry required for each patient. The whole matter is to be considered in committee at the next meeting of the board.

Typhoid Fever in Kilmallock Union.

A serious outbreak of typhoid fever has occurred in Kilmallock Union. Dr. Browne, Local Government Board inspector, was present at a meeting of the guardians and stated that he found it very difficult to trace its source. He, however, believed that certain creameries were instrumental in spreading it. He recommended that the creamery milk should be boiled before being used and he urged the removal to hospital of patients suffering from the disease. In that connexion he remarked that the ambulance vans were not as comfortable as they might be. He also strongly recommended that the Infectious Diseases (Notification) Act, 1889, and the Infectious Diseases (Prevention) Act, 1890, should be put into force in the union. It was stated that 40 cases had occurred in the district since June last.

Dr. T. A. Kelleher has been appointed assistant house surgeon to the Cork South Infirmary.

Feb. 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Adjourned Discussion on Blistering.

AT the meeting of the Academy of Medicine held on Feb. 8th M. Ferrand gave an account of the work by which he had tried to reintroduce blisters. That which we have to guard against is not the use of blistering but its abuse. The indications for blisters are very plain in certain morbid conditions where simple rubefacients are insufficient. Blistering must on no account be used so as to cause a wound of the skin by which certain infectious germs may enter, but a blister properly applied produces all its effects without any wound and very simple aseptic measures are sufficient to protect the place if by any chance the epithelium is broken. The pain caused by a blister can be easily alleviated and the general depression which accompanies its use very soon disappears. The vascular alterations produced by cantharides are not necessarily dangerous of themselves, but, in fact, they are of great use in the treatment of certain diseases. As for the renal affections which sometimes result from the absorption of cantharides, even if they do occur and increase from a simple catarrh to nephritis extending to the vessels and glomeruli, it is easy to avoid this accident by limiting the duration of the application, by using small blisters and not applying them too often. Cantharides sometimes has a useful action upon the kidney; in certain forms of nephritis it is valuable and it is allowed by everyone at the present time that if cantharides ought to be prescribed in some cases of interstitial nephritis it can also be given with advantage in the parenchymatous variety. The indications for a blister vary according to the site, the kind, and the type of the disease. They are of great use in typical forms of catarrh of the serous and mucous membranes. In conclusion, M. Ferrand pointed out that blisters exercise a good effect upon nutrition and he agreed with M. Robin's opinion that they produce a real hyperleucocytosis. Vesication also has a good effect in the spasmodic vomiting of certain convulsive affections. M. Huchard gave the meeting a short historical account of vesication. It was invented some 2000 years ago by Asclepiades of Bithynia, but since his time it has been greatly abused. Defective asepticism was responsible for a great number of the accidents following this method of treatment. He reminded the Academy of the case of a child, eleven years of age, whom Dr. Duquet had seen, who had been blistered 110 times for pleurisy. As a result the patient died from empyema and nephritis. It was especially in the country that this sort of abuse flourished and practitioners ought to make themselves thoroughly acquainted with the risk to which they were exposing their patients by the use of cantharides without special precautions.

The Surgery of the Stomach.

At the same meeting of the Academy M. Doyen gave his experience with regard to the result of 146 cases of surgical operations upon the stomach. Of these, 66 were malignant and 80 non-malignant. There were 22 deaths in all and 20 of these were in cases of cancer. Of his last 55 cases 50 were successful, 5 of the patients being *in extremis* when they came under treatment. Gastro-enterostomy is a proper treatment for dilatation and ulcer with or without hæmatemesis. Roux's method is the only satisfactory one; it avoids all danger of infecting the peritoneum. M. Doyen makes use of the lever compression forceps which were originally made for compressing the pedicle of ovarian tumours. Recovery is undoubted in cases of serious dyspepsia or where there is ulceration without pyloric stenosis. The patients eat like everybody else and are quite unaware that they have a stomach. The operation is also of great use in patients who apparently suffer from intestinal dyspepsia; hæmatemesis ceases after its performance and the biliary function is re-established.

Bequests.

Professor Tarnier by his will has left to the Academy of Medicine a yearly income of 5000 francs, 3000 of which are assigned for a prize to be given annually, which will be called the Prix Tarnier and which is to be given for the best work on a subject in obstetrics and gynæcology. The prize will be given in one sum and will be allotted in the first year for obstetrics and in the second year for gynæcology. The Academy can make what use of the remaining 2000 francs of income it pleases.—Madame Emile Durand has just made a donation to the Pasteur Institute of a sum of 50,000 francs to promote the study of tuberculosis.

The Case of M. Heim.

The Council of the University, with the Minister of Public Instruction as president, has just delivered judgment in the case of the appeal entered by M. Heim, an assistant professor in the Faculty of Medicine, who was accused of unlawful possession of certain apparatus and of neglect of his duties and who was sentenced to suspension from his office. The Disciplinary Committee which heard the appeal first reported to the Council that the following were the heads of the accusations against M. Heim: (1) that he had been guilty of grave neglect of his duties, and (2) that when a candidate for the post of chef des travaux in the natural history faculty he had handed in a scientific treatise which contained sundry errors. These, then, are the conditions under which M. Heim, with the assistance of his counsel, Maître Millerand, appealed to the Superior Council. By 33 votes to 14 the Council mitigated the original sentence—that is to say, reduced the suspension to the period of two years with loss of salary.

The Treatment of Elephantiasis by the x Rays.

On Feb. 14th M. Mascart showed to the Academy of Sciences, on behalf of Dr. Sorel and Professor Soret, of Havre, a series of photographs of the hand of a patient who had been suffering from the disfiguring affection known as elephantiasis. This patient had got well solely by the use of the x rays. This result had been obtained after three sittings of a few minutes' duration. Upon the application of the President the clinical history and notes of the case were remitted for consideration to the Section of Medicine.

Influenza in Paris.

The statistics for the week ending Feb. 13th show that there were 50 deaths from influenza out of a total of 1220. In the preceding week the mortality attributed to influenza was 36. These figures, however, must not be taken as showing an increase in the epidemic, for the total number of deaths is almost the same in both weeks—namely, 1214 and 1220. The mortality from respiratory affections was 220 last week and 260 in the week preceding. A number of medical men are wont nowadays to attribute to influenza deaths which they would formerly have ascribed to acute bronchitis or pneumonia—a fact which is quite sufficient to explain the rise in influenza mortality. For a just estimate of the value of these figures it is quite sufficient to remember that at the height of the epidemic in 1890—when the total weekly mortality was 2334—the municipal statistics only gave 22 deaths as due to influenza, so that judging by the figures the present epidemic of influenza is twice as serious as that of 1890.

Feb. 16th.

ROME.

(From our own Correspondent.)

A Noble Initiative.

Few contemporary Italians have deserved better at the hands of nature students than Pietro Blaserna, Professor of Experimental Physics in the Roman University and author (*inter alia*) of masterly treatises on the conservation of force, on the development and duration of induced currents, and on the theory of sound in its relations with music. He has just laid the scientific cause in Italy under yet another obligation the extent and import of which will be apparent to all who know how that cause languishes for want of means. Attached to nearly all the Italian universities are "istituti" supplementary to the regular "faculties," and these, naturally enough, are most numerous in the sphere of inductive research and experimental study. Most of the "istituti" referred to have "gabinetti" (cabinets) or "musei" connected with them for illustrative or practical purposes; but, like nearly everything educational in Italy, they are miserably endowed, lamentably short of *matériel*, and quite behindhand in their representation of contemporary science. One chief cause of this disastrous state of things (always excepting the drain on the revenue for military and naval purposes) is the multitude of universities in the kingdom and the impossibility of equipping all of them adequately. There are no fewer than nineteen such "seats of learning" in Italy and no Minister of Public Instruction has yet been influential enough to reduce their number by half and make the survivors really worthy of the name—"almæ matres," or nursing mothers of the professions. The truth is the provincial, not to say parochial, spirit still dominates the peninsula and islands; still forces the king, for example, to keep on his far too heavy civil list the royal, archducal, or simply ducal residences, many of which he has never seen, and still maintains universities which have long survived all usefulness but that of providing for a multitude of local hangers-on. "In these circumstances," says Professor Blaserna, "it is idle to hope for a speedy improvement," and so on his own account he has started a series of lectures from Feb. 16th to April 6th on his favourite subject (the theory of sound in its relations with music) and will devote the fees paid for admission to augmenting the Government pittance vouchsafed for the "Istituto Fisico" of which he is the director. This private initiative is quite unprecedented in Italy. Bursaries or scholarships, it is true, are not unfrequently founded by enlightened testators; but excepting here and there a savant who has bequeathed his private museum or library "i donatori ad istituti scientifici non sono mai esistiti" (the endowers of scientific institutes have never existed). It is hoped that the truly philanthropic step taken by Professor Blaserna will shame some of Italy's millionaires into providing adequately for their country's studious youth; and meanwhile I hear of more than one attractive holder of a lecturership or university chair expressing his willingness or actual intention to give popular or supplementary courses and from the fees thus earned to reinforce the all too scanty Government allowance in aid of his special subject. Italy it is felt has looked too long and too exclusively to the Government Hercules to lift her out of the rut and "put her on rails" and ought now to try what can be done in the way of "self-help" on the lines so nobly initiated by Professor Blaserna.

The English speaking Practitioner in Italy and the Income-tax.

Your compatriots in medical practice throughout Italy have not yet recovered from their astonishment at Signor Santini's declaration on the 2nd inst. in the Chamber of Deputies that "non pagano la imposta di ricchezza mobile" (they don't pay income-tax)—the fact being, as stated in my last letter,[1] that they pay an inordinately heavy income-tax on a total of annual receipts arbitrarily fixed by the Ricchezza Mobile Office, fixed, that is to say, at a figure generally far above what the leading Italian consultants in the kingdom are assessed at. I may incidentally explain that the said "imposta di ricchezza mobile" (income-tax) is, like well-nigh all Italian institutions, fiscal and other, farmed out, therein perpetuating one of the worst traditions of the Roman Empire. The Government receive the money from the "publicani" to whom they concede its collection, and the "publicani" recoup themselves by what they can collect over and above the sum estimated by the Government as approximately due. More lucrative returns to the Italian treasury than those yielded by English-speaking practitioners are not derived from any other professional class, native or foreign. Yet this arbitrary fixing of amount of income and the heavy exactions made on the strength of it are borne by these practitioners without a murmur, which probably explains Signor Santini's astounding inference that they are not taxed at all! Very different is the conduct of his own compatriots under the same fiscal *régime*. Let me cite one instance, and that one an "instantia prærogativa," as Bacon calls it. Readers of The Lancet, or indeed the medical world, "ubique gentium," still remember the admirable paper in your columns on "Cavernous Angioma of the Cheek, its Surgical Cure."[2] Its author, Professor E. Bottini, lecturer on Operative Surgery in the University of Pavia, has long been one of the leading consultants in Italy and as such marked out as "fair game" by the "publicani" above referred to. Time after time Professor Bottini has protested against the arbitrary estimate formed of his income and the tax correspondingly levied by these exactors. He has even changed his residence from one part of the kingdom to another in order to escape persecution. And now I read in the public prints the following "dichiarazione" (declaration) issued above his signature:—

> Dichiarazione.
>
> Colpito da un reddito di ricchezza mobile che reputo esorbitante, e non avendo ulteriore mezzo di difesa dichiaro: di rinunciare intieramente all'esercizio professionale privato
>
> In fede,
>
> Sanremo, 9 febbraio, 1898. Prof. Enrico Bottini.
>
> (Struck by a return for income-tax which I hold exorbitant, and having no further means of defence, I declare that I renounce entirely the private exercise of my profession.
>
> In faith,
>
> San Remo, 9th Feb., 1898.) Prof. Enrico Bottini.

Professor Bottini dates from the Italo-French frontier—from a health-resort on the Riviera Ponente, where he may command a non-Italian *clientèle*, while during the summer he may continue his clinical prælections. In this way he may earn sufficient income, relieved in great part from fiscal exactions, and at the same time keep in touch with his Alma Mater. He will not be the first of Italian consultants who have had to defeat what they consider an unjust tax. But the Ricchezza Mobile Office, amid so much recalcitrancy on the part of its compatriots, can look, I repeat, with little favour on Signor Santini and his Bill, which would exclude from Italy the English-speaking medical man, who pays without protest a disproportionately heavy income-tax and who only asks in return to be allowed to practise his profession without let or hindrance.

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[1] The Lancet, Feb. 12th, 1898, p. 473.

[2] The Lancet, Sept. 20th, 1890, pp. 612–14.

Feb. 13th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Cremation in Austria.

ABOUT a year ago the Vienna Medical Society appointed a committee to consider the question of the introduction of cremation into Austria, Professor Hofmann and Professor Gruber being the reporters. At the last meeting of the society Professor Hofmann's report was read by Professor Mauthner. It was to the effect that inhumation is attended by a great many disadvantages and that cremation is to be preferred on hygienic grounds. Decomposition may, however, be accelerated by avoiding metal coffins and by not making the graves too deep. In selecting places for burial grounds the nature of the soil should be taken into consideration. With respect to the æsthetic aspect of the subject Professor Hofmann believed that there was a disagreeable episode at the onset of a cremation when the skin gave way and the fat became strongly heated. Cremation has the advantage of preventing misapplications of dead bodies or portions of them, such as the superstitious use of the fat for making ointments or the turning of the bones to commercial account. Proceeding to the medico-legal side of the question Professor Hofmann said that exhumation by order of a magistrate is of infrequent occurrence and takes places only when poisoning is suspected; he denied that poisons are undiscoverable after a short time and he stated that he had succeeded in recognising cyanide of potassium four months after death in a body which was very much decomposed. He believed that it would be impossible to make cremation compulsory, but he approved of its being made optional when there was no doubt as to the cause of death or when a pathological or chemical examination of the body had been made. Professor Gruber, the second reporter, said that the treatment of bodies in a crematorium is quite unobjectionable. He refuted the bacteriological arguments which have been advanced against burial by proving that a great many infectious germs perish quickly after bodies have been interred. Professor Mauthner proposed the following resolution, which was unanimously adopted: "There are no objectionable features in the cremation of bodies in a modern crematorium, but inhumation is not attended with such disadvantages that cremation is to be regarded as a necessary hygienic reform. Compulsory cremation would present many difficulties and would, moreover, be inadvisable for medico-legal reasons, but there can be no reason for opposing optional cremation after a careful examination of the body."

Cerebral Pressure.

In a pamphlet on the above subject Professor Adamkiewicz has argued, contrary to the views of Professor von Bergmann and other investigators, that living nerve substance may be compressed without injury to its function and that the normal tension of the cerebro-spinal fluid can never surpass physiological limits. At least, a pressure acting on the surface of the living brain does not contract the capillary vessels but causes their dilatation. The source of the cerebro-spinal fluid is the arterial blood and the source of its pressure must be the pressure in the capillary vessels where it is secreted. Nothing else than obstruction to the return of venous blood from the head and general congestion of the venous system can increase the tension of the cerebro-spinal fluid. The circulation in the veins controls the cerebro-spinal fluid and there is a free communication between the cavities containing the fluid and the venous blood in the head. The injection of fluid into the cranial cavity could not increase the pressure in the veins of the neck, even if it had to do with thin-walled veins, for such veins are compressed and closed by external pressure and the result would be that the pressure in the veins of the neck would fall. But if the increased pressure of the injection was to increase the pressure of blood in the veins of the head the emissory veins which are not closed by any external pressure would suffice to carry off the extra blood. Indeed, it is possible to inject the cranial bones from the subdural space by means of a coloured liquid. The venous flow in the veins of the bone has a suction action during inspiration on the fluid in the lymphatic spaces surrounding it. Merely increasing pressure in the cerebro-spinal fluid cannot have any general effect on the cerebral pressure.

University Intelligence.

By order of the Minister for Public Instruction the winter half-year, which ought to end in Easter week, was closed on Feb. 7th in consequence of the riots that have taken place both in the aula and the class-rooms of the University. When the Government prohibited the display of coloured emblems (the so-called Farbenverbot) at the University of Prague, in which city there had been many conflicts between the German and the Slav population, the German students in Vienna, following the example of those in Prague, refused to attend any classes.

Feb. 14th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of the Victorian Branch of the British Medical Association.

AT the annual meeting of the Victorian Branch of the British Medical Association the following office-bearers were elected for the ensuing year:—President: Dr. R. L. McAdam. Vice-President: Dr. A. L. Kenny. Hon. treasurer: Dr. J. R. M. Thomson. Hon. librarian: Dr. F. Meyer. Hon. secretary: Dr. W. Kent Hughes. Editor: Dr. J. W. Springthorpe. Members of council: Dr. A. V. M. Anderson, Dr. F. D. Bird, Mr. F. M. Harricks, Dr. H. F. Lawrence, Dr. M. U. O'Sullivan, Dr. W. Snowball, Dr. R. R. Stawell, Mr. R. A. Stirling, and Dr. G. A. Syme. In his address the retiring President, Dr. R. A. Stirling, commented on the present conditions in the profession. The subject of the hour was serum-therapy, in respect of which Australia was lagging behind other countries. He strongly advocated the establishment of an institute of preventive medicine in Melbourne which would secure to the profession and their patients a proper supply of the various antitoxins and other antidotes to bacterial disease. To in some degree check the spread of tuberculous disease the localisation of cases by registration ought to be ensured and the establishment of special hospitals for all tuberculous ailments must be one of the works of the immediate future. Reference was made to the use of escharotics by quacks for cancer. The operation of straightening the deformity of Pott's disease of the spine, advocated by Dr. Chipault and Dr. Calot, was discussed and a case quoted in which it had been successfully undertaken by the speaker.

Case of Hydatid of the Brain.

In the December number of the *Inter-colonial Medical Journal* Dr. J. A. Hawkes records an interesting case of operation on a hydatid of the brain which unfortunately ended fatally as most of the cases so far operated on have done. The patient, a girl aged five years, had complained of headache for some months; in April she had vomiting and in May she had twitching of the face, extending in July to the right hand. She had never had convulsive attacks. When seen she had paresis of the right side of the face. The tongue was pushed to the right. The reflexes were exaggerated and there was cutaneous hyperæsthesia; the pupils were normal and also the special senses. On moving the right arm or when excited she had large, jerky tremors in it. The right leg was rigidly extended. The symptoms varied a good deal in intensity. The skull was trephined over the left Rolandic area over the arm centre and the hydatid discovered and removed, ten ounces of fluid being evacuated. A small drainage-tube was introduced and the bone replaced. The patient did well for three days when the temperature suddenly rose to 104° F. and she died with marked signs of cerebral irritation. Post mortem it was found that the cavity, in which the cyst had been, opened into the lateral ventricle and there were no evidences of inflammation. Dr. Hawkes suggests that the sudden relief of the tension affects the cerebral circulation in these cases and that it might be well not to drain but to completely close the wound.

Jan. 8th.

Obituary.

LEONARD REMFRY, M.A., M.D., B.C. CANTAB., M.R.C.P. LOND.,

ASSISTANT OBSTETRIC PHYSICIAN TO ST. GEORGE'S HOSPITAL AND OBSTETRIC PHYSICIAN TO THE GREAT NORTHERN CENTRAL HOSPITAL.

We regret to announce the death of Dr. Leonard Remfry, the assistant obstetric physician at St. George's Hospital, which occurred suddenly at his house in Great Cumberland-place early on the morning of last Friday, Feb. 11th. Dr. Remfry had been the subject of epilepsy for several years, and the cause of his sad death was epileptic coma.

Dr. Leonard Remfry was born in 1860 and educated at Christ's College, Cambridge, where he graduated in arts and medicine, completing his medical career at St. George's Hospital. At St. George's Hospital he was soon recognised as a capable and diligent student and was in due time elected to fill the following junior appointments—assistant medical registrar, house physician, anæsthetist, and resident obstetric physician. Upon the appointment of Dr. Champneys to the vacant post of obstetric physician at St. Bartholomew's Hospital Dr. Remfry was elected assistant obstetric physician to St. George's Hospital, which post, as well as that of obstetric physician to the Great Northern Central Hospital, he held at the time of his death. Thus it will be seen that at the comparatively early age of thirty-seven years Dr. Remfry had already put behind him a good record of practical work and there is no doubt that his early decease has deprived the profession of one of the most promising of its younger exponents of the science and practice of midwifery. In his special branch of medicine Dr. Remfry was a sound and careful practitioner. That he was a diligent and accurate observer is shown by his few but valuable papers published in the Transactions of the Obstetrical, Pathological, and Clinical Societies and in our columns. He was indefatigable in his attention to his hospital duties both at St. George's Hospital and at the Great Northern Central Hospital, though the onerous work must at times during the last year or two of his life have been performed under circumstances of disadvantage which might well have excused some relaxation. As a teacher of obstetrics Dr. Remfry was much appreciated by his pupils at St. George's Hospital, as his teaching was always simple, lucid, and practical, while his manner was one which was calculated to assist the student to do his best. For some years before his appointment as assistant obstetric physician to St. George's Hospital he held a well-attended and successful class in midwifery and gynæcology, and it may be in consequence of the experience thus gained in "coaching" that his subsequent teaching proved so useful and acceptable to the students.

In addition to his attainments as an obstetric physician Dr. Remfry was a musician of no mean order, the author of one or two popular waltzes and marches, and a fine instrumental performer as well. His sudden and early death leaves a gap in the social world of St. George's Hospital, where his sterling good nature and kind-heartedness were as much appreciated as his more striking social qualities.

EZEKIEL ROUSE, M.R.C.S. ENG., L.R.C.P., L.M. EDIN.

Mr. Ezekiel Rouse, who died at Bideford on Feb. 10th, was well known in North Devon and was in his fifty-seventh year at the time of his death. Mr. Rouse was born at Tetcott, where his father was rector. He received his medical education at Edinburgh, taking the qualifications of M.R.C.S. Eng. and L.R.C.P. and L.M. Edin, in 1871. Mr. Rouse had been in Australia and also served through the Maori War. For many years he had practised at Bideford, where he was honorary surgeon to the Bideford Infirmary, and also held the appointments of medical officer of health of Bideford Rural District, medical officer of health of Northam Urban District, and medical officer of health to the Port Sanitary Authority. Mr. Rouse was a prominent Freemason and took a great interest in the volunteer movement, being one of the surgeons to the 4th Devon Rifle Volunteers and a recipient of the volunteer long service medal. The deceased leaves a widow and two children, for whom much sympathy is felt.

FREDERICK WOODCOCK DOWKER, M.R.C.S. ENG., L.M., L.S.A.

The death of Mr. Dowker, of Helmsley, in the sixty-third year of his age, is the cause of the loss to Yorkshire of a medical practitioner of the old school who was held in the greatest respect alike by the public and his fellow practitioners. Mr. Dowker was educated at Christ's Hospital, afterwards walking the wards of St. Bartholomew's Hospital. After gaining his diploma he was for a short time at Crewe and afterwards he was assistant to Dr. Ness at Helmsley, finally settling in that town, where he continued to practise until failing health compelled him to transfer the active duties to a partner. He was until recently medical officer for the Oswaldkirk district of the Helmsley Union and also medical officer for the sanitary area. His practice was marked by great success and his name is held in esteem for his expertness as an operator and his skill in grasping the intricacies of a difficult case. He is survived by a widow and three members of his family.

JOSEPH HUNT, M.R.C.S. ENG.

The death on Jan. 8th of Mr. Hunt was regretted by a large circle of friends in volunteer and private circles in Birmingham. Educated at Queen's College, Birmingham, Mr. Hunt afterwards became resident surgeon at the Birminham General Dispensary, subsequently engaging in private practice in the town. In 1880 he was appointed one of the honorary surgeons to the Children's Hospital, a post which he held for twelve years. In 1881 he joined the volunteers as surgeon and the following year was transferred to the combatant ranks as lieutenant. In 1887 he was promoted to the rank of captain and retired from the service last year with the honorary rank of major. As a practitioner Mr. Hunt commanded the confidence of his patients and enjoyed a good practice until failing health disabled him from pursuing his more active duties. As an officer he was genial and popular, having many firm friends. The death of his wife soon after their marriage left a blank in his life which was never completely filled—a loss for which he endeavoured to gain consolation by an energetic and stirring life.

Medical News.

University of London.—The following candidates were successful at the Preliminary Scientific Examination in January:—

Entire Examination.—First Division: Beatrice Mary Kidd, Westfield College and Bedford College, London; Harold Charles Corry Mann, Dulwich College and Guy's Hospital; and Herbert Victor Wenham, St. Bartholomew's Hospital. *Second Division:* Walter Ball, University College, Liverpool, and Alwyne Institute; Frederick Michael Bishop, St. Bartholomew's Hospital; Margaret Lucy Augusta Boileau, University College and University Tutorial College; John Hay Burgess, Royal College of Surgeons, Edinburgh, and University Tutorial College; Ronald Edgar French, Dulwich College; Arthur Augustus Russell Green, Mason College; Harold Axel Haig, Birkbeck Institute and private study; Osburne Ievers, St. Mary's Hospital; George Edward James Antoine Robinson, Dublin University and University College; John Latham Rushton, private study and University Tutorial College; Ernest William Strange, Epsom College and Guy's Hospital; Louis Leopold Arthur William Thomson, St. Mary's Hospital, and Harold Tipping, Guy's Hospital.

Chemistry and Experimental Physics.—†Mary Cecilia Bell, Ladies' College, Cheltenham, and University Tutorial College; Arthur Carnarvon Brown, St. Bartholomew's Hospital; Henry Swarbrick Brown, University College and Guy's Hospital; Gerald Lantsbery Bunting, Westminster Hospital; Henry Catling, St. Thomas's Hospital; Philip George Easton, St. Mary's Hospital; Vernon Hetherington, St. George's Hospital; †Cecil Hugh Myddn. Hughes, Westminster Hospital; Arthur Galt Jackson, University College, Liverpool; †Frederick Samuel Langmead, St. Mary's Hospital; Reginald Larkin, St. Olave's Grammar School, Southwark; Llewelyn Llewelyn, University College, Cardiff; †Lionel Henry Moiser, private study; Frederick Paine, University Tutorial College; †Albert Edward Pinniger, Middlesex Hospital; †William Phillips Price and †Ernst George Pringle, St. Bartholomew's Hospital; Charles Michael Roberts, St. Paul's School; †Ernest Sydney Routly, St. Mary's Hospital and Plymouth Technical Schools;

†Herbert Bartlett Simpson, University College and University Tutorial College; †Dansey Smith, private tuition and Middlesex Hospital; †Edward Bertram Smith, St. Bartholomew's Hospital; †Reginald Winter Sprague, St. Paul's School; John Benjamin Valentine Watts, University College, Bristol; †Hilda Kate Whittingham, private study and University Tutorial College, and Harry Theodore Wilson, Bedford Grammar School.

Biology.—†John Acomb, Yorkshire College; †Joseph Ebenezer Adams, St. Thomas's Hospital; †Harry Reginald Allingham, King's College; †Kenneth Anderson, Guy's Hospital; Charles Sydney Archer, Yorkshire College and University College, Nottingham; †Charles Henry Farley Bailey, Westminster Hospital; †Algernon James Beadel, Guy's Hospital; †Arthur Beeley, Yorkshire College; †Gerald Eade Bellamy, University Tutorial College; †William Broughton Blackburn, Yorkshire College; †Thomas Edward Blunt, London Hospital; †George Archibald Bosson, Epsom and University Tutorial Colleges; †John Braithwaite, Guy's Hospital; †Henry Jeaffreson Brewer, Epsom College; George Herbert Brown, Owens College and private study; †Hugh Westley Burman, Mason College and private tuition; †Percy Charles Bushnell, and †Rose Lilian Humphrey Davy, University Tutorial College; †Henry De Vine, Merchant Venturers' Technical College, Bristol; †Reginald Antony Eastmond, London Hospital; †Mary Gertrude Edis, University College and private study; †Moses Feldman, London Hospital; †John William Fox, University College, Sheffield; †Colin James Galbraith, King's College; †Douglas Gray, Charing Cross Hospital; †Reginald Affleck Greeves, Queen's College, Belfast; William Charles Frederick Harland, St. Bartholomew's Hospital; †Alfred William Iredell, Guy's Hospital; †Smeeton Johnson, Wyggeston School and St. Mary's Hospital; †William Kingdon Legassick, and †Alfred Lewthwaite, University College and University Tutorial College; †C. Jerome A. Nicolai Mercier, Charing Cross Hospital; †Reginald Henry Miller, St. Mary's Hospital; †Oswald Mills, St. Thomas's Hospital; Robert Vernon Giraud Monckton, St. Bartholomew's Hospital; Arthur Cyril Motta, St. Mary's Hospital; †Lorimer Gifford Nash, Guy's Hospital; †Agnes Agatha Parson and †Enid Marian Smith, Ladies' College, Cheltenham; Mary Marguerite Louise Taylor, University Tutorial College and private tuition; Mary Campbell Train, University Tutorial College; †George Wale, private study; Ada Miles Whitlock, University Tutorial College; †Henrietta Leila D. Williams, King's College and University College, Cardiff; and Frederick Robert Elliston Wright, St. Thomas's Hospital.

† These candidates have now completed the examination.

Examining Board in England by the Royal Colleges of Physicians and Surgeons.—The following gentlemen having passed the necessary examinations have been admitted by the two Royal Colleges Diplomates in Public Health :—

Box, Stanley Longhurst, L.R.C.P. Lond., M.R.C.S. Eng., M.B. Lond.
Butler, William, M.B. and C.M. Glasg.
Carter, Godfrey, M.R.C.S. Eng., M.R.C.P. Edin.
Darabseth, Naoroji Beranjji, M.R.C.S. Eng., M.B. and C.M. Aberd.
Dymott, Donald Frederick, M.R.C.S. Eng., M.B. Lond., Surgeon-Major I.M.S.
Hunter, George Holbrey, M.R.C.S. Eng., L.S.A. Lond.
Kitching, John Lea Walton, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond.
Morgan, Morgan John, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. Lond.
Nicol, Percy Wood, M.B., C.M. Edin.
Ross, Frederic William Forbes, M.D., C.M. Edin.
Rowlands, David Richards, M.B., C.M. Edin.
Wallace, William, M.D., C.M. Glasg.
Wilkinson, John, M.B., C.M. Edin.

Three gentlemen were referred for six months.

Conjoint Examinations in Ireland by the Royal College of Physicians and Royal College of Surgeons in Ireland.—At the examination for the Diploma in State Medicine (Public Health) the following candidates have passed :—

Surgeon-Major Sinclair Westcott, A.M.S. (honours), and Maurice G. McElligott, L.R.C.P. and S. I., L.A.H.I.

University of Cambridge.—The General Board of Studies have at length produced their report on the suspended Professorship of Surgery. On the ground that at present there are no arrangements whereby beds at a hospital in Cambridge could be secured for a professor they are not prepared to recommend the assignment of a stipend to the chair and they accordingly propose that the suspension of the office should be continued until the University shall otherwise determine; but in order that the duties in regard to teaching and examination should be carried on they suggest that a Reader in Surgery should be appointed at a stipend of £240 a year, the appointment in the first instance being for five years or for a less time if the professorship should be revived in the interval. The duties of the Reader would be to teach and illustrate the principles and practice of surgery, to advance the knowledge of these subjects, and to promote their study in the University; he would also be, *ex officio*, an Examiner in Surgery for the M.B., B.C., and M.C. examinations. Inasmuch as the Board appears to think that the conditions as to clinical work which are unattainable by a Professor are attainable by a Reader, the natural inference is that the Reader must be selected from the surgical staff of the hospital.

At the congregation on Feb. 10th the following medical degrees were conferred :—*M.D.* · Charles Todd, B.A., M.B., B.C. Clare; Astley Vavasour Clarke, B.A., M.B., B.C. Caius. *M.B. and B.C.:* Charles Jephcott, M.A. Caius; Theodore Henderson Molesworth, B.A. Caius; Cyril Eden Michael, B.A. Selwyn.

Presentations to Medical Men.—On the 3rd inst., at the annual social meeting of the Caledonian Railway, Bridgeton, Ambulance Corps, held in the Albert Hall, Main-street, Mr. James Stirling, M.B. Glasg., of Bridgeton, lecturer to the corps, received the gift of several valuable books on surgery, &c., from the members of the corps.—On the 5th inst., at a well-attended meeting held in connexion with the West Smethwick centre of the West Bromwich Ambulance Brigade at the Cape Hotel for the distribution of the efficiency certificates, Mr. I. Pitt, L.R.C.P. Edin., M.R.C.S. Eng., of West Smethwick, the lecturer, was the recipient of a barometer from the members of the brigade.—On the same day at a meeting of the Sutton-in-Ashfield branch of the St. John Ambulance Association, held at the waiting-room at the town station, Mr. Robert Nesbitt, L.R.C.P., L.R.C.S. Irel., of Sutton-in-Ashfield, was presented with an umbrella. The branch is composed of employés of the Midland Railway Company and a few friends.—On the 7th inst., at the public hall, Cwmaman, Mr. D. Davies-Jones, M.B., C.M. Edin., was presented with an illuminated address and a gold watch and chain by the inhabitants of Cwmaman and a gold-mounted walking-stick from the members of the ambulance class on his departure. Mrs. Davies-Jones was also presented with a gold ring and a purse of gold.—At the annual festival, held in the City Assembly-rooms, on the 11th inst., of the members of the Ambulance Corps in connexion with the Caledonian Railway at Dundee Mr. Robert Buchanan, B.Sc., M.B. Glasg., of Dundee, the instructor of the corps, was presented with a silver jug in recognition of his services during the year.

West Kent Medico-Chirurgical Society.—A meeting of this society was held on Feb. 4th at the Miller Hospital, Greenwich, Dr. E. H. Ezard, Vice-President, being in the chair. Dr. G. Sims Woodhead introduced a discussion on the Serum Treatment of Disease and first explained the principles on which antitoxin is produced. It is the result of interaction between toxin when introduced into the body and certain cells of low specialisation such as those of the connective tissue group. The best method of producing antitoxin is by accustoming a horse to gradually increased doses of toxin. Antitoxin is thus produced in the blood. The animal has then two kinds of immunity—active which enables the tissues to react against toxin and passive due to the presence of antitoxin. Smaller doses of antitoxin are more efficacious in the earlier stages of diphtheria than in the late, as it is easier to neutralise the toxin when circulating in the blood than when it has attacked the cells, and degenerative changes in the latter cannot be undone by antitoxin. Large doses injected in the early stages act magically. One of the dangers is that improvement is so marked that people are liable not to be so careful and syncope may result. Dr. Woodhead then dealt with the serum treatment of tetanus, plague, typhoid fever, &c., explaining the differences in principle between the treatment of some of those and of diphtheria. He mentioned the fact of cultures of the streptococcus of erysipelas and bacillus prodigiosus being said to cut short the growth of carcinoma. About 200 units of antitoxin are sufficient to protect a person against diphtheria for about three weeks, but on the first day of the disease about from 600 to 1000 units are required and much larger doses on the second day. An erythematous rash and pains in the joints are often produced especially in prophylactic injections and are due to the persons getting about and not being dieted. Wine and brandy predispose to them. The unit of toxin is the amount which will kill a guinea-pig of 250 grammes in four days. The unit of antitoxin is the amount which will protect the same guinea-pig against 100 lethal doses of toxin.—The discussion was continued by Dr. Hart, Mr. Parke, Dr. Meggison, Dr. Bowen Williams, Mr. Payne, Dr. Henry, and Dr. Ezard, and a vote of thanks to Dr. Woodhead was carried.—Dr. Woodhead replied and the meeting then adjourned.—The next meeting, on March 4th, will be clinical.

A "DENTORIUM" AT NEWPORT (MON.).—At Newport (Mon.) on Feb 7th a young man was charged under the Dental Act (1878) with using the word "dentist" without being duly registered or qualified; he was further charged with applying the word "dentorium" for his business. For the defence it was contended that the word "dentorium" no more implied that the user was a registered dentist than that the word "sanatorium" indicated its proprietor was a medical man. The magistrates imposed a fine of £3 5*s.* with respect to the first charge, but in regard to the application of the word "dentorium" they thought the evidence insufficient to convict.

FORFARSHIRE MEDICAL ASSOCIATION. — This society met on Feb. 4th in the University College, Dundee, Dr. Alexander Campbell, President, being in the chair.—Dr. Don showed a lad with an Eruption on the Right Leg and Thigh following the distribution of the cutaneous branches of the sciatic nerve in the thigh and the musculo-cutaneous nerve in the leg. The eruption broke out twelve months ago. There were no vesicles, but there were crops of papules with marked pigmentation accompanied by itchiness of the parts affected.—Dr. Guild read a paper on Nasal Obstruction in which he considered the various causes of this condition and advocated cocaine and the electric cautery as most efficient in treatment.—Dr. MacVicar read notes of a case of Visual Aphasia and Amnesia Verbalis occurring in a young man, a painter by trade, who had received a fair education. The patient's head was struck forcibly against the edge of a dresser on Dec. 27th, 1897, the injury being over the right parietal eminence. He suffered from symptoms of concussion and after recovery from this was unable to read. He gradually improved and was able to read aloud and write to dictation short words before he could recognise letters. He understood "written speech" subsequently to being able to read aloud. He could read simple sentences in fourteen days and numerals in nineteen days after the injury. The lesion was supposed to be of the nature of a hæmorrhage due to *contre-coup* over the left angular gyrus and possibly affecting the supra-marginal and posterior part of the third temporo-sphenoidal convolutions.—Dr. Kynoch read notes on a case of Labour complicated by Ovarian Tumour subsequently removed by operation. The woman was thirty-seven years of age and had seven children; the last two labours were complicated by an ovarian tumour which on account of the softness of its contents became flattened out between the head and posterior pelvic wall, allowing delivery to be completed by forceps. Ovariotomy was performed a few months after the last confinement, the tumour proving to be a dermoid cyst.—Dr. Mackie Whyte showed a case of Congenital Diplegia and gave notes of the case. It was that of a man, aged forty-eight years, and 4 ft. 5 in. in height. The trunk was short, measuring 21 in. from the top of the sternum to the symphysis pubis, and 34½ in. round the chest. The ribs on both sides were close to the iliac crest. The patient was unable to feed himself. The movements of the arm were chiefly adduction of arms across the body at the shoulder-joint. The arms were small and were both rotated inwards; the hands were in a state of pronation, the backs looking downwards when the man was in the erect posture; the thumbs lay across the palms. The lower extremities were poorly developed; the feet were in the position of talipes equino-varus. The joints were all freely moveable. There was a scoliosis of the spine most marked in the lower dorsal vertebræ. The patient was quite intelligent. Dr. Whyte stated that Dr. Sarah Macnutt had shown a meningeal hæmorrhage at birth to be the cause of this disease.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Midwives Registration Bill.

THE Bill for the registration of midwives is introduced this session by Mr. J. B. Balfour, the Lord Advocate for Scotland of the late Liberal Administration, and is backed by him and by Mr. A. de Tatton Egerton, who introduced the Bill last session, Mr. Schwann, Mr. Heywood Johnstone, Mr. Hazell, Mr. Cosmo Bonsor, Mr. Tennant, and Mr. Skewes Cox. In the ballot Mr. Balfour drew the eighth place which enabled him to put down the second reading of the Bill as the first order on Wednesday, May 11th. The Bill will then be discussed in the House unless it should turn out that the Government appropriates the day for its own business, a contingency which, to say the least, is to be reckoned with.

Venereal Disease among the Troops in India.

The Secretary of State for India (Lord George Hamilton) has agreed, on the suggestion of Major Rasch, to get prepared a return of the number of men mobilised for field service in the Indian frontier campaign who were left behind sick, showing those suffering from venereal disease or its effects and the number of men who broke down on service during the campaign from the same causes.

Irish Lunatic Asylums.

Mr. Lough has given formal notice that on Tuesday, March 15th, he proposes to call the attention of the House of Commons to the condition of Irish lunatic asylums and to move a resolution on the subject.

HOUSE OF COMMONS.

THURSDAY, FEB. 10TH.

Colour Vision of Sailors.

Mr. Ambrose asked the President of the Board of Trade whether he was aware that of the number of persons (sailors) rejected by the Board of Trade as colour-blind, as appeared from the Board's report, 1897, 41 6 per cent. of those who were rejected and who had appealed were on appeal passed, and whether the Board of Trade proposed to take any steps to revise their tests.—Mr. Ritchie replied that 5017 persons were examined in colour-vision during the year 1896 and of this number 56 failed to pass. Of these 12 availed themselves of the right of appeal and 5 were successful. The present system of sight-tests was based upon a report by a committee of the Royal Society specially appointed to inquire into the subject, and he was advised that no case had been made out for revising it.

The Extirpation of Rabies.

Mr. Walter Long, President of the Board of Agriculture, answering questions on this subject, said that the withdrawal of the various muzzling orders now in force must necessarily depend upon the conditions which from time to time prevailed in regard to rabies in the district concerned and it was therefore not possible for him to specify a date for such withdrawal in any particular case at the present time. He might say that so far as their operations had at present proceeded they had met with even a greater measure of success than they might have anticipated and there was no reason to doubt that with patience on the part of dog-owners and the coöperation of all concerned they would be able to secure the extirpation of rabies in this country.

The Tuberculosis Commission.

Mr. Chaplin was questioned as to the probable date of the issue of the report of the Royal Commission on Tuberculosis but he could only answer that the commissioners are now engaged upon the preparation of their report.

Lead Poisoning in the Potteries.

Mr. Tennant asked the Attorney-General whether his attention had been called to the case of three girls who in the course of their work in the Potteries have become blind through the action of lead poisoning, and whether it was the case that the Workmen (Compensation for Accidents) Act, when it came into operation, would provide a remedy in such cases.—Sir Richard Webster replied that his attention had not been called to the case. It was not possible to answer an abstract question as to the effect of the Workmen's Compensation Act because every case must depend on its own special circumstances as to whether the injury was the result of an accident.

FRIDAY, FEB. 11TH.

Rabies in Ireland.

Mr. Gerald Balfour, replying to a question by Mr. T. M. Healy, said that the muzzling order had been made general in Ireland owing to the fact that the cases of rabies in Ireland were distributed sporadically all over the country. The method of dealing with the disease by regulations applied to comparatively small areas which had been tried in previous years had not proved successful, and urgent representations were made by a number of local authorities that a uniform code of muzzling regulations should be applied to the whole country. The total number of cases of rabies in Ireland during the past year was 497; of these 335 cases were reported in the half-year ended June 30th, and during the second half-year, when the muzzling order was in force throughout the country, the number was 163.

Killed and Wounded on the Indian Frontier.

Lord George Hamilton, asked for an account of the British losses on the Indian Frontier, replied: The following are the latest figures in my possession:—Killed: 43 British officers of British and native regiments, 146 British soldiers, and 310 native officers and soldiers. Wounded: 91 British officers of British and native regiments, 419 British soldiers, and 900 native officers and soldiers. But I have not received complete returns of the casualties among the native troops or of deaths from disease. A telegram on the subject has been sent to the Government of India.

MONDAY, FEB. 14TH.

The Vaccination Bill.

General Russell asked the President of the Local Government Board if he could state when the Vaccination Bill promised in the Queen's Speech would be introduced, and received a reply in the negative.

Nursing in Scottish Prisons.

Mr. Orr-Ewing asked the Lord Advocate for Scotland if any steps were being taken to place hospital warders in prisons in Scotland, or if the present system by which prisoners in hospitals were looked after by fellow criminals was to be continued in Scotland although condemned in England and Ireland.—The Lord Advocate, in reply, said that the question implied that no care other than that of prisoners was given to the sick. This was not the case. He was informed by the Prison Commissioners that the sick were both attended by the medical officer and seen to by warders or in special cases by hired attendants as required by the general instructions or by the special request of the medical man. Of the eleven mainland prisons four of the smaller prisons had no special warders on hospital duty; at the others there are warders who draw allowances as nurses.

Lead Poisoning in the Potteries.

Mr. Holland asked the Secretary of State for the Home Department whether he would consider the wisdom of instituting an inquiry into the working of the existing special rules bearing on the sickness and mortality in the Potteries and the advisability of referring such inquiry to one of the departmental committees now investigating dangerous trades, such, for example, as that which had the advantage of the services of Dr. Oliver.—Sir Matthew White Ridley said he had noticed with concern the number of cases of lead poisoning which still occur in certain branches of the earthenware manufacture. The special rules to which the hon. member referred were based on the recommendations of a committee which made a full inquiry into the subject in 1893 and he hardly thought it necessary at present to refer the subject again to the committee. Constant attention, however, had been given to the subject by the factory inspectors and he had directed special inquiry to be made into the working of the rules and he should be prepared if necessary to amend them and to take any steps that might be required.

Tuesday, Feb. 15th.

The Age of Army Recruits.

Mr. Brodrick, in reply to a question on this subject by Captain Pirie, said that the ages taken for the monthly returns were those "affirmed" by the recruits themselves to the best of their belief. The present form of attestation required the medical officer to certify the probable age of the recruit, and any recruit who had not the physical characteristics of eighteen years of age was rejected. As a considerable proportion of recruits claimed to be and were accepted as over nineteen they had no motive for over-stating their age. The proposals which he would shortly submit to the House would be found to have an important bearing upon the question.

Wednesday, Feb. 16th.

Chemical Compounds.

At this sitting Mr. Wootton Isaacson formally introduced a Bill to amend the law relating to patent and proprietary chemical compounds.

BOOKS, ETC., RECEIVED.

Baillière, Tindall, and Cox, King William-street, Strand, London.
Nasal Obstruction: The Diagnosis of the Various Conditions Causing it and their Treatment. By W. J. Walsham, M.B., C.M. Aberd., F.R.C.S. Eng. 1898. Price 7*s.* 6*d.* net.

Blackie and Son, Old Bailey, London, E.C.
Elementary Physics, Practical and Theoretical. First Year's Course. By J. G. Kerr, M.A. 1898. Price 1*s.* 6*d.*

Cassell and Co., London.
Diseases of Women: A Clinical Guide to their Diagnosis and Treatment. By G. E. Herman, M.B. Lond., F.R.C.P. Illustrated. 1898. 25*s.*

Chambers, W. and R., London and Edinburgh.
Chambers's Algebra for Schools. By W. Thomson, M.A., B.Sc., F.R.S.E. 1898. Price 4*s.* 6*d.*

Chatto and Windus, St. Martin's-lane, London.
Herbert Fry's Royal Guide to the London Charities. Edited by J. Lane. Thirty-fourth annual edition. 1897. Price 1*s.* 6*d.*

Churchill, J. & A., Great Marlborough-street, London.
Skin Diseases of Children. By G. H. Fox, A.M., M.D. Illustrated. 1898. Price 12*s.* 6*d.*

Dawbarn and Ward, Farringdon-avenue, London, E.C.
Glass-Blowing and Working. By T. Bolas, F.C.S., F.I.C. Illustrated. 1898. Price 2*s.* net.

Doin, Octave, Paris.
Deuxième Session de l'Association Française d'Urologie, Paris, 1897. Procès-verbaux, Mémoires, et Discussions. Par Dr. Desnos. 1898.

Fischer, G., Jena.
Handbuch der Therapie innerer Krankheiten. Von Drs. Penzoldt und Stintzing. Zweite Auflage. 7. und 8. Lieferungen. 1897.
Lehrbuch der Entwickelungsgeschichte des Menschen. Von Dr. J. Kollmann. 1898.
Technik der Histologischen Untersuchung Pathologisch-Anatomischer Präparate. Von Dr. C. Kahlden. 5. Auflage. 1898.
Die Behandlung des Nachgeburtszeitraumes. Von Professor Dohrn. 1898.
Handbuch der Anatomie. Von Dr. Karl Bardeleben. 6. Lieferung. 1898.

Hirschwald, August, Berlin.
Mittheilungen und Verhandlungen der Internationalen Wissenschaftlichen Lepra-Conferenz zu Berlin, im Oktober, 1897. 3. Band. 1898.
Handbuch der Arzneiverordnungslehre. Von Dr. C. A. Ewald. Dreizehnte Auflage. 1898.
Grundriss der Klinischen Bakteriologie. 2. Auflage. Von Dr. E. Levy und Dr. F. Klemperer. 1898.

Local Government Journal Office, Dorset-street, Fleet-street, London.
The Local Government Annual. An Official Directory. 1898. Edited by S. Edgecumbe-Rogers. Price 2*s.* 6*d.*

Macdougall, Alex., Mitchell-street, Glasgow.
Transactions of the Glasgow Pathological and Clinical Society. Vol. VI., Sessions 1895–1897. Edited by A. E. Maylard, M.B., B.S. Lond. 1897.

Pentland, Young J., Edinburgh.
Diseases in Women. By J. C. Webster, B.A., M.D. Edin. Illustrated. 1898.
A Practical Guide to the Examination of the Eye. By Simeon Snell, F.R.C.S Edin. Illustrated. 1898.
Manual of Operative Surgery. By H. J. Waring, M.S., M.B., B.Sc. Lond., F.R.C.S. 1898.
Edinburgh Hospital Reports. Illustrated. Vol. V. 1898.

Smith, Elder, and Co., Waterloo-place, London, S.W.
The Tragedy of the Korosko. By A. Conan Doyle. Illustrated. 1898. Price 6*s.*
Religio Medici and Other Essays. By Sir Thomas Browne. Edited, with an Introduction, by D. Lloyd Roberts, M.D., F.R.C.P. Revised Edition. 1898. Price 3*s.* 6*d.* net.
Researches on Tuberculosis: the Weber-Parkes Prize Essay. By Arthur Ransome, M.A. Cantab., F.R.S. 1898. Price 2*s.* 6*d.* net.
Transactions of the Pathological Society of London. Vol. XLVIII. Comprising the Report of the Proceedings for the Session 1896–97. 1897.

The Rebman Publishing Company, Adam-street, Strand, London.
The Pocket Formulary for the Treatment of Disease in Children. By L. Freyberger, M.D. Vienna, M.R.C.P. Lond., M.R.C.S. 1898. Price 6*s.* 6*d.* net.

The Sanitas Company, Letchford's-buildings, Bethnal-green, London, E.
"Sanitas": How to Disinfect. Third Edition. 1898.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Arbuckle, H. W., M.D. Aberd., D.P.H. Camb., has been re-appointed Medical Officer for the Stainforth Sanitary District of the Thorne Union.

Bennett, C. J., M.R.C.S., has been re-appointed a Medical Officer by the Hayfield Rural District and Parish Councils.

Burman, F. J., L.R.C.P. Edin., M.R.C.S., has been appointed a Medical Officer by the Wath, Swinton, Greasborough, and North Rotherham Joint Hospital Board, vice W. M. Burman, retired.

Buxton, Dudley W., M.D. Lond., M.R.C.P., has been appointed Consulting Anæsthetist to the National Hospital for Paralysis and Epilepsy, Queen-square, Bloomsbury.

Campbell, John, M.A., M.D., F.R.C.S. Eng., has been appointed Examiner in Anatomy at the Apothecaries' Hall in Ireland.

Cave, E. J., M.D. Lond., M.R.C.P., has been appointed Honorary Assistant Physician to the Royal United Hospital, Bath.

Cheatle, Geo. Lenthal, F.R.C.S. Eng., has been appointed Surgeon to the Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Regent's park.

Collins, O. A. Glaster, B.A., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Eastern Dispensary, Bath, vice F. Lace, resigned.

Davies, W. T., L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer for the Second and Third Districts of the Hertford Union.

Deravin, H. A., M.B., Ch.B. Melb., has been appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women, Fulham-road, S.W.

Emerson, T. G., M.D., M.Ch. Irel., has been re-appointed Medical Officer of Health by the Wantage Urban District Council.

Frost, T. J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Llanhilleth Sanitary District of the Pontypool Union.

Gould, A. Pearce, F.R.C.S. Eng., has been appointed a Consulting Surgeon to the Hospital for Epilepsy and Paralysis and other Diseases of the Nervous System, Regent's-park.

Hainworth, E. M., M.D., B.S., B.Sc. Lond., F.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Hull Royal Infirmary, vice D. Lowson.

Hanson, R. J. E., M.B., B.C. Cantab., has been appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women, Fulham-road, S.W.

"A QUESTION OF CLIMATE."

To the Editors of THE LANCET.

SIRS,—In reply to the inquiry of "A. Z." for a mild spot in Germany or Switzerland with educational advantages, allow me to say that the climate of Germany resembles in the main that of corresponding latitudes of England but is colder in winter. In Dresden, where there is a large English and American colony, the winter may be severe. The isothermal line traversing London dips south to near Munich but the difference between summer and winter temperatures is much wider in the southern part of Germany than in London. In Switzerland the elevation of the country renders the climate cold, but this cold is not felt so keenly as in more northern latitudes with the same temperature owing to the brightness of the sun and the dry air. The shores of the Lake of Geneva have a higher mean temperature than any other part of the country. Geneva is highly distinguished as a seat of learning but is rather colder than other parts along the borders of the lake. In Lausanne there are numerous girls' schools and *pensions*. The position of the town is rather exposed to the *bise* or north wind, otherwise it is an agreeable and healthy situation. Montreux, on the other hand, is sheltered from the north and north-east, is calm, and has facilities for education. It is, however, like Geneva and Lausanne, a little cloudy in mid-winter. In July and August a higher elevation is desirable on account of the heat; the number of pensions in the vicinity at various altitudes offer many inducements to visitors and inhabitants to make a temporary move higher up the mountains. I am, Sirs, yours faithfully,

Montreux, Feb. 14th, 1898. TUCKER WISE.

UNQUALIFIED ASSISTANTS AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—In the notice sent out by the General Medical Council to all general practitioners respecting the employment of unqualified assistants it asserts that the notice does not apply to the legitimate employment of dressers, midwives and dispensers, and surgery attendants. I should like to know what it means by midwives, whether males or females, or would the man who acted as dispenser be allowed, or in other words would it be legal for him to attend midwifery cases under the supervision of a qualified man, or what do the Council mean by the word midwife?

I am, Sirs, yours faithfully,

JAMES JOHNSTON.

St. Thomas's-street, Netherton, Feb. 11th, 1898.

P.S.—If the term midwife means a female, a general practitioner could employ a lady dispenser and also allow her to attend midwifery.

"A TESTIMONIAL TO DR. JOHN T. ARLIDGE."

To the Editors of THE LANCET.

SIRS,—Will you kindly insert in THE LANCET the following additional and final subscriptions received by me for the testimonial to Dr. Arlidge. This does not include funds collected in Staffordshire. Thanking you in anticipation, I am, Sirs, yours faithfully,

CHAS. F. MOORE.

10, Upper Merrion-street, Dublin, Feb. 14th, 1898.

Mr. J. Challoner	£1	1	0
Mrs. Baker (Leamington)	2	2	0
Mr. Wm. S. Brough	1	1	0

"PHYSICAL CURIOSITIES."

To the Editors of THE LANCET.

SIRS,—The annotation in your issue of Feb. 12th under the above title, in which mention is made of Young Hermann, who possesses the power of altering his girth to a remarkable degree, reminds me of two other cases in which the same power has been recorded. The first is in Vol. IV. of Buckland's "Curiosities of Natural History," page 99, and the second in a book called "Wonderful Characters" published by Hotten. Buckland's account is as follows and was given to him by a correspondent:—"When I was at Dinan (Brittany) in 1833, a man came round the town under the permission of the mayor, headed by a drum. He was the most miserable object I ever saw, and called himself by the appropriate name of the 'Living Skeleton,' &c. A record of this is most likely at the Mairie to this day. We went to see him perform, and, amongst others, was an English as well as a French doctor. He first requested us to attach the two joints of the thumbs together above the bone: this we did with very fine whipcord, so excessively tightly bound round that one would have thought that the little blood (if any) that might be in him would have burst out at the end. But no; he quietly wetted the fastening, and as quietly withdrew one of the thumbs therefrom, leaving one centre of the figure ∞ versed. He did a variety of other experiments with padlocks, &c., and finished by requesting us to procure a moderately-sized chain (it was a long one, somewhat stronger than a jack-chain). With this chain the body and arms were encircled as tightly as two men could possibly haul it by placing their feet against his body. He made the remark to a gendarme present—'I suppose that if you had got me now in prison, you would think you were all right?'—and then, by a sudden movement of the body, the whole of the chain fell to the ground."

The "Wonderful Character" was one Daniel Cuerton, born in 1749. Of him it is related that "he could appear the largest or the smallest man across the chest in the company, if there were twenty persons present, and put on the coat of a boy fourteen years of age and it would apparently fit him. Such an astonishing way had he of compressing himself that he would measure round under the armpits with three handkerchiefs tied together and yet the same measure being applied again at the same place would measure round him and three other stout men, being four persons in the whole. How he did this none could tell, but it seemed he had an art of drawing his bowels up to his chest and greatly swelling himself at pleasure." Truly it may be said of freaks as of many other matters—there is nothing new under the sun. I am, Sirs, yours faithfully,

Feb. 14th, 1898. M.B.

SAIREY GAMBLE.

To the Editors of THE LANCET.

SIRS,—The enclosed "circular" has been pretty freely distributed in this neighbourhood. I suppose it is a fair specimen of what we may expect from the Gamps when the Midwives Bill is passed, as it will be, thanks to the apathy of those chiefly concerned—the junior members of the profession. I am, Sirs, yours faithfully,

Feb. 15th, 1898. L.R.C.P.

⁂ *The enclosure which we print below was headed by the figure of an elegant boy in the costume of a court page, who takes off his three-cornered hat as he points with significant finger to Mrs. Gamble's advertisement.*

[ENCLOSURE.]

TO THE LADIES
Of Broomhill and the surrounding districts.

MRS. GAMBLE
Begs to inform you that she has been practising for some time in this district as a
MIDWIFE
and hopes by giving strict attention to her duties, to gain a share of your patronage.

THE HIGHEST MEDICAL HELP IF REQUIRED.

LADIES NOT WISHING TO CALL MAY SEND A LETTER, WHICH WILL RECEIVE PROMPT ATTENTION.

PLEASE NOTE THE ADDRESS:
MRS. GAMBLE,
MIDWIFE,
Bk. 148, WHITHAM ROAD,
NEXT TO MR. B. RAYNOR'S CAB OFFICE,
BROOMHILL.
References if required.

"THE INTERNAL ADMINISTRATION OF IODOFORM."

To the Editors of THE LANCET.

SIRS,—If Staff-Surgeon A. G. P. Gibbs will consult Section 252-4 of the Medical Digest, 1890 edition, and the last appendix also, he will find much information regarding the internal use of iodoform.

I am, Sirs, yours faithfully,

RICHARD NEALE, M.D. Lond.

Finchley-road, Hampstead, N.W., Feb. 16th, 1898.

To the Editors of THE LANCET.

SIRS,—In answer to your correspondent, Staff-Surgeon A. G. P. Gipps in THE LANCET of Feb. 12th, I beg to state that he may administer iodoform internally either in the form of pill or mixture. The dose of iodoform is ½ to 3 grains, but remembering that occasionally toxic symptoms are produced by its use I should recommend a small dose to be given at first, also that the drug should be fresh, as I am inclined to think old iodoform becomes more or less inert. It may be used in pill form thus: iodoformi gr. i., extracti glycyrrhizæ, q.s.; or iodoformi gr. i., sugar of milk gr. ss., glycerinæ tragacanthæ, q.s. If a mixture is prescribed it may be used thus: iodoformi gr. viii., ether' sulphurici m. xl., mucilaginis tragacanthæ, q.s., aquam ad ℥viii.; ℥ ter die sumend. The ether sulphuricus in the mixture assists in the partial solubility of the drug, it being soluble about 1 in 10. I am, Sirs, yours faithfully,

ALFRED W. ROBSON, M.D. Brux.

Park-road, Aston, Feb. 15th, 1898.

THE HOUSING OF THE WORKING CLASSES.

THE problem of providing dwellings for the working classes is as difficult to solve as it is important to the community in general, and any fresh light that can be thrown upon it is a distinct gain. The statement that in nine years the London County Council have spent some £500,000 in housing 6000 persons, has called forth from Lord Rowton a letter to the *Times* showing how the gift of £200,000 given by Lord Iveagh has been administered by the

Guinness Trust. During the same period of time that the County Council have been working in this direction the trustees of the Guinness Trust have acquired and built on seven sites—six purchased in the open market and one in Chelsea presented to them by Lord Cadogan. The buildings contain 2232 tenements, or 4568 rooms. On Dec. 31st, 1897, there were living in the six first-named buildings 7327 persons. The cost of the six buildings in occupation (inclusive of the cost of sites other than that given by Lord Cadogan) was £310,384, and the return on that expenditure, after providing for depreciation, repairs, management, and all other expenses, is 3¼ per cent. From this Lord Rowton thinks it will be evident that so far the result of the operations of the London County Council in the matter of providing dwellings for the working classes contrasts very unfavourably with that recorded above.

RULES FOR THE CONDUCT OF AN ISOLATION HOSPITAL.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if any of your readers who have charge of a small hospital in which two or more infectious diseases are treated would be so good as to send me copies of any rules there may be relating to the management of such a hospital or to the duties of the several persons engaged there. An isolation hospital of 40 beds has been built here for the treatment of scarlet fever, diphtheria, and typhoid fever in different buildings on the same site, and I am anxious to profit by the experience of others in drawing up rules for the regulation of this hospital.—I am, Sirs, yours faithfully,

MABYN READ,

Feb. 14th, 1898. Medical Officer of Health to the City of Worcester.

THE CARE OF CHANCERY LUNATICS.

To the Editors of THE LANCET.

SIRS,—Will any of my fellow readers of THE LANCET favour me by explaining by what means the care of Chancery lunatics is obtained and how to set about it? I am, Sirs, yours faithfully,

Feb. 15th, 1898. INVICTA.

WHAT'S IN A NAME?

THE *Pall Mall Gazette* of Feb. 11th has an amusing article upon the value of names, more especially in disease. Never, says the writer, would influenza have attained the power and variety of incidence it shows if instead of being called by such a general name it had been given a name that would "give some direction to its activities." Small-pox has become "small" simply because it was called so. Jenner had nothing to do with it—he only invented vaccination; and people contemplating the two words "small-pox" and "vaccination" have "quite rightly come round to the conclusion that vaccination is the worse disease of the two." This is a nice whimsical argument which, supported by properly faked statistics, ought to produce quite an effect in certain circles. His remarks upon the love which some patients show for having their complaints described by a high-sounding name are very true. For instance, it is no use telling the "lady of a labouring man" that she has only indigestion, for she herself knows that she has been near to death with the "ricks and the wrenches," so the wise doctor prescribes accordingly. Any medical man will bear witness to the truth of this, and we have no doubt that if a practitioner were to inform a patient of this kind that she was suffering from "aldiborontephoscophornio" his practice would go up by leaps and bounds. It is the same feeling which makes the public rush to buy anything described as "electric," even though the article in question may have no more electricity in it than a tin-tack; but in the case of disease nomenclature there is no fraud, while in the commercial matter there is.

MAGGI'S CONSOMMÉS.

To the Editors of THE LANCET.

SIRS,—Could any of your readers kindly inform me of the nature of "Maggi's consommés" mentioned by Dr. Castellote in THE LANCET of Feb. 12th, p. 456, and where they can be obtained?

I am, Sirs, yours faithfully,

Feb. 16th, 1898. C.H.

⁂ Our correspondent will find a notice of Maggi's Consommés in the Analytical Record published in THE LANCET of June 6th, 1896.—ED. L.

A MODEL COTTAGE HOSPITAL.

To the Editors of THE LANCET.

SIRS,—Would any of your readers kindly inform me of any cottage hospital in this country, up to date in all its arrangements, the plans of which might be taken as a model for the building of a cottage hospital of eight beds, including two private beds?

I am, Sirs, yours faithfully,

Feb. 14th, 1898. R.

A NEW BICYCLE.

LEAVING that most objectionable person colloquially known as the "scorcher" out of the question, it will be admitted that the erect position is the most comfortable one on a bicycle for most persons and it is certainly the most æsthetic. From this point of view Mr. Bullen, of 17, Thornecombe-road, East Dulwich, has invented a machine called the "Orthobaton" in which the front handle-bar is dispensed with, the steering being effected by turning a ∪-shaped handle at the side which by a simple system of levers communicates with the front wheel. We are glad to notice that the inventor has recognised the importance of having a brake on the back wheel and has affixed to the machines a specially constructed rim brake. A decided advantage which the machine possesses is the ease with which it enables the rider to dismount.

Enquirer.—We understand that an officer can, if he desires it, be professionally attended and treated (at his own expense, of course), by a civilian medical practitioner; but if the officer is rendered unfit for duty by injury or sickness his name has to be placed upon the sick list and removed from it when he is well and fit to return to duty, and this must obviously be done officially by some medical officer duly recognised and appointed for that purpose. The naval or military authorities, as the case may be, require their own medical officers where available to report officially on all matters affecting the health of those serving under them and it is difficult to see how the public services could otherwise be satisfactorily carried on or administered.

W. P. A.—The degree of M.D. London is the harder of attainment, and in that sense must be considered the better. The degree of M.B. London is one stage towards the M.D., for which there is a further examination. The regulations will be found in the London University Calendar. Every M.D. London has been previously an M.B. London. No one is *obliged* to register more qualifications than are necessary to obtain for him a place on the Medical Register; but as the fees for adding additional registrable titles are very low, and as it is important that the Register, which is the official list of the profession, should be correct in detail, it is advisable that medical men should keep the registrar informed of their proper medical style.

R. G.—There are no anatomical distinctions between the skull of the male and that of the female. As a rule, of course, the female skull partakes of the general characteristics of the female skeleton; that is it is smaller and more delicate than the male skull, but to this rule there are very many exceptions on both sides. Consequently, the length of time for which a skull has been buried makes no difference to the difficulty of estimating the sex, except in one way—in a recently buried skull the hair may remain, and if so finding tresses of long hair would in most countries be evidence for a strong presumption that the skull belonged to a woman.

A. C.—There are many institutions where a deaf patient would be looked after, and there are many medical men who would receive such a patient into their houses. Our correspondent does not say how much the patient's friends are prepared to pay.

Student.—(1) Our Students' Number for 1896. (2) No. (3) The introductory articles in the "Medical Directory" in the edition for 1898, p. 20, give information, and consultation of "Whitaker's Almanack" will complete it. (4) The Colonial Office.

J. S.—The family medical attendant can advise. From the statement which is enclosed it appears to us that a distinct debt of gratitude towards this gentleman has already been incurred.

Bradycardia.—A communication has been received at this office dealing with this subject. Post-mark "Paddington." There is no name or address on the MS.

J. Q. J.—The "subject" catalogue of the British Museum Library. The officials will show our correspondent how to obtain admission to the reading-room.

Inverness.—The opening number of this year, dated New Year's Day.

Medicus is advised to share the responsibility with an older man.

W. A. Colles Browne.—The question is too vague for answer.

Gloriana.—There has been a general change of opinion.

R. S.—We do not recommend individual practitioners.

During the week marked copies of the following newspapers have been received: *Hampshire Herald, Cambridge Review, Durham Chronicle, Western Morning News, Scotsman, Birmingham Gazette, Glasgow Herald, Pioneer Mail, Times of India, Midland Free Press, Wigan Examiner, Royal Cornwall Gazette, Ulverston Advertiser, Kentish Express, Huddersfield Chronicle, North British Daily Mail, Norfolk Chronicle, Citizen, Architect, Builder, West Middlesex Herald, Hastings Observer, Liverpool Daily Post, Kettering Guardian, Leeds Mercury, Brighton Gazette, Wolverhampton Chronicle, Blackburn Standard, Ilfracombe Chronicle, Wiltshire County Mirror, Yorkshire Post, Leicester Post, Southampton Observer, Bristol Mercury, Manchester Guardian, Sussex Daily News, Essex County Chronicle, Bury Guardian, Grantham Journal, Dundee Advertiser, Northampton Herald, Sanitary Record, Reading Mercury, Mining Journal, Hertfordshire Mercury, Times of Natal, Surrey Advertiser, Local Government Journal, Local Government Chronicle, Cork Examiner, Westminster Gazette, Nottinghamshire Guardian, City Press, Finchley Free Press, West Middlesex Herald, Monitor, Christian World, United Ireland, Lightning, North Bucks Times, Clapham Observer, Eastern Telegraph, Darwen News, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Dr. J. Althaus, Lond.; Messrs. Allen and Hanburys, Lond.; Mr. W. P Arnott, Edinburgh; Army Medical Department, Director-General of; Military Department, India Office, Secretary of; Mr. J. D Anclaw, East Finchley; Acme Insurance Co., Lond.; Alternate, Lond.; Apollinaris Co., Lond; Dr. Atkinson, Walden.

B.—Mr. E. Barber, Sheffield; Mr. H. F. H. Barham, Maidstone; Messrs. Bates, Hendy, and Co., Lond.; Mr. W. A. Bennett, Lond.; Messrs. Burgoyne, Burbidges, and Co., Lond; B. B, Lond.; Mr. W. H. Bennett, Lond.; Mr. S. H. Benson, Lond; Mr. W. Brown, Greenock.

C.—Mr. A. Clarke, Leeds; Mr. R B Carter, Lond.; Dr. Carter, Liverpool; Messrs. A. H. Cox and Co., Brighton; Chesterfield Hospital, Secretary of; Mr. W. Cowan, Glasgow; Messrs. T. Crosbie and Co., Cork; Messrs. Crossley, Moir, and Co., Lond.; Dr. H. W. J. Cook, Lond.; Messrs. Castle and Lamb, Lond.; Messrs. Condy and Mitchell, Lond.; Cortland Wagon Co., Lond.; Chelsea Hospital for Women, Lond., Secretary of; Mr. J. B. Cameron, Lond.; Christy Saddle Co., Lond.

D.—Mr. T. Dixon, Lond.; Doctor, Belfast; Derbyshire Royal Infirmary, Derby, Secretary of; Dermatological Society of Great Britain and Ireland, Hon. Secretary of; Messrs. B. Denton and Son, Liverpool; Dr. A. Depage, Brussels.

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G.—Dr. L. M. Griffith, Bristol; Mr. W. Gibson, Paisley; Mrs. R. Glover, Lond.; Dr. E. Griffith, Abercarne; Gordon Technical College, Geelong, Victoria, Hon. Librarian of.

H.—Mr. F. W. Hents, Lond.; Mr. D. Headridge, Manchester; Mr. Victor Horsley, Lond.; Mr. J. J. Harding, Ballincollig; Dr. C. A. Hill, Liverpool; Dr. G. Halby, Dundee; Dr. J. Hinshelwood, Glasgow; Sir F. S. Haden, Alresford; Dr. A. Harris, Liverpool; Dr. P. Horrocks, Lond.; Messrs. Hertz and Collingwood, Lond.; Mr. T. W. Hannaford, Lond.; The Hydro, Bournemouth, Medical Superintendent of; Mr. J. Heywood, Manchester; Hull Royal Infirmary, Secretary of; Mr. J. Hutton, Green Lanes, N.; Mr. J. Hutchinson, jun., Lond.

I.—International Health Exposition, Secretary of.

J.—Dr. A. H. Jeremy, H.M.S. *Victory*, Portsmouth; *Journal of Nervous and Mental Diseases*, New York, Managing Editor of.

L.—Dr. A. P. Luff, Lond.; Mr. H. K. Lewis, Lond.; Lithanode Electric Storage Co., Lond., General Manager of; Mons. H. Le Soudier, Paris; Dr. J. F. Little, Lond.; Liverpool Royal Infirmary, Secretary of; Messrs. Lupton Bros., Burnley; Mr. F. D. Lys, Wareham; Dr. A. Leitch, Gourock; Mrs. Leon, Lond.

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N.—Dr. E Norton, Folkestone; North London College Hospital, Secretary of; *North Carolina Medical Journal*, Wilmington, U.S.A.

O.—Dr. G. Ogilvie, Lond.; Dr. O'Neill, Lincoln; Omega Odourless Gas Stove Co., Bristol, Secretary of.

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R.—Dr. N. Raw, Liverpool; Mr. A. H. Ruston, Cambridge; Royal College of Physicians of Ireland, Secretary of; Dr. H. D. Rolleston, Lond.; Dr. M. Read, Lond.; Edith M. Reed, Stroud Green; Dr. J. S. R. Russell, Lond.; Mr. George Redway, Lond.; Royal College of Physicians, Lond., Bedell of; Messrs. Reynolds and Branson, Leeds; Rotherham Hospital and Dispensary, Secretary of; Messrs. Richardson Bros. and Co., Liverpool; Dr. Richardson, Lond.; Messrs. Ridges and Sons, Wolverhampton; Royal Meteorological Society, Lond., Secretary of.

S.—Mr. Storks, Salford; Dr. S. H. Snell, Grays; Messrs. Swan Sonnenschein and Co., Lond.; Society for the Protection of Birds, Secretary of; St. Giles Camberwell Parish, Clerk of; Mr. M. Scott, Lond.; Mr. A. W. Senior, Manchester; Dr. Q. C. Smith, Austin, Texas, U.S.A.; Messrs. Salt and Son, Birmingham; South Australian Government Bonded Depôt, Lond., Manager of; Dr. J. A. Stewart, Normanton; Mr. J. Stewart, Batley; Messrs. Street and Co., Lond.; Surgeon, Bristol, Salford Royal Hospital, Secretary of; Mr. H. W. Scriven, Lond.

T.—Mr. H. B. H. Tytheridge, Lond.; Mr. P. E. Turner, Newcastle-on-Tyne.

W.—Dr. T. J. Wood, Bradford; Mr. W. Wingrave, Lond.; Mr. R. A. Walker, U.S.A.; Mrs. M. White, Berwick; Dr. R. B. Wallace, Richmond, Yorkshire; Dr. A. M. Weir, East Sheen; Mr. W. L. Woollcombe, Plymouth; Mr. J. M. Woman, Leeds; Weston-super-Mare Hospital, Hon. Secretary of; Messrs. Wills, Lond.; Dr. J. L. Wethered, Reading, Penn., U.S.A.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. W. Armstrong, West Boldon; Messrs. T. and M. Armstrong, Lond.; Argentum, Lond.; Mr. W. Adams, Ipswich.

B.—Dr. Barritt, Spalding; Mr. H. Brice, jun., Exeter; B. O., Lond.; Mons. O. Berthier, Paris; Mr. L. A. Bidwell, Lond.; *Bryant Press*, Toronto; Dr. S. Bennie, Dobcross; Bootle Borough Hospital, Secretary of; Messrs. J. L. Bullock and Co., Lond.; Messrs. A. Bishop and Sons, Lond.; Mr. G. Booth Woodbridge; Messrs. W. H. Bailey and Son, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.

C.—Dr. S. Crossley, Blackburn; Dr. A. Cran, Gt. Harwood; Mr. F. W. Clarke, Manchester; Dr. W. Charnley, Shrewsbury; Mr. E. Cole, Lond.; Messrs. E. Cook and Co., Lond.; Cambs, Lond.; Confidence, Lond.; Mr. J. Clarke, Hitchin; Messrs. W. Currie and Co., Edinburgh; Messrs. Curry and Paxton, Lond.; Mr. D. Clifton, Mile End; Cumberland and Westmorland Asylum, Carlisle, Secretary of.

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H.—Dr. Humphreys, Cemmaes; Messrs. Hughes and Brown, Worcester; Mr. H. Hunter, Ashburton, N.Z.; M. Howell, Lond.

J.—Mr. F. F. Jones, Llanfyllin; J. T., Lond.; J. F. M. Lond.; Dr. G. Jones, Amlwch; J. R., Aldershot.

K.—Dr. Kirkpatrick, Woodbridge; Dr. R. T. Kingscote, Lond.; Kenilworth, Lond.

L.—Mr. J. W. Leake, Lond.; Mr. A. Ledger, Lee; Mr. G. Lawson, Cullen; Lorence, Lond.; Lux, Lond.

M.—Dr. J. Michael, Lond; Dr. J. A. Mearns, Craithie; Messrs. J. M'Geachy and Co., Glasgow; M. B., Cape Town; M. A., Lond.; Dr. B. G. A. Moynihan, Leeds; M.D., London; Miss M., Lond.; M. E., Lond.; Medical, Halifax; Medicus, Berners-street; M. J. M., Lond.; M D., Chancery lane; Messrs. MacDuff and Co., Lond.; Medico, Lond.

N.—Northumbrian, Lond.; Norris, Lond.; N., Lond.

O.—Mr. B. O'Connor, Burnley.

P.—Dr. P. H. Pye-Smith, Lond.; Misses E and J. Putz, Lond.; Dr. Phelan, Lond.; Provincial, Lond.; P., Manchester; Dr. E. L. N. Pridmore, Weymouth; Patent Office, Washington, D.C., U.S.A.

R.—Dr. A. Ransome, Bournemouth; Dr. C. Reinhardt, South Stoke; Royal Surrey County Hospital, Guildford, Assistant Secretary of; Royal United Hospital, Bath, Secretary Superintendent of; Rochford Union, Southend-on-Sea, Clerk of; Dr. L. Roberts, Caersws; Dr. J. H. Reid, Denniston, N.Z; Dr. J. B. Ryley, Lond.

S.—Mr. J. H. Stuart, Ballycastle; Surgery, Sheffield; Messrs. Sykes, Josephine, and Co., Lond.; Mr. J. Spencer, Hetton; Surgeon, Lond.; St. Mary's Children's Hospital, Plaistow, Secretary of; Messrs. A. F. Sharp and Co., Glasgow; Surgeon, Tunbridge Wells; Southend Water Works Co., Southend, Secretary of; Rev. J. A. Smith, Rodington.

T.—Tewkesbury Union, Clerk of; Traveller, Lond.; Dr. E. F. Trevelyan, Leeds; Messrs. J. Turner and Co., Queen's Ferry; Mr. J. Thin, Edinburgh.

U.—University College, Liverpool, Dean of.

V.—Vidi, Lond.

W.—Dr. H. C. Wilson, Comber; Mr. J H. Webster, Churchdown; Mr. G H. Whitaker, Horwich; Mr. W. D. Watson, Leigh-on-Sea; Mr. G. Wherry, Cambridge; W. M. D., Lond.; West Ham Hospital, Secretary of; Messrs. R. R. Whitehead and Bros., Lond.; Dr. C. Williams, Bootle; *Wiltshire County Mirror*, Salisbury.

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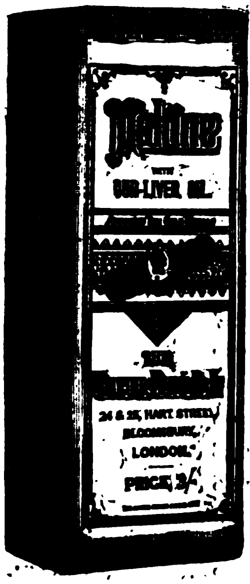

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EXCERPT FROM

A Study of Some Infant Foods in Comparison with Human Milk.

By R. H. CHITTENDEN, Ph. D.,
Professor of Physiological Chemistry at Yale University.

[Reprinted from *The New York Medical Journal*, July 18th, 1896.]

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{ Ergotinine Citrate	*1/100 gr.
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Eserine Salicylate	1/100 gr.
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Homatropine Hydrochlor.	1/250 gr.
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Hyoscyamine Sulphate	*1/80 and *1/20 gr.
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{ Atropine Sulphate	1/70 gr.
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IT HAS GAINED A WIDE REPUTATION, particularly in the treatment of Pulmonary Tuberculosis, Chronic Bronchitis, and other affections of the respiratory organs. It has also been employed with much success in various nervous and debilitating diseases.

ITS CURATIVE POWER is largely attributable to its Stimulant, Tonic, and Nutritive Properties, by means of which the energy of the system is recruited.

ITS ACTION IS PROMPT; it stimulates the appetite and the digestion; it promotes assimilation; and it enters directly into the circulation with the food products.

The prescribed dose produces a feeling of buoyancy and removes depression and melancholy; *hence the preparation is of great value in the treatment of mental and nervous affections.* From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

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The Lettsomian Lectures

ON

THE AFFECTIONS OF THE URINARY APPARATUS IN CHILDREN.

Delivered before the Medical Society of London

BY JOHN H. MORGAN, M.A. OXON.,
F.R.C.S. ENG.,

SURGEON TO CHARING-CROSS HOSPITAL; LECTURER ON SURGICAL PATHOLOGY AND PRACTICAL SURGERY, AND SPECIAL CLINICAL TEACHER OF SURGERY, CHARING-CROSS HOSPITAL MEDICAL SCHOOL; SURGEON TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

LECTURE II.[1]

Delivered on Feb. 21st, 1898.

TUMOURS OF THE KIDNEY.

MR. PRESIDENT AND GENTLEMEN,—Amongst the post-mortem records of the Hospital for Sick Children, Great Ormond-street, already quoted there occur eight cases of primary sarcoma of the kidney. Three cases affected both glands, invading them from without, and have been described by Dr. Abercrombie.[2] Five other cases are mentioned as being retro-peritoneal in origin but directly or indirectly involving the kidney. In two instances the gland was secondarily affected with sarcoma which originated in other parts and in one by lymphadenoma. All the cases of primary sarcoma occurred in children under four years of age. One instance is recorded in which sarcoma commenced in the suprarenal and invaded the kidney. This happened in a boy aged eight years and four months. These observations concur with those of other writers. Dr. Windle[3] states that thirty-three out of forty occurred before the tenth year and of these thirty-three twenty-six were before the fifth year. Dr. Dickinson's tables show six cases under five years of age, none between six and twenty years. Sir William Roberts mentions twenty-five cases under the age of ten years; indeed, all except three under five years. Dr. Senator's statistics of ninety-six cases show fifty-eight males and thirty-eight females. In children under ten years 50 per cent. occurred during the first two years and 85 per cent. during the first five years. In Mr. Newman's tables 48 per cent. were under ten years of age. But by far the most complete analysis of this affection has been recently published by Dr. George Walker, of Baltimore, who has collected 142 cases. He finds that as regards sex they are fairly equally distributed and that the greater number occurred in children under four years of age. Dr. Starr out of fifty-four cases found nine under one year, seventeen between the ages of one and three years, eighteen between three and five years, six between five and eight years, and four between eight and twelve years, the sexes again being fairly equally affected. In a valuable statistical paper by Leibert, quoted by Dr. Money,[4] sixty cases were collated. Forty of the number died under the age of five years and twenty under that of two years. The sexes again were equally affected. Similar evidence is given by Mr. Taylor and other writers and it would seem established that these tumours are most frequent during the first five years of life and are fairly equally distributed between the sexes and perhaps occur rather more often on the left side than on the right. The size to which they may attain is enormous. In the Middlesex Hospital Museum is a specimen which was removed from the body of a boy, aged eight years, which weighed 31 lb., and one was reported by Sir Spencer Wells as having weighed from 16 lb. to 17 lb. The mean duration of the disease, according to Sir William Roberts, is in children nearly seven months, the minimum ten weeks, and the maximum over a year. The course of the disease appears to be longer the older the child.

Although some of the earlier cases are described as encephaloid it may be taken that the greater majority are sarcomata, though Birch-Hirschfeld and Mr. Sutton found adenomatous tissue in a large number, and the conclusions concerning them. which are summarised by Mr. Paul in an admirable paper,[5] may be accepted in full: (1) that these tumours show themselves generally during the first few years of life and are probably invariably of congenital origin; (2) they are primarily extrarenal, though usually extracapsular, and distend and surround the kidney in preference to invading it; (3) they rarely cause marked urinary symptoms or much pain; death ensues from exhaustion or from pressure effects; (4) occasionally they give rise to metastatic growths, some infiltrate the kidney, all recur after removal; and (5) they frequently contain striped muscular fibre and embryonic renal tissue. Such growths he classes under one general title as congenital renal tumours closely allied to dermoids in origin. Considering the almost invariable malignancy of these tumours probably such a clinical title is as good as any that can be found and no great advantage is to be gained by naming them according to the prevailing cell elements, whether they be round or spindle shaped. The last variety, in which striated muscle appears, deserves, however, some special identification. Muscle fibres are found in connexion with tumours of other organs, such as the testis, but these rhabdomyomata of the kidney are of particular interest and probably find a true explanation of their origin in the views of Cohnheim, who, recalling the close relation of the first rudiments of the urogenital organs to the protovertebræ, suggests that by a faulty segmentation of these parts some of the germinal muscle cells may be mixed from the commencement with the cells constituting the rudiment of the kidneys and that these cells afterwards develop into a pathological new growth. All the cases described have occurred in children under eighteen months of age and in most of them both organs were affected. Mr. Eve's description of the specimen shown by him before the Pathological Society will serve for all. A large nodulated tumour with distinct capsule, the kidney tissue normal, the consistence uniform, yellowish white resembling myo-fibroma of the uterus. Microscopically, striped muscle arranged in fasciculi generally parallel, round and spindle cells in nodules among the muscular tissue. In a specimen shown by Dr. Dawson Williams from a child aged thirteen months the right kidney was involved and the tumour weighed 1 lb. 13½ oz., or one-sixth of the weight of the body.

The tumours of the kidney in childhood are therefore almost without exception malignant and the great majority are of the nature of sarcomata though a few bear affinities to the adenomata and in rare instances show pigmentation. They are by far the most frequent of all malignant tumours occurring in the abdomen in childhood and originate either from the cortex and invade the gland or in the perirenal tissue. Very rarely they commence in the adrenals, sometimes surrounding, sometimes infiltrating the whole of the kidney. By pressure the tumour may cause hydronephrosis and adhesions may be found to other structures. The pressure effects may cause ascites or œdema of the lower extremities. They are frequently bilateral. Neither traumatism nor antecedent disease has much to do with their origin. Occurring for the most part in very early life and confined at first to one side of the abdomen they present a smooth, rounded outline as distinguished from the sharp edge of an enlarged liver or the notched surface of an hypertrophied spleen. On bimanual examination they are found to be moveable but attached to the neighbourhood of the lumbar spine. They grow forwards and do not bulge in the lumbar region. Though dull on percussion, except where crossed by intestine, they are often so soft as to give an obscure sense of fluctuation and have thus been mistaken for ovarian cysts. They are invariably crossed by a portion of the colon and in an early stage are influenced by the movements of respiration. There is generally a space into which the fingers can be pressed between the upper margin of the renal growth and the ribs. So rapid is usually the advance of these neoplasms that they present only two symptoms in their earliest onset—viz., that of a large rounded tumour commencing in the loin, which most often is the first indication, and hæmaturia. In 12 per cent. this latter is said to be the primary symptom. Both might well in the earliest onset be mistaken as due to hydronephrosis or the presence of calculi in the pelvis of the kidney. But the nature of the swelling is soon evidenced by the rapidity of its increase and the hæmaturia differs from that resulting from calculous or scrofulous pyelitis in its abundance and its intermittence, the urine in the intervals being clear. It may be so abundant as to form clots in the bladder or ureter, when pain will occur as an additional symptom. If hæmaturia occur without an assignable cause the patient should be strictly watched for several weeks. By this means Israel found a growth very early and removed it successfully.[6] Cachexia does not appear until late and then the wasting is rapid and the effects of pressure become evident in dyspnœa, vomiting, and indigestion.

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[1] Lecture I. appeared in THE LANCET of Feb. 12th, 1898. Lecture III. will be delivered on March 7th.

[2] Transactions of the Pathological Society, vol. xxxi.

[3] Journal of Anatomy and Physiology, vol. xviii.

[4] Transactions of the Medical Society, vol. x.

[5] Liverpool Medical and Chirurgical Journal, Jan., 1894.

The conditions are few which give rise to any difficulty of distinction between these rapidly growing tumours of the kidney and those of other parts. Malignant disease of the suprarenals is rare and its results are similar to those in the case of the kidney, which is generally surrounded. The origin of such growths may be indicated by pigmentation of the skin and an abnormal growth of hair about the pubes and other parts of the body. A specimen of such a tumour is preserved in the Museum of St. George's Hospital and described in the Transactions of the Pathological Society, vol. xvi., and also by Dr. Dickinson: "A girl, three years of age, presented in the left hypochondriac region a hard, round, slightly moveable mass, of which the whole circumference could be traced. The skin was generally hyperæmic; it was gipsy-coloured, though not bronzed, and was covered with a remarkable growth of dark hair. The tumour proved to be a globular mass of encephaloid six inches in diameter which had replaced the left suprarenal capsule. This lay immediately beneath the abdominal wall uncovered by bowel of any kind. It had pushed itself out of its proper place in regard to the kidney and lay along its inner edge close to the hilum, which with the tumour upon it was turned forward, the growth extending without interruption between the concave margin of the kidney and the abdominal front; thus the tumour had assumed the position but not the relations of a renal enlargement." The only distinction in this case was that no bowel lay in front of the swelling. Enlarged lymphatic glands form a moveable swelling which may closely resemble a renal tumour. At a meeting of this society in 1885 I exhibited a patient, aged ten years, with a hard, firm mass lying in the abdomen to the left and a little below the umbilicus. It had apparently some pedunculated attachment posteriorly, but it could be moved, especially towards the left flank. There was no pain and no abnormal conditions could be detected in the urine. Many opinions were offered as to its nature, but all doubts were solved when nine years later the youth, who had declined all suggestions of operative interference when first seen, came and requested me to remove the tumour, which had altered little in the interval. This was done and the young man afterwards entered the army. The swelling proved to be a mass of calcareous mesenteric glands.

Clearly the treatment of these cases resolves itself into the question of whether operation is justifiable or no. This has been examined by many able critics. Professor Gross in an admirable paper forbids the operation altogether. He states that of sixteen patients operated on for sarcoma between the ages of sixteen months and seven years seven survived and nine died, a mortality of 56·25 per cent., five died from recurrence in a few months, and of two others there is no further history. In the *Archives of Pediatrics*, February, 1896, Dr. Emily Lewi has tabulated sixty cases of nephrectomy for renal sarcoma in children. The operation mortality was 28½ per cent. But recurrence took place in nearly all the cases and at the time of writing only three cases had passed the three years' limit. Mr. Newman gives nineteen cases in patients under six years of age, thirteen died and six recovered from the operation, but the after-history is not given. Dr. Aldibert collected the results of forty-five cases; twenty deaths occurred soon after operation, two-thirds of them from shock. In eleven cases death was caused by recurrence within nine months. Mr Sutton has tabulated twenty-one cases of operation in children under six years. Most of these are identical with those of Mr. Newman. There were nine recoveries and twelve deaths; of those which survived the operation all were dead within a year. From seventy-four cases collected by Dr. George Walker he calculates that the ultimate mortality lies between 74·32 per cent. and 93·22 per cent. He mentions in his list of successful operations two remarkable cases. The first is by Israel, who removed an alveolar sarcoma from a boy aged fourteen years. The patient was well and strong five years later. Schmidt operated for sarcoma on a girl, aged six months, who was living and well four years later. Besides these are two cases by Dr. Abbé and one by Mr. Malcolm. The first of Dr. Abbé's patients was a child, aged thirteen months, where the tumour weighed 7 lb. and the patient after operation only 15 lb. The recovery was uninterrupted and three years after the operation the child was in perfect health. The second case was in a child, aged two years, and the tumour weighed 2¼ lb. This patient was in perfect health three years and nine months subsequently. The first case is the more remarkable in that the tumour is described as a rhabdomyo-sarcoma and that the kidney was ligated and a healthy portion of the gland was left. Mr. Malcolm's patient was a girl just under two years of age and the right kidney was removed through an incision in the right linea semilunaris. The tumour, which is preserved in the Museum of the Royal College of Surgeons of England, was examined by Mr. Targett, who pronounced it as being composed of tubules lined by columnar epithelium and collections of shorter epithelial cells arranged as if to form the lining membrane of a tube, but showing no lumen, a malignant adenoma. Here was found nothing resembling striped muscle cells nor any sarcomatous tissue. These cases are therefore not identical nor do they differ greatly from those tumours which had rapidly recurred after removal. Mr. Malcolm suggests that the success of his case may have been due to a free excision of the parts. The glands removed with the surrounding fat showed, however, no secondary deposit.

Mr. Thornton points out that renal sarcoma in children is more rapid and more quickly involves surrounding tissues, speedily recurs extensively and leads to an amount of suffering altogether beyond what is seen when the disease is allowed to run its natural course in the kidney. Mr. Butlin altogether opposes the operation in the case of children. Quoting the last three of the successful cases just mentioned Mr. Jacobson considers the opinion expressed by Mr. Butlin and Mr. Thornton as too pessimistic and suggests that as some growths are less malignant than others the operation may occasionally be justifiable. The older the patient and the smaller the tumour the greater is the probability of success. In the cases which have come before me I have only once felt justified in attempting to remove such a tumour, though I have more than once opened the abdomen in order to see the conditions and surroundings, and this I consider a justifiable proceeding, since it does nothing to hasten the patient's inevitable end and may give some hope of being able to proceed to the removal of the tumour. As to the choice of proceeding in the event of nephrectomy being decided upon, the lumbar operation gives a smaller mortality than the abdominal, but with no great difference. On the other hand, the latter gives more room for the removal of a large tumour and for dealing with bleeding vessels. Dr. Abbé in both his cases used a long transverse incision, placing the patient in Trendelenburg's position. Mr. Malcolm opened the abdomen in the course of the linea semilunaris and this has been more favoured by other operators.

Renal and Vesical Calculi.

The origin, development, and progress of calculi in early life have been investigated and described by so many excellent observers that I should be guilty of needless repetition were I to say much upon this subject. That a calculus may actually be formed during intra-uterine life is shown by the fact that one was found by Langenbeck in the kidney of a fœtus of six months, and Jacobi found six cases of congenital renal calculus in forty necropsies; but it is a matter of very frequent observation to find deposits of crystals in the cortical portions of the gland in new-born infants, which in the ordinary process are washed away by the fluid components of the mother's milk. These so-called infarcts consist of amorphous urate of ammonium mixed with crystals of uric acid and are found occupying the straight tubes of the pyramids. In young infants they are due to the increased metamorphoses of tissue elements which must take place after birth in consequence of the newly inaugurated processes of digestion, respiration, and generation of heat (Dr. E. Smith). Ebstein believes that these uric acid infarcts of newly born children form the first stage of calculous production and that the large quantity of uric acid present in fœtal and early life explains the frequency of calculi of this substance. The abnormal elimination of uric acid leads to degeneration of epithelium which forms the animal basis of the calculus, which may remain in the tubules or pass into the pelvis and become enlarged by successive additions. The amount of uric acid in the urine of the new-born child has been proved to be greater than at any subsequent period of life. The proportion of uric acid to urea is said to be as much as 1 in 14 and consequently the crystals of uric acid and amorphous and crystalline urates are frequently found in abundance, and it is a matter of constant observation that these by their irritation may cause an excessive amount of disturbance even in very young infants, as evidenced by pain, anuria, and occasionally even by the presence of blood. But it is to the later manifestations of lithuria, or the uric acid diathesis, that attention is more seriously called and these are a direct result of the injudicious feeding of the infant. Independently of the actual development of calculus all the symptoms which indicate its presence in some part of the tract may be caused by an excessive amount of uric acid salts, and this excessive elimination, when continuous, is always evidence of a serious disturbance of nutrition. The urine is frequently of low specific gravity, often 1006, pale as water and containing very little urea. The explanation of the deposit lies in the small proportion in which the alkaline phosphates, the presumed solvent of uric acid, exist in the urine of infants. "In children," said Sir B. Brodie, "the deposition of lithic acid sand by the urine will not infrequently produce not only pains in the glans but bloody urine and all the other symptoms of stone in the bladder." Besides uric acid, oxalate of lime concretions are not infrequent as well as small calculi of the urates of ammonia and soda. The symptoms produced by these conditions are to be observed in children at a very early age and have been pointed out by Dr. Gibbons in his excellent paper on Renal Colic in Infants. No calculus is formed, but blood, mucus and crystals are found in the urine, and pain, tenderness and colic occur in the lumbar region. The patients are children of well-to-do parents who are invariably themselves gouty. Dr. Dickinson gives several instances of a similar condition occurring at about the period of teething and giving rise to hæmaturia. These cases he describes as scorbutic and in all the diet had been conspicuously wanting in fresh milk. That these symptoms are not always ascribed to their proper cause and are attributed to intestinal colic is due to the small amount of blood which passes with the urine so that attention is not directed to the kidneys and ureters as the site of pain. On the other hand this may sometimes be excessive. Dr. Abercrombie has given me the notes of the case of a boy, aged three years, who was admitted under his care for hæmaturia said to have commenced three weeks previously with pains in the legs, back and abdomen. The urine was deeply blood-stained, but not smoky or porter-coloured as it is in acute nephritis or hæmoglobinuria. Under the microscope nothing but blood corpuscles could be seen. The urine was always acid, there was no pain in micturition or at other times and the blood was equally diffused through the urine when passed. The symptoms completely disappeared after ten days, during which uric acid crystals were found in fair abundance in the urine as well as on subsequent occasions. These cases in fact bear a close analogy to what Sir Henry Thompson describes as uric acid storms in the adult. Besides hæmaturia pain is the most constant symptom, generally occurring suddenly and without warning, and referred to the lumbar or hypochondriac region and running down the course of the ureter towards the groin, the bladder, and the penis, and frequently causing retention of the urine; and this may exist to the extent of producing reflex irritation of an extreme character as in the case of a child described by Henoch who passed round fragments of the size of a pin's head which were recognised as uric acid concretions. She cried always before passing urine and developed first convulsions and subsequently contractures of the toes of both feet and of the fingers and knee-joints. The attacks will intermit with greater or shorter intervals and there is extreme tenderness to touch of all parts in the region of the kidney affected. It is, however, between the ages of two and six years (according to the tables of Sir Henry Thompson) that stone in the bladder is met with more frequently than at any age before fifty—that is to say, that the deposits from the tubules are more excessive soon after the first dentition when the organism is most in need of appropriate nourishment and most liable to reject those constituents which it cannot assimilate. The main sources of formation of salts in the urine of children were stated by the late Dr. Ralfe to be "indirectly from food by incomplete oxidation of the saccharine, amylaceous and oleaginous principles, and from increased tissue metabolism," and the blending of crystals to form a calculus is aided by the concentration of urine from deficiency in the amount of water secreted by the kidneys and further by the irritation excited by their presence in the pelvis, which sets up pyelitis, and the resulting secretion, aided by small hæmorrhages, agglutinate them into a calculus which receives constant augmentation in the kidney, the ureter, and the bladder.

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[6] Langenbeck's Archiv, Band xlvii., 1894.

As to the frequency of stone in the children of the poor Mr. Cadge agrees in the main with Sir T. Smith in attributing it to insufficient and almost arrested cutaneous excretion from imperfect clothing and uncleanliness tending to disturb the due proportions of the normal constituents of the urine and lead to a relative or absolute excess of some one constituent, while the digestive organs are constantly liable to disarrangement from unsuitable food or from irregularities in the mother's diet, and he lays much stress on the impossibility of these children obtaining a proper and sufficient supply of sound milk. Dr. J. A. Cunningham accounts for the prevalence of stone in India as being due to the mountain ranges of limestone bounding the districts in which it is of most frequent occurrence, the rivers depositing lime in the soil from which the drinking-water is drawn. Hot, dry summers inducing much perspiration, the urine consequently becomes concentrated and the salts crystallise out on any provocation, such as a diseased state of the urinary organs. Hot days and chilly nights are another predisposing influence, especially where clothing is insufficient. It is remarkable how frequently a stone may be latent in the kidney of a child and afford no evidence of its presence beyond the pyuria. This was pointed out by Dr. Gee in a paper read before the British Medical Association in 1883: "In other cases of stone in the kidney the diagnosis becomes possible when there are symptoms more or less like those of renal colic, when there are symptoms like stone in the bladder and yet no stone can be discovered, or where the kidneys can be felt by deep pressure." In the 2594 necropsies at the Hospital for Sick Children, Great Ormond-street, to which I have previously referred, I find that there were twenty-six cases in which calculi were lying in the pelvis or in the ureter. Seeing the much greater frequency of stone in the bladders of boys than of girls it is very remarkable that the majority of fourteen occurred in females; eleven were on the right side, nine on the left, five were on both sides, and in one case the side is not stated. The ages of the patients varied from nine months to nine years. Most of them died from affections not directly referred to the urinary apparatus and it may be presumed that in a large majority there were no symptoms pointing to the probable existence of calculus unless it were suspected from the existence of pyuria. In this list one case at least is not included—that of a boy, aged eight and a quarter years—upon whom I operated in 1892 for a calculus which was found blocking the commencement of the ureter. Nephro-lithotomy is, however, but rarely called for in children. One case is mentioned by Mr. Thornton where pain was referred to the left kidney which was found by means of an abdominal incision to be quite normal, and calculi were removed by a loin incision from the enlarged right gland. Two cases in which stones were successfully removed from a girl, aged eleven years, and a boy, aged three years and eight months, have been reported to me from the Pendlebury Hospital, and these are all the cases of operation that I have met with. It would thus appear that calculi are not infrequently impacted at the upper portion of the ureter, but seldom in any other part of its course. There are, however, one or two specimens in London hospital museums and notably one at the Hospital for Sick Children, Great Ormond-street, showing calculi impacted at the vesical end of the ureter, and others I shall refer to later. Dr. Eustace Smith observes that "where the concretion passes from the kidney into the ureter and downwards into the bladder there is always pain, but the child suffers far less than an adult would do under similar circumstances." This is certainly not beyond the truth, for in the investigation of a large number of cases of calculus vesicæ it is rarely possible to obtain any story of the passage of the stone from the site of its origin to that of its resting place. I have elsewhere described the case of a boy, aged ten years, who was handed over to my care by Dr. Barlow and who after a blow upon the loin suffered frequently from attacks of violent pain in the lumbar region with occasional hæmaturia. Repeated examinations failed to detect any calculus and the symptoms subsiding he was discharged. Two years afterwards a small stone was found and crushed. It was probable that an effusion of blood into the pelvis of the kidney followed the blow upon the back and that some remaining portion of the clot became the nucleus of a calculus which remained for some time in the ureter, but ultimately passed into the bladder giving no symptoms of its later progress.

There is one symptom of calculus vesicæ in children to which full weight is barely given in the text-books, that is, the rough and almost gritty condition which the surface of the bladder presents to the sound when the symptoms of stone seem to warrant an exploration. This is constantly found to exist when no stone is present and when not even phosphatic concretion can be extracted. It is caused, I believe, by the extreme acidity of the urine exciting a spasmodic contraction of the muscular fasciculi of the bladder and throwing them into ridges and folds against which the point of the sound impinges. The condition is so frequent that it is one to remember as leading to a possibly mistaken diagnosis of stone, but it passes away as soon as the child has been kept warm in bed and the urine has been rendered less acid by means of drugs. Time and the improvement of modern instruments have greatly altered the views of surgeons of the present day with regard to the treatment of stone in the bladder of children. This change of front is due in great measure to the advocacy by Indian army surgeons, with their unrivalled experience, of litholapaxy in preference to any cutting operation. Successful as lateral lithotomy has proved in the hands of many surgeons there are still objections to its general adoption. According to Sir Henry Thompson the mortality varies during the period of from one to twelve or fourteen years from 1 in 11 or 1 in 28 cases or about 1 in 16. On the other hand, Mr. Bryant states that there were no deaths in 100 consecutive operations on boys at Guy's Hospital and the results of the operation upon natives at the hands of such surgeons as Surgeon-Lieutenant-Colonels Keegan, Freyer, Cunningham, and many others have given a very small mortality. Yet it is from these very surgeons that the strongest advocacy of litholapaxy comes. Besides the troubles incidental to a cutting operation, particularly hæmorrhage, which is often severe and difficult to check, there are many difficulties in lateral lithotomy which have proved formidable to the most skilful and practised surgeons. But the more serious objections are found in the later consequences, such as stricture, fistula, and sexual impotence. The late Mr. Greig Smith, in the latest edition of his work, said: "I have seen in the last nine years five operations for perineal fistula following perineal lithotomy and I have been concerned in the treatment of one case of stricture and one of fistula from the same cause," these occurring in a district where stone is far from frequent. Recto-vesical fistula is one of the most troublesome of accidents which a surgeon can be called upon to rectify and is certainly not an infrequent consequence of the operation. Although Sir Henry Thompson questions the possibility of injury to the vesicula by the knife, yet, difficult as it must necessarily be to obtain evidence on the point, there is much to warrant the belief that impotence in the adult not infrequently follows this operation in the child. Mr. Teevan reported four cases of sterile husbands among lithotomised patients. Langenbeck has called attention to the same danger and Dr. Keegan believes the operation to be frequently followed by emasculation. It must be remembered that the statistics of lithotomy are largely derived from the results obtained by Cheselden, Sir Henry Thompson, Mr. Cadge, and others, who had special opportunities of practising that operation just as Indian army surgeons have lately had of studying litholapaxy, but for those to whom the opportunity comes but seldom the lateral operation presents as many if not more dangers and difficulties as litholapaxy, which on the other hand has far fewer after consequences. On the other hand, it has been shown by Dr. Keegan that the objections urged against litholapaxy in children are really invalid, that the bladder of a boy gives ample room for the working of a small lithotrite and a medium sized aspiration tube, while the sensitiveness of the urethra is overcome by means of an anæsthetic. The liability to laceration of the mucous membrane of the bladder and urethra is theoretical and need not be feared if care and gentleness be exercised, and with regard to the smallness of the urethra he shows that if the meatus be divided the urethra of a boy from three to six years of age will admit a No. 7 or 8 lithotrite and of a boy of from eight to ten years a No. 10, 11, or even 14. The size of the urethra does not depend upon age. He advocates litholapaxy in male children principally for two reasons—rapidity of cure and the absence of a cutting operation.

With regard to the size of stones that have been dealt with by this method Mr. Freyer has removed a calculus weighing 808 grains from a boy aged nine years and Dr. Keegan one of 700 grains (uric acid) from a boy aged nine and a half years. The largest stones in the collection at the Hospital for Sick Children are a uric acid calculus encrusted with phosphatic material and weighing 229 grains from a boy aged two years and six months, a uric acid stone of 178 grains from a boy aged five years and five months, and one with a uric acid nucleus of 450 grains from a boy aged eleven years. All these were successfully removed by the lateral operation. Most recent writers are inclined to be converted to these views. "The operation of election for stone in the bladder," said Mr. Greig Smith, "is undoubtedly Bigelow's. Lithotrity is an operation at least as good as, possibly better than, lateral lithotomy, while as regards remote results there can be no comparison." Mr. Southam in describing two cases of lithotrity in boys of three and a half and ten years mentions that of all the eleven stones previously removed by him by lithotomy each might have been successfully dealt with by lithotrity. The objection raised by Mr. Jacobson as to recurrence after lithotrity is met by Surgeon-Lieutenant-Colonel Keegan's conclusions from an experience of 110 cases of his own, "that recurrence of stone does not follow litholapaxy in male children any oftener than it does lateral lithotomy provided the former operation is skilfully performed." The fenestrated lithotrites that are now employed render it possible to completely pulverise any stone which they are capable of grasping supposing that its components are not so hard as to risk injury to the instrument, and thus none but the smallest fragments are left in the bladder. These by the aid of the large sized evacuating tubes which can easily be passed into the bladder can be removed by repeated injections from the evacuator, so that nothing but the finest particles is likely to remain. The bladder of a child being much more sensitive than that of an adult would be much more ready to resent and to expel any fragment left, and from the undeveloped condition of the prostate and the absence of any depression or pouch behind it in which fragments could lie as well as the healthy state of the mucous membrane as compared to that of an elderly person there would be far less liability to formation of stone in the bladder. Any fresh calculus is much more likely to have descended from the kidney, seeing how frequently when found in that organ they are multiple. Again, as I have formerly pointed out, it is easy by a second washing out of the bladder after a few days' interval to minimise the possibility of any fragments remaining.

The suprapubic operation has, owing to recent improvements in the method of its performance, been rendered much less difficult than formerly and its dangers have been very greatly diminished. The higher position of the bladder in children and the small amount of tissue which intervenes between it and the transversalis fascia render it more accessible than in adults, while from the small size of the veins and the thinness of the fatty layer which overlies the bladder the amount of hæmorrhage is seldom great and can easily be controlled. The peritoneum is not often seen and can easily be avoided. With care in the extraction of the stone the wound of the bladder need not be large nor should it in ordinary circumstances be lacerated. One question which time only can answer with regard to this operation is the condition of the bladder in an old patient who has had suprapubic lithotomy performed during youth. A line of cicatrix in the anterior wall must necessarily interfere to some extent with the normal power of contraction of the viscus, and if in addition the cicatrix be adherent to the anterior abdominal wall, as in many cases it must be, not only is the shape of the bladder greatly altered but its power of expulsion must be considerably curtailed. As regards the recurrence of stone I published a case[7] in which I crushed a calculus weighing 130 grains which had formed in the bladder of a young man who exactly twelve months previously had undergone the suprapubic operation at the

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[7] Clinical Journal, April, 1896.

Seamen's Hospital, when a calculus of 338 grains had been removed.

The subject of the treatment of stone in children has an extensive literature, which teems with statistics. These, however, are drawn either from the writings of surgeons who practised before the days of antiseptics or the introduction of litholapaxy or from the experience of Indian army surgeons upon native children, and are therefore open to objection on these grounds. For the sake of comparison, therefore, I have had collected, thanks to Mr. Templeton, the results of operations in children under twelve years of age from six hospitals in various parts of the kingdom during the last ten years.[8] These are as follows:

—	No.	Recovered.	Died.	Percentage of deaths.	Percentage of recovery.
Litholapaxy ...	49	45	4	8·1	91·8
Lateral lithotomy	17	16	1	5·8	94·1
Suprapubic operation ...	66	59	6	9 2	90·7
Totals	131	120	11	8·3	91·5

The percentage of recoveries after the lateral operation is nearly the same as in a collection of seventy-five cases operated on at the Hospital for Sick Children, Great Ormond-street, before 1890 and a little below that in the tables of Sir Henry Thompson (95·41) but above that of Mr. Charles Williams at the Norfolk and Norwich Hospital (93·73). The percentage of recoveries of the total number is, however, smaller than that in any of the three tables of the results of lateral lithotomy. Mr. Barling has collected[9] the results of the three operations in children under ten years of age:—

—	No.	Recovered.	Died.	Percentage of recoveries.
Litholapaxy	44	43	1	97·7
Lateral lithotomy...	50	48	2	96·0
Suprapubic operation ...	56	46	10	82 6
Totals...	150	137	13	91·3

This puts the suprapubic operations in a much less favourable light and gives to litholapaxy the highest percentage of recoveries of any of the three operations. These figures are of course too small from which to draw any definite conclusions. It may be presumed that in a certain number at least the suprapubic operation was selected in preference to either of the other alternatives on account of the size of the stone, the smallness of the pelvis, or for some other reason, and this would account for its showing a heavier mortality than the others. In a paper which I read before the Royal Medical and Chirurgical Society in 1890 I detailed the results of 114 consecutive operations for stone at the Hospital for Sick Children, Great Ormond-street. Out of 75 cases of lateral lithotomy there were 71 recoveries, a percentage of 94·6. Hæmorrhage, abscess, erysipelas, and orchitis were among the immediate casualties that followed the operation. To supplement the table in this paper there have been since its publication sixteen patients operated on for calculus vesicæ at the Hospital for Sick Children, Great Ormond-street, three by lateral lithotomy, all of whom recovered; seven by litholapaxy, of whom six recovered and one died; and six by suprapubic operation, of whom four recovered and two died. These are included in the first of the above tables, the death after lithotrity was due to pyonephritis and morbus cordis. One case which came under my own care was instructive. A boy, aged six years, was found to have a stone of moderate size which was easily seized with the lithotrite and a small amount of material was crushed, but the remainder was so hard that no impression could be made upon it and I desisted from further attempts from fear of breaking the lithotrite and at once removed the stone by the lateral operation. It weighed two and a half drachms, and was composed of oxalate of lime with a slight covering of phosphatic material which had been partly detached by the lithotrite.

Dr. White in an excellent article in Starr's Text-book of Diseases of Children, urges "that in every case of calculus in male children litholapaxy, on account of ease of performance, low mortality, speedy recovery, and absence of danger of emasculation, should be the operation of predilection." He quotes as the most recent statistics of the three operations those of Dr. A. T. Cabot. As all the cases were operated upon after 1878, and as they are classified according to age, they are especially valuable for the purpose of this paper. They may be compared as follows for children under fourteen:—

—	No.	Deaths.	Mortality.
			Per cent.
Suprapubic	591	74	12 52
Perineal lithotomy	539	16	2·96
Litholapaxy	241	4	1·66

I am, therefore, inclined to emphasise rather than to retract from the propositions offered in my former paper: (1) that in the cases of boys and girls stones of moderate size should be dealt with by litholapaxy; (2) that stones composed of oxalate of lime or of such size as not to be readily grasped between the blades of a lithotrite should be removed by the lateral operation in the case of boys; and (3) that the suprapubic operation should be reserved for stones of very large size or inconvenient shape in boys or girls, or cases of calculus embedded in a saccule of the bladder or impacted in the mouth of a ureter. That these propositions are not absolute must be evident. Cases have occurred to myself and others where the lithotrite cannot be introduced owing to some puckering of the mucous membrane of the urethra and the lateral operation may be forbidden on account of a narrowed and rickety pelvis, but I think it is proved by the above tables that the tendency of surgeons is, when possible, to use the lithotrite instead of the knife, and that with proper care such a course is followed by the best results and is free from the after consequences of a cutting operation. At the same time it is not every surgeon who has had experience of the use of a lithotrite and to such must be left the choice of one of the other operations. In girls, unless the stone be very large, when it should be removed by the suprapubic operation, lithotrity is always easily available and it avoids the troublesome after-consequences of over-dilatation of the urethra or the danger of a vesico-vaginal fistula. The advice here given is entirely from the point of view of the patient, but to the practitioner who is called upon to deal with a stone and who has not had personal experiences of lithotrity it is difficult to offer suggestions. To see lithotrity performed by Sir Henry Thompson or some of those who have had large experience in India is like witnessing the feats of Roberts with a billiard cue. But the manipulative dexterity which is certainly essential is only acquired by a long apprenticeship and considerable experience. On the other hand the pitfalls of the lateral operation are many and often alarming to those who are not in the habit of witnessing or of performing it. The suprapubic operation is in itself simple and easy of performance and is probably that which under such circumstances should be adopted. At the same time, though I do not place much reliance upon statistics, it is the one that in the above tables presents the most unfavourable results, and in my own opinion and in the opinion of many other surgeons the results would appear still worse if it were possible to collect all the cases in which this operation has been performed in recent years. It must not be forgotten that where there is a stone in the bladder there is or has probably been some amount of pyelitis, and Mr. Southam in his relation of the two cases mentioned above gives some very good advice with regard to the previous treatment of the patient—rest in bed, milk diet, and sterilisation of the urine by boric acid or salol given internally, and if the urine contains much pus the bladder should be washed out thoroughly more than once with an antiseptic solution. Shock should be avoided by thorough protection of the patient against surface chilling.

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[8] The hospitals from which these statistics were kindly supplied were the Hospital for Sick Children, Great Ormond-street; Manchester General Hospital for Sick Children; Leeds General Infirmary; St. Peter's Hospital for Stone, Henrietta-street, W.C.; Royal Hospital for Sick Children, Aberdeen; and Royal Hospital for Sick Children, Edinburgh.

[9] Brit. Med. Jour., March 9th, 1895.

There must always be met with some rare cases for which the suprapubic operation is alone available, such as are indicated in the third of the above propositions. Such a case I related in The Lancet of Oct. 22nd, 1887, in a boy, aged one year and four months, weakly, rachitic; symptoms of calculus had existed for three months and a stone was found on sounding which did not readily move in the bladder. The very narrow orifice of the pelvis, which was deformed by rickets, did not promise success to the lateral operation if performed. A suprapubic opening was made and a stone was felt lying in a sacculus in the region of the trigone below and between the orifices of the ureters and overlapped by the mucous membrane of the bladder to such an extent that it became necessary to raise the calculus from below by the assistance of the forefinger in the rectum. The stone was of uric acid, weighing fifty-three grains, and was of the shape of a blunted cone, the apex of which was buried in the walls of the bladder. The wound healed on the sixth day and the boy was discharged at the end of a fortnight.

Ureteral Calculi.

In connexion with the impaction of calculi at the vesical orifice of the ureter my colleague, Mr. Pitts, has favoured me with two most interesting cases of this condition. A boy, aged nine years, was admitted to the Hospital for Sick Children, Great Ormond-street, with symptoms of stone in the bladder which were verified by the sound. On bimanual examination two stones were felt, one on each upper lateral portion of the bladder—that on the right side of about the size of an almond and fixed and that on the left moveable and of the size of a cherry-stone. The suprapubic operation was performed and a stone was removed of the size and shape of a plumstone. No other could be felt by the finger in the bladder, but on repeating bimanual examination a stone could be plainly felt in the position of entrance of the right ureter. Careful examination of this spot within the bladder revealed a protrusion of the mucous membrane and probing the apex of this protrusion a stone could be felt encysted in that part of the ureter which passes through the bladder wall. The mucous membrane was incised with scissors and the stone, which was pyramidal in shape, was made to project into the bladder by the finger of an assistant in the rectum. After very prolonged and careful manipulation it was finally loosened and extracted by aid of a bent director. It was about half an inch in its longest diameter, somewhat pyramidal in shape, with the apex projecting at the orifice of the ureter and the base firmly grasped by the surrounding structures. The wound united and the boy was discharged well in less than six weeks. A second case which was under the care of Mr. Pitts at St. Thomas's Hospital is of still greater interest and rarity. A thin cachectic child, aged four years, who had had symptoms of calculus vesicæ for two months, had been admitted to another hospital where he was sounded under an anæsthetic but nothing abnormal was found. The child became much worse and three months later came under the care of Mr. Pitts. There was then retention of urine, the bladder was distended to the umbilicus, the penis was swollen, great pain was complained of when the catheter was passed, and the urine was found to be very offensive, thick, and looking like pure pus, escaping very slowly through the catheter, in the eye of which a small stone was found. On April 6th a suprapubic incision was made. No stone was found, the wall of the bladder was much inflamed, and the surface of the mucous membrane was red and granular, with some indications of sacculation. A large drainage-tube was inserted and the patient was placed in a boracic bath. This was changed for boracic irrigation on the sixth day owing to signs of bronchitis. Six weeks later an attack of jaundice supervened which was followed by inflammation of the right testicle and cord. On June 30th the tube was still in the bladder and no urine coming through the penis. On July 18th an examination was made under chloroform. The bladder was found empty, but on rectal examination a hard nodular mass was felt on the left side between the rectum and the bladder. The cystotomy wound was enlarged and an ulcerated opening was found in the trigone of the bladder near the neck which led to a cavity outside the bladder which contained four oval stones that were with difficulty dislodged and manipulated from the pouch into the bladder and so removed. The largest of these calculi was of the size of a small plumstone. The boracic bath was repeated and the child made a good recovery. Mr. Pitts adds as a note to this exceedingly instructive case that in the absence of any stone on first opening the bladder and from the suppurative condition found, together with the subsequent inflammation of the epididymis and cord, the condition was for a long time believed to be tuberculous. Hence the delay in the second operation which resulted in finding the stones and curing the patient, a result which redounds to the credit of the surgeon. Such cases as these admit of no other treatment than by the suprapubic operation, which was clearly indicated beforehand in all of them.

CASE OF ANGIO-NEUROTIC ŒDEMA WITH HISTORY OF INJURY TO THE HEAD.

By JOHN R. GIBSON, M.D., F.F.P.S. Glasg.

The following case bears a resemblance to cases described by Quincke in the July number (1882) of the *Monatshefte für Praktische Dermatologie* under the heading of Acute Circumscribed Œdema and also of cases described under the same heading by Dr. W. Jamieson in the *Edinburgh Medical Journal* of 1883.

The patient, a man, aged fifty-two years, of sober habits and good family history, twenty years ago met with an injury to his left temple from a falling plank of wood. He was rendered unconscious for a short time. The forehead was cut and the bone injured; at present there is a cicatrix which is adherent to the bone. After this injury he became liable to periodic attacks of sickness and acid vomiting accompanied with pain at the seat of the injury of a throbbing character and a chilly feeling. These dyspeptic attacks had no reference to his diet or any indiscretion. They lasted at most two days, when he got well. This state of matters continued, defying medical treatment, until four years ago there was added another feature of the case—i.e., a skin eruption. Concurrently with the pain in the head, dyspepsia, and chilly feeling he noticed one or both arms to get blanched and to assume the cutis anserina appearance, often lasting an hour or two, to be followed by raised erythematous patches of the size of from half-a-crown to three inches in diameter, a favourite spot for the eruption being the flexor surfaces of the elbow or wrist and the skin surrounding the eye. These raised spots had a tingling sensation, but were not itchy, and lasted from one and a half to two days when they very rapidly disappeared. The patches were always of an erythematous colour. This condition has lasted—with the exception, as pointed out by Quincke, of assuming a milder form—for over four years in spite of a great variety of treatment, nothing having the least effect upon the disease. The disease is worst in cold weather (when he has to cease work) or when he experiences a chill. His mucous membranes are occasionally affected, as the palate, also the pleura, as shown by pain in the left mammary region and friction sound during the attack which is unaccompanied by fever and disappears concurrently with the skin eruption.

The chief point of interest in this case is the history of head injury followed by the periodic attacks of sickness and this in time to be followed by the circumscribed œdema. Quincke regards the condition as a vaso-motor neurosis, under the influence of which the permeability of the vessels is suddenly increased—a view which the head injury in this case would seem to support. The gastro-intestinal catarrh is due to the same cause. The disease is sometimes associated with rheumatism, but the patient under my care has never had rheumatism or a family history of rheumatism. The following drugs were tried in this case alone and in combination and, as before said, without influencing the disease in the least—arsenic, strychnia, atropine, antipyrin (in large doses), phenacetin, quinine.

Paisley.

ON PYLOROPLASTY, WITH ABSTRACT OF ELEVEN CONSECUTIVE CASES.

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IN THE LANCET of Feb. 16th, 1895, and Oct. 24th, 1896 (where four cases are recorded), and at various medical society meetings I drew attention to the advantages of pyloroplasty. Since that time no cases in abdominal surgery have given me so much satisfaction. It is because I believe that the safety and advantages of this operation are not yet sufficiently realised by the profession that I am venturing once more to draw attention to the subject. Pyloroplasty is without rival in cases of strictured pylorus. I cannot say anything from personal experience of Loreta's operation, but a knowledge of the pathology of these cases teaches that stretching in the majority of instances would be dangerous and generally useless. The same lesson has, I believe, been learned by surgeons who have practised this operation sufficiently often. Gastro-enterostomy as ordinarily performed is still worse. In the surgical section of the British Medical Association annual meeting, 1893,[1] I remarked: "If a large opening is made between the stomach and jejunum there is every reason why the intestinal contents should regurgitate into the stomach unless that viscus offers some resistance. Into the dilated stomach intestinal contents pass easily and fill it up. The stomach when in a fairly healthy state is tonically contracted, its walls lying firmly apposed when empty and embracing their contents when full." At the same meeting I exhibited specimens bearing on this statement which increased experience has confirmed. Whether this explanation be accepted or not it is a fact that in four cases of much dilated stomach on which I have performed gastro-enterostomy by the accepted methods death resulted a few days after the operation from constant vomiting of intestinal contents, and the vomiting in each case was not prevented either by posture or frequent washing out. Post-mortem examination demonstrated in each that the principle of the operation was at fault and not the technique, for union of the visceral and parietal wound was perfect and nothing was found to account for death except the regurgitation of intestinal contents into the stomach. In addition to my own experience I have had the opportunity of observing similar results in the hands of other surgeons, so that I feel justified in making strong objections to this operation in the class of case now under consideration.

I have performed pyloroplasty in eleven cases;[2] all recovered. Ten are now alive and in perfect health. Eight of the ten (Cases 1, 3, 5, 6, 7, 8, 10, and 11) are striking results; from a condition of the most feeble, miserable invalidism they rapidly rose to robust health. Case 2 (previously recorded in THE LANCET of Oct. 24th, 1896) relapsed from fresh gastric ulceration after the operation, but is now well; and Case 9 had not suffered sufficiently long to be markedly feeble or emaciated when the operation was performed. Case 4 (recorded in THE LANCET of Oct. 24th, 1896) died eighteen months after the operation from cancer of the pylorus. An early malignant stricture was mistaken in her for the ordinary simple stricture of the pylorus (and treated by pyloroplasty); and as yet I know of no certain method of distinguishing clinically (even after abdominal section) a commencing malignant stricture from the ordinary cicatricial one. I have previously pointed out that a long history is against malignancy, but in this case the patient had been troubled with indigestion all her life. Adhesions and scarring would also be in favour of an inflammatory rather than a malignant lesion. A moveable nodular pylorus of the size of a walnut or larger is probably infiltrated by malignant growth, as it is seldom that an inflammatory swelling remains so localised and reaches such a size. Nevertheless, on Aug. 3rd, 1897, I excised a pylorus forming such a tumour from a man of middle age with a history of only ten months' illness and rapid emaciation. Before and after opening his abdomen the tumour was diagnosed as malignant; not until it was split open and its interior exposed was it suspected that the diagnosis might be wrong. A typical punched-out ulcer surrounded by a large mass of inflammatory origin was the cause of all this mischief.

In two cases I have opened the abdomen expecting to perform pyloroplasty but found that in one it would be useless and in the other impossible to do so. The first case was that of a middle-aged man with a typical history and the starved, emaciated appearance of pyloric stricture of long standing due to gastric ulcer. On opening his abdomen the pylorus was found to be buried and attached to the pancreas by firm adhesions and there were two yellow-coloured glands of the size of filberts in the gastro-hepatic omentum. The glands and what I took to be the pylorus to which one of them was attached were separated and excised together. On examining the portion of viscus removed and the cut surfaces left it was discovered that the first portion of duodenum had been removed and the pylorus, which was much contracted, left. I then split the pylorus and attached it to the cut duodenum. In separating the dense adhesions I wounded the pancreas and to this I attribute the patient's death on the sixth day after operation. He died from acute perforating peritonitis probably due to digestion of the newly-formed lymph by escaped pancreatic juice. Numerous old cicatrices of round ulcers were found (post mortem) in the neighbourhood of the pylorus, which was a little thickened. A portion of the pylorus and the glands were examined microscopically and found to be infiltrated with columnar-celled carcinoma. The second case also was that of a middle-aged man with the typical appearance and signs of pyloric stenosis. No tumour could be felt, but his pylorus was found to be buried in dense adhesions. A vigorous attempt was made to separate the pylorus, but the adhesions were so thick and firm that the notion of performing pyloroplasty had to be abandoned. Gastro-enterostomy was performed by a new method, which I hope to show at a later date is applicable to such cases. For the two days following operation the patient occasionally brought up mouthfuls of green, stinking fluid, evidently bile and pancreatic juice, but after a Seidlitz powder in hot water the regurgitation finally ceased. On the fourth day he appeared to be safe. On the fifth day the symptoms and signs of acute peritonitis developed and on the seventh day after operation he died. Post-mortem examination showed that death was caused by general septic peritonitis due to leakage from a hole the size of a pinhead outside of an active ulcer in the stomach close to the pylorus. The hole had been made and overlooked during the attempt to separate the adherent pylorus. The duodenum down to immediately above the opening for the bile and pancreatic ducts was scarred by recent and old ulcers. The pancreas, duodenum, and pyloric end of the stomach were inseparably united by dense adhesions. All the new openings were very firmly united and water-tight. I have included these two cases to make my record of pyloroplasty complete and to illustrate the fact that both diagnosis and operation may sometimes be impossible. Nevertheless, in the great majority a diagnosis of those suitable for the operation is easy. The most promising are those in which a moveable nodule can be felt in the neighbourhood of the pylorus; in addition the ordinary symptoms of chronic dilatation are present—viz., vomiting of large quantities of yeasty fluid at intervals and the well-recognised disturbances of chronic dyspepsia, chiefly vertigo, pronounced constipation, depression of spirits, marked emaciation, and loss of appetite. In these cases the operation is as safe as any in abdominal surgery; the moveable pylorus makes it so easy that it can be performed in less than half an hour, and the after results are a surprise to those unaccustomed to watch such patients. Every case in which dilatation of the stomach is a marked feature, with a history of failing stomach powers, should, I believe, be explored with a view to operation. It will seldom be found that the diagnosis of strictured pylorus is wrong or that pyloroplasty will fail to bring about complete relief of all symptoms and a restoration to health.

With regard to the pathology my opinion[3] that most of the cases of pyloric stricture "are due to cicatricial contraction following ulceration" is confirmed by further experience

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[1] Brit. Med. Jour., 1893, vol. ii., p. 149.

[2] Since writing the above I have successfully operated on a twelfth case.

[3] THE LANCET, Oct. 24th, 1896.

Table of Eleven Consecutive Cases of Pyloroplasty.

No.	Sex and age.	Date of admission.	Alcohol.	Previous health.	Date of onset of symptoms.	Date of onset of vomiting	Frequency of vomit.	Amount of vomit.	Nature of vomited matter.	Date of onset of pain.	Situation of pain.	Characte of pai
1	F., 48.	Oct. 4th, 1894.	0	For 20 years has suffered from indigestion.	5 years ago.	5 years ago had vomiting every 2 or 3 months.	Latterly every 2 or 3 days; for last 14 days almost continuously.	Large quantities; more than amount of food taken.	Frothy, yeasty, and foul smelling.	4 to 5 months.	Umbilical region.	Severe b vomiting
2	F., 37.	Oct. 11th, 1895.	0	Good until 8½ years ago; 8½ years ago miscarriage; 8 years ago dropsy; 4 years ago typhoid fever.	8 years ago had vomiting after food.	8 years ago.	Occasional after food until 7 months ago, when it became almost incessant.	Occasionally large quantities; generally only food she had eaten.	Yeasty and foul smelling; sometimes black or red.	3 months ago.	In stomach.	Relieved vomiting
3	M.	Jan 1st, 1896.	0	Typhoid fever at 10 years of age.	3 or 4 years.	3 or 4 years.	3 attacks every 24 hours, sometimes immediately after meals.	Large quantities.	Like soapsuds.	Not so long ago as the vomiting.	In stomach.	Sometim severe, other t an un feeling taking f great reli vomiting does not ar k befo vomiting
4	F., 50.	April 11th, 1896.	0	Always been troubled with indigestion.	14 months ago had pain in stomach and sometimes diarrhœa.	6 months ago.	After food "off and on."	Large quantities; more than food taken.	Sour, bitter, and watery-looking; no blood.	6 months ago.	In stomach.	Relieved vomiting
5	M., 38.	Feb. 22nd, 1896.	Hard drinking over a fortnight for 13 years before illness.	Good.	6 years ago.	15 months ago.	Generally immediately after food; sometimes only every 2 or 3 days.	Very large quantities when the vomiting is not frequent.	Greenish, frothy, and sour-tasting fluid; much foul-smelling gas.	15 months ago.	In epigastrium.	Severe
6	M., 32.	June 25th, 1896.	When he could freely.	At 8 years of age had scarlet fever; between the age of 21 and 29 years had ague and dysentery in India.	2 years ago.	2 years ago.	About 10 mintes after meals.	Sometimes large quantities.	Frothy and brownish-yellow; sarcinæ and torulæ.	2 years ago; continuous during past ten weeks.	In epigastrium.	Severe a food at and reli by vomi (watery ing co uneasine much in creased b solid foo
7	M., 25.	Oct. 8th, 1896.	0	Scarlet fever when young.	12 years ago had pain in stomach after meals.	9 years ago had vomited a pint of blood.	For 4 years has vomited large quantities of undigested food, more often latterly.	Large quantities.	Occasionally like coffee-grounds.	2½ years ago.	In stomach.	Severe a food.
8	M., 56.	Dec. 1st, 1896.	0	Always very delicate stomach; careful diet.	15 years ago; in bed 6 weeks with pain in stomach; could take fluids only.	During past 8 months.	Only vomited twice.	Nothing exceptional.	—	8 months ago.	In stomach.	Severe a meals, w full, hea feeling.
9	M., 42.	March 25th, 1897.	Freely.	Always good.	9 years ago.	9 years.	Food often vomited immediately after taking it.	Not much more than food taken.	Watery, bitter, and slimy.	No severe pain.	In epigastrium.	Dull, hea feeling.
10	M., 56.	Aug. 31st, 1897.	0	For 25 years has had a delicate stomach, with fits of severe pain always in epigastrium.	12 months.	12 months.	Every two or three days.	Very large quantities.	Sarcinæ.	12 months.	In epigastrium.	Constant uneasiness; severe after food; relieved by vomiting.
11	F., 30.	Sept. 6th, 1897.	0	For 12 years attacks of pain in stomach and constipation.	8 years ago.	8 years ago.	After food; ceased when she was pregnant seven years ago, but recommenced after labour.	Large quantities. "Does not know where it all comes from."	Watery and frothy; a scum on top; smells and looks like yeast.	8 years ago.	In stomach.	Two sorts of pain: (1) a burning a food; and (2) when stomach is full like labour pain; relieved by vomiting.

SUBSEQUENT HISTORY.

Case 1.—Mr. Sheraton reports Aug. 3rd, 1897, three years after operation: "She weighs 10½ st. and enjoys perfect health."

Case 2.—Dr. Buncle reports Sept. 30th, 1897, two years after operation: "Her digestive capacity seems perfectly normal. Her general health is good."

Case 3.—Dr. J. R. Sutherland reports, Sept. 29th, 1897, twenty-one months after operation: "He is keeping in good health and has no stomach trouble whatever."

Case 4.—Mr. F. G. S. G. Martin reports, Nov. 28th, 1896, eighteen months after operation: "There was no doubt that [the patient] died of a malig tumour the growth of which was very rapid during the last six weeks of her life. Could not get a post-mortem examination."

Case 5.—Twenty months after operation the patient showed himself at the infirmary. He could eat and digest anything and was doing regu heavy work as stoneman in the pit.

Case 6.—Eight months after operation he called at the infirmary. He was in perfect health and could eat anything. He has not been see since.

TABLE OF ELEVEN CONSECUTIVE CASES OF PYLOROPLASTY—(*continued*).

Whether there is swelling of abdomen.	Situation of swelling.	Evidence of dilatation of stomach.	Date of operation.	Nature of lesion found before operation.	Nature of lesion found at operation.	Ordinary weight.	Date of onset of wasting.	Weight at time of operation.	Present weight.
Considerable before vomiting attacks.	In umbilical and epigastric regions.	Succussion and visible distension.	Oct. 16th, 1894.	Lump the size of a walnut can be picked up between finger and thumb above and to the right of the umbilicus.	Pylorus felt like a walnut; internally would not admit closed hæmostatic forceps.	7½ st.	—	5 st. 1 lb.	10½ st.
After food.	In stomach.	Succussion and increased resonant area.	Oct. 17th, 1895.	No lump or nodule.	Lesser curvature of stomach adherent to parietes; pylorus and duodenum with omentum bound down and closing foramen of Winslow; pylorus red and œdematous; hard nodules of cicatrix in posterior and upper wall of pylorus; admitted tip of little finger.	15 years ago, 10 st.	—	8 st. 12 lb.	9 st. 11½ lb.
When stomach is full there is a painful lump as big as a cocoanut.	Rather to the left of the umbilicus.	Succussion; stomach holds 4 pints of fluid.	Jan. 3rd, 1896.	Something indefinite to be felt under the right rectus muscle to the right and above the umbilicus.	Hard nodular mass surrounding pylorus which admitted tip of forefinger; colon adherent to the front of the pylorus.	9 st.	Gradual from commencement of illness.	7 st. 6 lb. 5 oz.	10 st.
Always before vomiting.	In stomach.	Enormous distension with Seidlitz powder; succussion and percussion.	April 12th, 1896.	Very tender and hard nodule as big as a walnut to the right of the umbilicus; moveable and descends with inspiration.	Pylorus hard and nodular; white scar on front surface; no adhesions; pylorus admitted tip of little finger.	—	—	5 st. 7 lb. 4 oz.	—
Stomach gathers up into a lump at times.	Epigastrium.	Succussion; Seidlitz powder; more fluid returned than was put into the stomach.	March 3rd, 1896.	Nothing to be felt over the pylorus.	Ulcer found on the posterior wall of pylorus and cicatrices of others present; pylorus tight; admitted closed hæmostatic forceps.	10½ st.	15 months.	7 st. 5 lb.	11 st. 8 lb. Sept. 2nd, 1897.
Yes.	Under upper part of the right rectus muscle; rises and falls with respiration.	Reached from the ribs to the umbilicus.	Aug. 11th, 1896.	No lump; under chloroform a distinct nodule could be felt at times previously to operation.	Externally pylorus appeared and felt normal; internally pylorus admitted only the tip of hæmostatic forceps.	10 st. or 11 st.	2 years ago.	6 st. 4 lb.	11 st. (?)
Great swelling.	In umbilical region.	Visible hard swelling when the stomach is manipulated.	Oct 10th, 1896.	No lump or nodule.	Cicatrix on anterior wall of stomach near pylorus adherent to omentum and colon; pylorus represented by a thin band as big as a crow-quill; admitted a director.	9 st.	2½ years.	6 st. 1 lb.	9½ st.
Swells towards night.	In stomach region.	Marked succussion.	Dec. 3rd, 1896.	Rounded nodules of the size of a filbert indistinctly felt on deep inspiration to the right of linea alba, between umbilicus and ensiform cartilage.	Pylorus adherent behind to considerable nodular tumour like hard pancreas; in stomach the pylorus felt like hard, firm ring; admitted tip of little finger.	11 st.	—	8½ st.	11 st.
Swelling after meals.	In upper part of the abdomen.	When distended with Seidlitz powder stomach reaches below umbilicus.	March 27th, 1897.	Occasionally a small nodule felt.	Tight narrow-edged ring at pylorus which gripped the tip of forefinger; pylorus could not be felt in this condition externally. Had it been spasmodically contracted?	11½ st.	Lost weight rapidly lately.	10 st. 5 lb. 5 oz	11 st. 7 lb.
No.	—	Splashing.	Sept. 3rd, 1897.	Painful spot to the right of the umbilicus.	Omentum adherent to pylorus; pylorus admitted tip of Spencer Wells's forceps; pylorus hard and harsh to the touch; active ulcer above and behind close to the pylorus.	9 st. 10 lb.	12 months.	8 st. 6 lb.	10 st. 13 lb.
A hard swelling before vomiting.	In stomach.	Dilatation can be seen when peristaltic movements are present.	Sept. 13th, 1897.	A hard nodule immediately to the right of the umbilicus, freely moveable from side to side and from above downwards.	Pylorus hard, puckered, and cicatrix on outside; inside admitted small closed pair of hæmostatic forceps.	8 st.	8 years.	Very thin (? 8 st.).	9 st ½ lb.

SUBSEQUENT HISTORY.

Case 7.—Dr. Graham Miller reports, Oct. 7th, 1897, one year after eration: "Everything agrees with him. His general health is excellent has been at work regularly for 5 months."

Case 8.—Mr. W. Tiplady reports, Nov. 16th, 1897, eleven months after eration: "Enjoys good health and strength. Has no trouble with gestion."

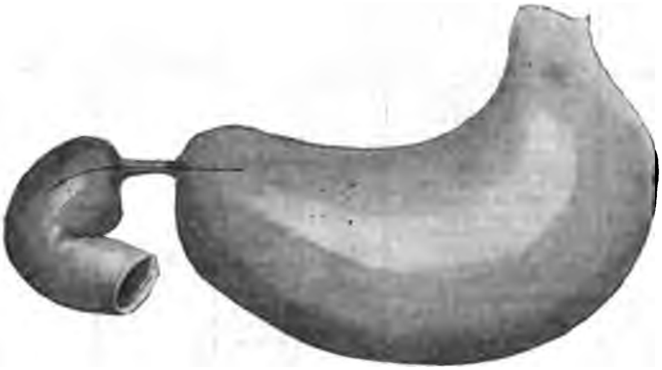
Case 9.—Mr. J. Smale reports, October, 1897, seven months after opera-n "Patient is in a good state of health and is careful as to diet. He digests and sleeps well and takes lots of exercise. Stomach still somewhat large."

Case 10.—Two months after operation Dr. P. Pearcey and I saw him. He can eat and digest anything and is getting fat.

Case 11.—Two months after operation she was seen at the infirmary. She has no trouble whatever with the stomach and has gained 1½ st. in weight.

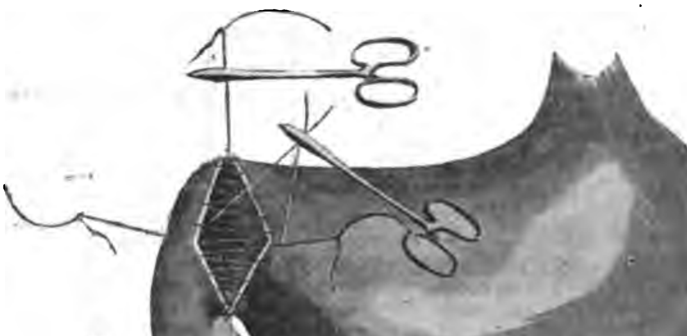
and in some of the cases alcoholic abuse seems to have acted as an exciting cause of the pyloric ulcer. I have only to add to this that spasm of the pyloric sphincter is probably superadded to the organic lesion in some instances. In Case 6, for example, it was noticed that a distinct nodule could be felt at times but not always. Under chloroform the nodule was not apparent and the pylorus when palpated after opening the abdomen felt normal and looked externally as if nothing was wrong with it, though a tight stricture was found to be present on opening the stomach. I showed the case before the Northumberland and Durham Medical Society in October, 1896. My words then express my established opinion. "No such amount of cicatricial change was found in Case 6 as would account for the tight stricture of the pylorus; the varying nature of the abdominal lump and the disappearance of all hardness under the anæsthetic point to some other cause than cicatricial contraction for the condition. The case suggests to me the possibility of 'spasm' taking some part in the production of the pyloric stricture; also a small ulcer, as in the case of the anal sphincter, may be considered a not improbable cause. Any disturbance of the complicated nerve mechanism involved in the stomach movements during digestion, by which the expulsive movements are stimulated and the pyloric sphincter inhibited at the same time, appear to be as likely a cause of digestive troubles as many of the obscure conditions described in text-books on the subject. In support of the muscular spasm theory it may be added that there is some amount of evidence in favour of the view that long-continued contraction of unstriated muscle may lead eventually to organic stricture."

FIG. 1.



Line of incision through strictured pylorus.

FIG. 3.

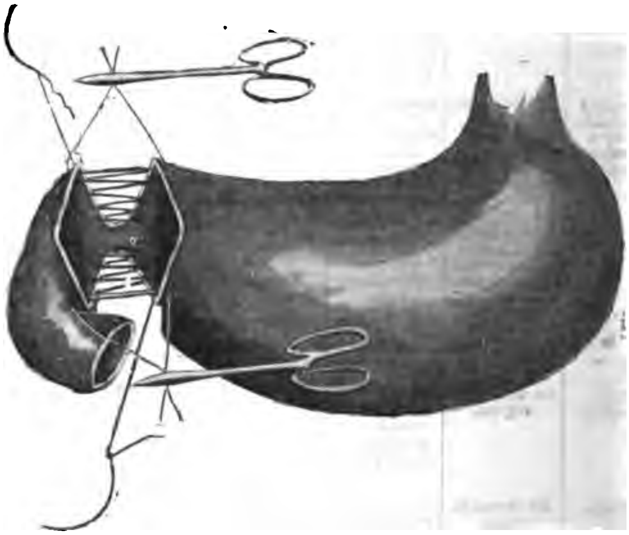


Formation of anterior wall of new pylorus by a row of sutures similar to that in Fig. 2.

Attention to detail is essential to success (in this as in any other operation). I shall therefore shortly describe the method I have adopted of preparation of the patient and the after treatment and add a few notes on the operation itself.

For three or four days before the operation my patients are kept warm in bed. Their starved, weak condition makes this usually a relief. During this time they are only allowed a wineglassful of equal parts of milk and barley-water every hour and some medicine to cause free intestinal evacuations. Five grains of calomel and after a rest of six hours sulphate of magnesia (in one-drachm doses) is given every two hours till the bowels are freely moved.[4] Half an hour before the operation half an ounce of whisky in half an ounce of water is administered. The patient, operator, and assistants are prepared as for an ordinary aseptic operation. The operation as described in THE LANCET of Feb. 16th, 1895, p. 396, is then performed in ordinary cases. I have only to add to that description that the inner suture which passes through all the coats of the duodenum and stomach is a continuous one of catgut specially prepared; its sole object is to make the junction water-tight. Outside of this line a row of interrupted

FIG. 2.



The longitudinal incision has been converted into a transverse one and the continuous suture when drawn tight will form the posterior wall of the new pylorus.

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[4] Washing out the stomach is sometimes useful from a diagnostic point of view, for in addition to the usual arguments in its favour that it enables an examination of the contents to be made and the amount of dilatation to be roughly gauged, in two cases when recent ulcers were found washing occasioned considerable pain after a certain amount of water had been introduced. Unless, however, the stomach has been accustomed to lavage I do not wash it out, as the operation is always unpleasant, serves no useful purpose so far as the coming operation is concerned, and is perhaps not always so free from risk as we have been accustomed to regard it. This point was suggested to me by the case of a middle-aged man who was admitted to the infirmary under my care for operation. He was a sturdy-looking short man with a much dilated stomach and sarcinous vomiting, apparently an excellent case for operation. Immediately after being washed out he felt relieved, but shortly after complained of feeling sick and weak. Three days later I found him very ill. He had frequently vomited, had passed only two ounces of urine in the three days since being washed out, and though heavy and somnolent was restless. His bladder was found to be empty. We supposed that his kidneys were at fault and that his condition might be due to uræmia. Eight days after the washing out he died comatose. Post-mortem examination showed a tight pyloric stricture the result of old ulceration, a hugely dilated stomach, and nothing else. All his other organs were sound.

Lembert's sutures of fine silk is introduced with the object of burying the first. This simple form of suture I have advocated and used, to the exclusion of every other, for some years in all sorts of stomach and intestinal work and know that entire reliance may be placed upon it. It may be well to add that the opening into the duodenum and even the duodenum itself in the later stages of the operation may be difficult to recognise unless special precautions are taken to make its relation clear before the suturing is commenced. For this purpose temporary sutures, for a knowledge of which in intestinal surgery I am indebted to Mr. F. Caird, of Edinburgh, are very useful. They only need to be drawn out when the permanent suture is completed. But the operation is not always so simple, adhesions sometimes make it impossible, as in one of the cases related, or remarkably difficult, as in Case 3, when the colon was opened by mistake in separating dense adhesions. Still another difficulty was met with in Cases 5 and 8, illustrated in the annexed diagram, for which I am indebted to Dr. W. G. Richardson, who has assisted me at most of the operations. In these cases the stomach was attached to the duodenum by a narrow channel of practically no use (when laid open) for forming any important part of the new pylorus. The diagrams show how this difficulty was overcome. In Fig. 1 the narrow channel connecting the stomach and duodenum is shown. The thin black line represents an incision passing through from one to the other. In Fig. 2 the longitudinal incision has been converted into a transverse one and is held by temporary sutures in clip forceps. The continuous suture (of catgut through all the coats) introduced from within outwards has completed the posterior wall of the new pylorus when drawn tight. In Fig. 3 the anterior wall of the new pylorus is being made as in an ordinary pyloroplasty by a continuous suture (of catgut through all the coats) introduced from without in. A row of interrupted Lembert's sutures outside of the ring completes the operation. This outer row of sutures must tuck in and bury each end of the inner line before the middle is completed, for if the sutures be applied from one end throughout the last portion left forms an ugly tense angle difficult to deal with and in which the blood-supply is most defective.

In two other cases (Cases 5 and 10) another complication was met with. On opening the pylorus (in each) a circular active ulcer was found close to the pyloric ring. In Case 5 the ulcer was rather larger than a sixpenny piece; in Case 10 rather less than a threepenny piece. In both the ulcer was cleansed, its walls scrubbed with antiseptic gauze and covered up by drawing the mucous membrane over it by interrupted sutures of catgut.

With regard to the after treatment it scarcely needs description, for it is that of an ordinary abdominal case. For the first twelve hours rectal enemata of two ounces of milk, two ounces of beef-tea, with a small quantity of salt (and stimulant if required) are administered every two hours and two teaspoonfuls of hot water by the mouth. After twelve hours a teaspoonful of milk and barley-water in equal parts is given every hour and the quantity gradually increased after a few hours. On the fifth day some thin arrowroot is allowed with milk, which is now taken in fair quantity, and if it has been necessary to continue the rectal enemata so long they are now given up. By the end of the week milk puddings, soap, and eggs can be taken and in a few more days ordinary diet. On the fifth day five grains of calomel followed in four hours by a soap and-water enema move the bowels. On the tenth day the dressings are taken off for the first time and if the skin sutures are not of catgut the stitches are then removed. Next day the patient gets up.

A few points about the convalescence are of interest. It is quite exceptional that patients are sick either from the anæsthetic or otherwise after this operation. The vomiting centre in them seems to require a stronger stimulus to set it into action than in ordinary individuals. The appetite returns very quickly. On the sixth or seventh day nearly all the patients have said that "they felt hungry, a sensation which they had not known for a very long time." For the first few weeks of convalescence, within even an hour of having a full meal, a desire for more food is experienced. Whether this is due to an abnormally fast passage of the food from the stomach into the intestine or not is a question of interest. That nutrition is not materially interfered with is proved by the fact that one pound a day is a common gain in weight and this is accompanied by a marked increase of strength.

Newcastle-on-Tyne.

A SERIES OF SIX CASES OF RUPTURED AND PERFORATING GASTRIC ULCER TREATED BY SUTURE, ENDING IN COMPLETE RECOVERY.

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I have already recorded in The Lancet two cases[1] of ruptured gastric ulcer treated by suture both terminating in complete recovery. The first of these was seen in perfect health two and a half years after the operation; in the second the patient was described as perfectly well six months after the treatment but has since been lost sight of. The following four cases complete my experience up to the present date (February, 1898) of the treatment of gastric ulcer by suture. As will be seen all the patients recovered and at present remain well. The number of cases is necessarily small as the circumstances in which the treatment is called for can hardly occur commonly in the practice of one individual; moreover, the period during which the treatment has been in use is comparatively short.

Case 3. *Perforating gastric ulcer; subphrenic abscess; abdominal section; suture of perforation; recovery.*—A girl, aged sixteen years, was admitted into St. George's Hospital under the care of Dr. Ewart on Oct. 28th, 1896. For eighteen months she had suffered from pain after taking food which was usually relieved by vomiting. Two weeks before admission immediately after the midday meal she was seized with acute pain in the epigastrium which was followed by faintness. She became very ill and remained in bed up to the time of admission. On admission the patient was pale and anxious-looking, the tongue was dry, and the pulse was feeble. The temperature was 103° F. There was acute abdominal pain, the breathing was short and laboured, and the abdomen was distended and rigid over the epigastric region. There was "tympanitic resonance with bell-note" over the epigastrium and the lower part of the sternum. The liver dulness was absent. The heart's apex was displaced upwards. Over the left lung below the level of the seventh rib there was absolute dulness with loss of vocal fremitus. On Oct. 29th aspiration of the left chest resulted in the withdrawal of twelve ounces of pus. The abdominal condition remaining the same on the 30th I met Dr. Ewart in consultation and afterwards performed median abdominal section above the umbilicus. Incision of the peritoneum was followed by a rush of stinking brown pus which had been contained in a considerable cavity, the bottom being formed by the stomach wall, in which there was a minute perforation. The perforation was closed by four sutures passed deeply. The cavity was thoroughly sponged out, a drainage-tube being afterwards placed in the depth of the space and brought out through the abdominal wound. Immediate subsidence of the symptoms followed. The temperature fell to normal by Nov. 2nd. At the end of the first week after the operation signs of fluid in the right pleura developed and the patient became worse. Four ounces of bloody fluid were withdrawn by the aspirator. Improvement immediately followed and subsequently was steady and uninterrupted. Some discharge continued from the tube till Dec. 11th, when, after having been previously shortened, it was withdrawn. The patient left the hospital well on Jan. 1st, 1897.

Case 4. *Ruptured gastric ulcer; general peritonitis; suture; recovery.*—A woman, aged twenty-six years, was admitted into St. George's Hospital on Nov. 7th, 1897. On Nov. 4th the patient had been seized when stooping with sudden acute pain in the epigastrium; she vomited immediately and fainted. She was at once sent to bed and remained so ill that no attempt was made to remove her to the hospital until the 7th. Immediately after the onset of the pain she was seen by an experienced physician who diagnosed ruptured gastric ulcer and recommended her removal to the hospital. For years she had suffered from dyspepsia and occasional vomiting, but there had never been any hæmatemesis. On

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[1] The Lancet, July 7th, 1894, p. 21, and Aug. 1st, 1896, p. 310.

TABLE OF CASES OF GASTRIC ULCER TREATED BY SUTURE.

No. of case.	Sex, age, constitutional condition, and date of operation.	Time intervening between perforation and operation.	Situation and general condition of perforation or induration.	Peritonitis, local or general.	Operation.	Drainage.	Result.	Time after operation at which patient was last seen or heard of.
1	Female, 41 years; great collapse; April 4th, 1894.	8½ hours.	Posterior aspect of stomach close to pylorus; opening size of No. 6 (English) catheter; surrounding induration equalled size of crown piece.	Limited to upper half of abdomen.	Preliminary "water-tight" stitch. Peritoneum afterwards closed over and fixed by Lembert sutures.	No.	Uninterrupted recovery.	Was seen in perfect health 2¼ years after operation; free from dyspeptic symptoms.
2	Male, 32 years; severe collapse; April, 1896.	7 hours.	Anterior aspect of stomach about middle; opening (oval) ½ in. long; induration very rigid, 3 in. in diameter.	General.	Omental plug; Lembert's suture.	No.	Uninterrupted recovery.	Seen 10 weeks after operation in good health; heard of 4 months later in good health; afterwards lost sight of.
3	Female, 16 years; septic but otherwise fair; Oct. 30th, 1896.	2 weeks (a subacute case).	Anterior surface; opening minute and circular; extent of induration and peritoneal adhesions prevented more accurate localisation.	Local subphrenic abscess.	Approximation of the peritoneum was impracticable; opening closed by means of deep sutures.	Yes.	Slow recovery; interrupted by pleuritic effusion.	Was well a year after operation and free from dyspeptic symptoms.
4	Female, 26 years; apparently hopeless; Nov. 7th, 1897.	72 hours.	Anterior aspect at extreme cardiac end extending to junction of stomach with œsophagus; opening (oval) 1 in. long; moderate induration only.	General.	Preliminary "water-tight" stitches; peritoneum afterwards drawn across and fixed by Lembert sutures.	Yes.	Steady although slow recovery; interrupted by attack of parotitis.	Anæmic, but otherwise perfectly well, February 7th, 1898; no dyspeptic symptoms.
5	Female, 30 years; collapse; Dec. 2nd, 1897.	48 hours.	Anterior surface 2½ in. from cardiac end; circular opening ½ in. in diameter; comparatively little induration.	General.	Preliminary "water-tight" stitches; peritoneum afterwards fixed across by Lembert sutures.	Yes.	Uninterrupted recovery.	Perfectly well February 12th, 1898; no dyspeptic symptoms.
6	Female, 25 years; septic but otherwise fair; Jan. 2nd, 1898.	No perforation; acute pain and tenderness for 10 days.	Flat indurated mass involving anterior surface 3 in. from pylorus equal in size to two penny-pieces laid side by side.	Local.	Indurated part tucked in and covered by healthy peritoneum fixed across it by Lembert suture.	No.	Rapid recovery, although delayed slightly by attack of parotitis.	Perfectly well at date of publication; no dyspeptic symptoms.

Remarks.—Cases 1 and 2 are reported fully in THE LANCET of July 7th, 1894, and Aug. 1st, 1896. In all the cases median abdominal section above the umbilicus was performed. In Case 2 the abdominal section was commenced below the navel and subsequently extended upwards. General abdominal flushing was used in Case 2 only. The shortest period during which either of the patients remained in hospital was forty days, the longest period being eighty days.

admission there was extreme collapse. The skin was cold and sweating, the pulse was very quick and small. Her condition was apparently hopeless. There was acute general abdominal pain, the abdomen was distended, and peritonitis was general. Median abdominal section above the umbilicus was performed at once (seventy-two hours after perforation). A large quantity of fluid containing stomach contents immediately came away upon opening the peritoneum. There was general matting of the intestines. A gaping oval perforation of the stomach an inch in length was found at the cardiac end on the anterior aspect. The cardiac extremity of the perforation reached the point of junction of the gullet with the stomach. The suturing of this opening appeared at first sight almost impossible in consequence of the depth of the parts, which could not be drawn up to the wound. Its closure was finally effected by the use of long rectangular cleft palate needles, a pad of matted tissue being fixed over afterwards to afford additional support. All accessible lymph was gently sponged away and a drainage-tube used, but abdominal flushing was not employed. The patient rallied in a remarkable way and made a steady, although slow, recovery, which was interrupted for a short time by an attack of parotitis.

CASE 5. *Ruptured gastric ulcer; general peritonitis; suture; recovery.*—A woman, aged thirty years, was admitted into St. George's Hospital on Dec. 2nd, 1897. On Nov. 30th in consequence of constipation she had taken a dose of castor oil and immediately upon the straining caused by its action she felt acute pain in the epigastrium, became faint, and vomited. She at once became very ill and as soon as seemed safe she was brought to the hospital. For years she had suffered from chronic dyspepsia and for three years she had noticed a tender spot under the ribs on the left side. When nineteen years old she on one occasion vomited blood. On admission the patient was drowsy. The pulse was 132 and weak and the temperature was 102° F. There was nausea but no vomiting. There was acute epigastric pain. The abdominal tenderness was general and acute, the liver dulness was wanting, and the symptoms of general peritonitis were typical. On percussion there was a high-toned "bell" note as far down as two inches below the navel. Median abdominal section above the umbilicus was performed as soon as possible (forty-eight hours after perforation). A large rush of fluid containing stomach contents followed upon opening the peritoneum. The stomach was distended and there was much intestinal matting. A circular perforation half an inch in diameter was found two and a half inches from the cardiac end on the anterior surface of the stomach. The induration around was less than usual. The opening was closed by suture, all accessible lymph was sponged away, and a drain was placed in the abdominal wound, but no flushing of the abdominal cavity was used. Recovery was rapid, but was interrupted for a few days by the development of signs of pleurisy on the left side. As a precautionary measure an exploring syringe was used but no fluid was withdrawn. The patient left the hospital on January 10th, 1898, looking singularly well and eating ordinary food without symptoms of dyspepsia, which she had not done for a very long time before.

CASE 6. *Perforating (unruptured) gastric ulcer; local peritonitis; operation; involution of indurated area; Lembert's suture; recovery.*—A woman, aged twenty-five years, was admitted into St. George's Hospital on Dec. 27th, 1897, under the care of Dr. Rolleston. For six months the patient had suffered constantly from distressing indigestion with obstinate constipation. She had never vomited. For six or seven months she had suffered from fixed pain and tenderness on the right side of the abdomen immediately below the ninth rib, these symptoms being greatly increased by flatulence. On Dec. 23rd, 1897 the pain became very acute and the tenderness was so great that the least touch "caused her to flinch." Almost immediately the abdomen became greatly distended with flatulence and she became too ill to get about. On admission the patient was anæmic but well nourished. She seemed very ill. The temperature was 101·2° F., and the pulse was quick and small. The abdomen was distended, the general intestinal resonance being much increased. The liver dulness was normal. The movement in the epigastric area of the abdominal wall was *nil*; below the navel the movement was hesitating but otherwise natural. There was an acutely tender spot in the situation already referred to. Acute pain was complained of in the left pelvic region, over which was also tenderness. Vaginal examination, beyond showing general hypæsthesia, was negative in result. Taking the pelvic symptoms into account it was thought prudent to watch the case for a day or two before resorting to operative treatment. After a free evacuation from the bowels considerable improvement for a time followed, but on Jan. 2nd, 1898, the whole of the symptoms recurred with exaggeration. Median abdominal section above the umbilicus was therefore performed. Upon opening the peritoneum a hard flat mass the size and shape of two penny pieces placed side by side was exposed. This mass, which at first sight was suggestive of malignant disease, burst during manipulation, about an ounce of thin peritoneal fluid escaping. Upon opening out this cavity its base was found to be formed by the stomach wall greatly indurated. In the centre of the indurated area were two soft spots the surfaces of which were still intact and apparently not very thin. From the appearances it was quite certain that there had at no time been any actual breach of surface. The lymph, &c., about the affected area of the stomach having been cleaned away with sponges the indurated part was tucked in and the healthy peritoneum from the stomach around was sutured across it by eight Lembert's sutures. The abdominal wound was united with fish-gut sutures in the usual way; no drain was used and abdominal flushing was not employed. Immediate and complete relief of all the symptoms followed, the temperature dropped to normal at once, and the pain disappeared. Some troublesome vomiting occurred on Dec. 30th and 31st but ceased on the removal of the stitches used for the abdominal wound. On Jan. 12th, 1898, right parotitis caused some interruption of the convalescence, but the patient left the hospital in good health on Feb. 5th.

In the main the cases now recorded speak sufficiently for themselves. The last is in some respects the most interesting, as it shows the good which may come from the radical treatment prior to actual perforation. The recovery in the second case (No. 4 in table), in which perforation clearly occurred seventy-two hours before operation and in which there was general peritonitis, may be regarded as extraordinary. At the time of operating I had little if any hope of a successful issue and had not the patient begged so hardly for relief from the acute pain from which she suffered it is doubtful whether I should have thought interference justifiable, as her condition seemed so desperate. I am not quite clear whether the suturing in the first case (No. 3 in table) really contributed to the patient's recovery to any great extent, as similar subphrenic abscesses undoubtedly connected with gastric ulcer may recover equally well with simple drainage, the perforation being neither seen nor sought for. I have, however, little doubt that the patient owes her ultimate recovery to the early detection and removal of the pleural effusion which supervened a week after the operation. My whole experience of the treatment of gastric ulcer by suture is epitomised in the accompanying table.

The operation attempted in all the cases tabulated consists in first rendering the opening in the stomach watertight by bringing the edges together by means of a suture or sutures transfixing the whole thickness of the stomach walls in order to prevent the leakage which is otherwise liable to interfere somewhat with the later stage of the operation, which consists in covering in the opening and surrounding induration by peritoneum folded over from the neighbouring healthy parts and fixed in position by the necessary number of Lembert's sutures. In the third case in the table it was found impossible to fold the peritoneum over; the operation in that instance therefore was not carried beyond the first stage. In the second case the rigidity of the induration prevented the initial closure of the opening by suture; it was therefore plugged with a piece of omentum. In the remaining cases no insuperable difficulty in the first stage of the operation was encountered.

Cases of perforating gastric ulcer with subphrenic abscess in which the suturing of the perforation is impracticable either from local conditions or by reason of the general state of the patient belong to a different category from those now described. The first recovery after operation deliberately performed for this condition recorded, I believe, in this country occurred in a case under the care of Dr. Ewart and myself, which was published by us in THE LANCET of Nov. 17th, 1894. My subsequent experience in this class of case I hope to record somewhat later.

Chesterfield-street, W.

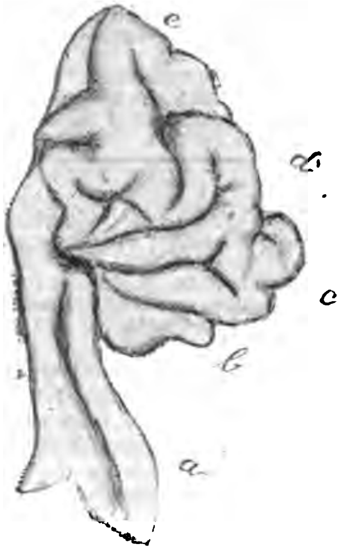
A SUB-OCCIPITAL LOBE IN THE BRAIN.

BY WALLACE WOOD, M.D.

DURING the past year I have taken up the study of the animal cerebrum, following along the lines of my master, Broca, and preparing the specimens by his process of dry sculpture. This process has many advantages, not the least of which is that carnivorous, herbivorous and primate brains may all be produced of the same size. By this method I have prepared the brains of forty-two bovines, a first series of thirty and a second series of twelve, including cows, bulls, steers, heifers, calves and draught and stalled oxen, with a view of tracing the homologies, if any, bovine and human, of the cerebral cortical gyri.

One of the most striking differences between the brain of bos taurus and homo when reduced to the same size and placed side by side is the apparent absence in the former of an occipital lobe. That remarkable bulb-like formation upon the dorsal surface marked upon the primate O^1, O^2, O^3 seems in the bovine to present no prominence. On the other hand, however, one finds upon the bovine brain a swelling eminence under the occiput—that is, upon the cerebellar surface, forming as it were a lobe clear-cut and distinct by itself. This lobus consists of two lobules more or less united but separated from all else by well-marked fissures. Closer inspection shows that one of these lobules lies at the posterior extremity of the hippocampus and is the homologue of the ligula or gyrus temporo-occipitalis medialis in man, while by dissecting with a little care the other is with equal clearness demonstrated as the homologue of the fusiformis or lobulus temporo-occipitalis lateralis in man.

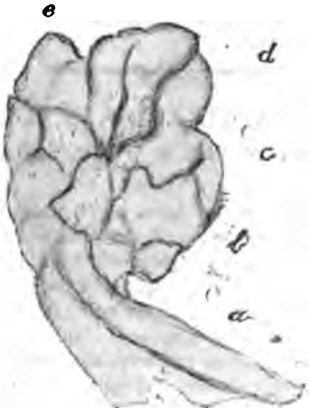
FIG. 1.



Sub-occipital lobe of right hemisphere of brain of bovine male. *a*, The posterior extremity of the hippocampus. *b*, *c*, *d*, The three parts of the fusiformis. *e*, The ligula. The ligula is highly developed and accentuated, the crest of fusiformis ramping upon it in a powerful curve.

The demonstration of these homologies in this somewhat neglected region of the cortex would perhaps be of little moment were it not that by accumulated examples of this lobe in bovines of the various artificially created and specialised classes these lobules are found to present certain variations which throw out strong suggestions as to function. In the male animal this lobus sub-occipitalis appears somewhat broadened and squared; the gyri are ample, complicated, and swelling; the ligula is sharp, strong, and staminal in appearance; and the fusiformis is of ridge-shape or crested.

FIG. 2.



Sub-occipital lobe of right hemisphere of working ox. The ligula is shrunken to the form of a simple conicle. The fusiformis is of simple trefoil shape.

In the draught ox the lobe offers a distinct contrast, the posterior extremity being usually rounded or pointed, no longer presenting the squared, expanded, or widened appearance. The lobe is flaccid and anæmic, the ligula is much smaller—reduced to a mere outline, more widely separated from the fusiformis, which now also is smaller and no longer swollen or ridged.

The terms "ligula" and "fusiformis" seem well to define the forms of these lobules in steers and oxen, but do not well apply to those lobules in the brain of the mature male.

A CASE OF AGORAPHOBIA, WITH REMARKS UPON OBSESSIONS.

BY ROBERT JONES, M.D., B.S. LOND., F.R.C.S. ENG.,
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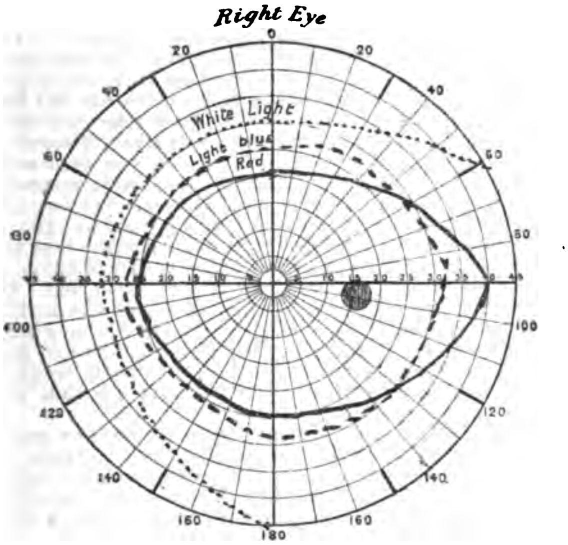
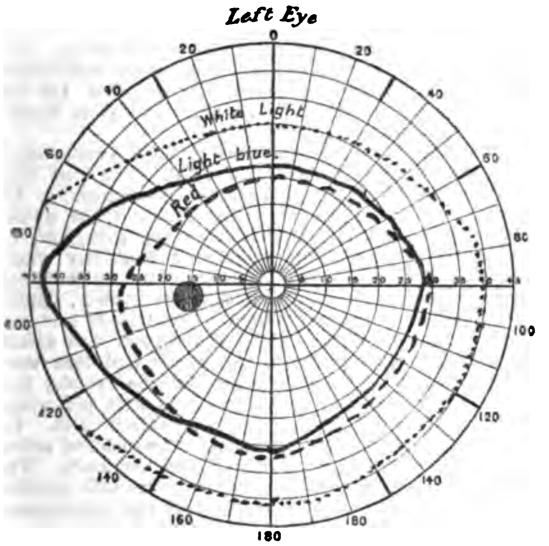
A SINGLE man, aged thirty-nine years, 5 ft. 4½ in. in height, 8 st. 7 lb. in weight, and slightly built, was transferred to Claybury Asylum three years ago from another asylum where he had been admitted a patient about five years previously upon the following medical certificate: "He is the subject of a morbid dread and fear of something in the way of an accident happening to him and that he cannot move about without seeking protection or assistance from someone. He is very excitable and particularly anxious in asserting that it is only since an accident that his nervous system has been disorganised. He was brought here [workhouse infirmary] by the police, having given himself up at the police-station because he fancied people were searching for him." The patient's family history revealed that his paternal grandfather was in Bethlem Asylum, that his father was eccentric and parted from his wife, that his maternal uncle was in an asylum, and that his sister suffered from headaches and was peculiar. As to his own previous history, he was always nervous and disliked being alone; he was also somewhat overworked at a business house in the city, where he met with a slight accident by falling from a ladder and striking his head on a counter, receiving some concussion in consequence. He states that he was able to attend to business after that, but felt a dread of walking out of doors, and for some time travelled backwards and forwards by omnibus to avoid crossing streets and passing open places. He states that this uncomfortable sensation grew upon him so that it became a terror to him, and he decided to go to America, thinking that he might thus be freed from it. In crossing the sea he never felt anxiety—owing, probably, to the proximity of lateral objects, which gave him security; but it was as bad as ever when he landed and he decided to return, shortly after which he was placed in an asylum, where he remained about five years. He was then discharged, but in three months returned, and he has remained under treatment ever since, about three years. There was no history of syphilis or drink. The patient's present condition is that of a nervous, restless, and fidgety individual, somewhat anxious and impulsive, inclined to slight outbursts of misdirected energy, and he is the very opposite of "calm." He belongs to the psychopathic or neurasthenic type with a marked history, as above related, of a transmitted taint. His looks at times are wild and wandering and his brown eyes are rather prominent. His pupils are dilated but react to light and accommodation. His head, with a bald top, accords with those unexpected measurements often found in the insane, being full and well shaped. The circumference is 53 cm. (21½ in.), the greatest length with tape is 35 5 cm. (14 in.), and the width from ear to ear over the crown is 30·5 cm. (12 in.). With callipers the antero-posterior diameter is 19 cm. and the bi-parietal 15·5 cm. His vision upon examination by my colleague, Dr. F. P. Piper, was found to be myopic, glasses of −4 5 D. bringing the vision of both eyes to $\frac{6}{6}$, but they do not relieve his mental symptoms. There is no astigmatism and the discs present nothing more than slight myopic crescents. There are no vitreous opacities or other retinal changes. Figs. 1 and 2 show his range of vision, as measured by Bischhausen's perimeter, for white light, blue, and red—an almost normal field for each eye. His hearing is preternaturally acute. He could hear Galton's whistle with the plug at 2 mm. at a distance of 6 ft. and he could hear the tick of a watch at almost twice the distance. There was no tympanic abnormality and his throat was normal. His gustatory and olfactory senses seemed to be, if anything, more sensitive than normal, but he has distinct hallucinations of common sensation, believing that he has a needle in his skull which got there after "swallowing the wrong medicine." He talks ramblingly about the "pulsating veins" of his body, &c. His heart is a "nervous" one, but his lungs and kidneys appeared to be normal and an analysis of the urine in Dr. Mott's laboratory was as follows: quantity in twenty-four hours 1200 c.c., acid, specific gravity 1012; total sulphates calculated as SO_3 0·1328 per cent. or 1·5936 grammes in 1200 c.c.; aromatic sulphates calculated as SO_3 0·0151 per cent., or 0·1812 grammes in 1200 c.c. (the ratio of aromatic sulphates to total sulphates is 1 to 8¾); total phosphates calculated as P_2O_5 0·069 per cent., or 0·828 grammes in 1200 c.c.; nitrogenous substances calculated as N 0·940 per cent., calculated as NH_3 0·051 per cent., and calculated as proteid matter 5·6588 per cent.; urea 1·5 per cent., or 18 grammes in 1200 c.c.; total solids (solids remaining when urine is dried at 100° C.) 28·56 grammes in 1200 c.c.; and chlorides calculated as NaCl 0·7 per cent., or 8·4 grammes in 1200 c.c. The patient was occupied by his own request at some clerical work and generally evinced a disinclination to out-door exercise; one day, however, he made one of a party of three for a picnic into Epping Forest. He did not say much about his sensations until it was arranged for this picnic to be repeated, when he described his feelings at length and begged to be excused going further than an avenue of elms leading to Theydon Bois, which he described as "beautiful, for the trees on either side prevented my seeing the open fields and large views beyond." He said that he had always had a dislike to be in "wide places" and that all his life he had avoided them. He states that he has no giddiness on these occasions, although after the concussion referred to he says he saw "St. Paul's [which he was near] turning round and round." He described his feelings at the summer picnic in the open park (where the patients assemble) as those of "acute suffering the whole time." When in the middle of the park he was, he states, overcome with a feeling of intense misery and as if he would have fallen down, although he experienced no headache, giddiness, or dizziness. This feeling, he states, disappears as he gets "near the trees or where there were plenty of people." His feeling is further described as if he should "fall down dead" unless he could lay hold of something. It is not the mental dread of the open place or the actual fear of the result of falling that seems to seize him, but the "miserable suffering it produces." He says he has never been able to stand on any open or high place owing to this feeling of "suffering"—not because it brings on giddiness. To stand alone on the edge of a precipice or in the middle of a large plain would give him such agony (using his own words) that "I would rather burn myself to death than do it." He is fully conscious, he says, of the unreasonableness of this feeling, but he cannot with an effort of will which makes him "tremble and perspire all over" rid himself of the anguish and tension that he is suffering.

FIG. 1.



Range of vision for red, blue, and white light for right eye, taken from within, out in the dark.

FIG. 2.



Range of vision for red, blue, and white light for left eye, taken from within, out in the dark.

There seems to be a periodicity about this condition and it may (as Nieden has endeavoured to show in similar cases) be epileptic in character as he occasionally wets the bed. Nieden described paroxysms of this sensation as being accompanied with considerable concentric narrowing of the field of vision both for white and colours. This he found to be bilateral and his interpretation suggested that it may have been of cortical origin and caused by vaso-motor spasm of the arteries supplying the visual area of the cuneus. He seems to be supported in the vascular view by the fact that in bilateral (double) hemianopia from disease (? spasm) of the vessels a very small central field of vision is often left, due probably to the half vision centres just perceiving visual impressions. In some cases due to temporary spasm of the vessels and not to permanent destruction of the visual cortex this central remaining part of the field of vision is stated to be correspondingly brighter, although usually there is much diminished acuity. In this case there is no hemianopia and there is comparative symmetry between right and left vision for white light, blue, and red.

Sir Thomas Grainger Stewart, writing to me on Nov. 11th, 1897, stated that he referred to this condition ten or twelve years ago in relation to giddiness and he then regarded agoraphobia as "co-related with cliff or tower giddiness, the patient having somehow learnt to depend for his special equilibration upon visual impressions of lateral objects and the absence of such impressions produces the symptoms." Vision certainly is the most important of the localising senses; our idea of the posture or attitude of our body generally takes the form of a mental picture.

Westphal in 1872 was the first to describe this condition and he characterised it as a neurosis allied to epileptic vertigo. Cordes, Legrand du Saulles,[1] Ritti, M. le Gros,[2] and others have described cases.[3] Maudsley referred to certain so-called "sensitives"—persons easily and deeply affected by impulses so slight as to be out of proportion to the effect produced—who were overcome by a morbid dread. One patient whose case was described by Reichenbach "could not look at an open plain because it made her sick"; another "avoided an open square and preferred to go through the alleys rather than cross it." Sir James Crichton Browne, in his address on "Dreamy Mental States," described the overpowering influence which laid Arthur Hugh Clough prostrate after looking over the brow of a beetling cliff at the open sea below and a similar dread is stated to have possessed John Addington Symonds.

Hack Tuke described the case of a lad, nineteen years of age, "a law student who had gained distinction at school and matriculated at the London University, and who met in the course of his reading with the expression—*It was not compatible*. Soon after he came across the German words—*Ich liebe es nicht*. Now it struck him that the negative in the former sentence preceded, and in the latter succeeded, the most important word. The man began to puzzle himself about negatives in general. Whatever he read raised the question in his mind as to the construction of sentences in which a negative occurred. It became an all-important, all-absorbing problem to him and interfered with his reading and working. The burden of his life was to place the negative in the right order—whatever that might be." The frequent occurrence of a line of poetry or a tune is a familiar instance of the domination over the will of simple words, phrases, or tones. These tyrannies of imperative ideas are called besetments, impellent notions, or obsessions—and obsessions bear the same relation to ideas that impulses do to acts. Obsessions are of many forms and may be considered as falling under (*a*) intellectual, (*b*) sensory, or (*c*) motor varieties. The (*a*) intellectual include those already quoted, hypnotic suggestions artificially induced, the spontaneous imperious suggestions of the insane, and the quasi-insane conditions of somnambulism; the (*b*) sensory include an extensive variety according to the sense affected or the combination of various senses by association of ideas—the *associative supplementing* of ideas; whilst the (*c*) motor include gestures, grimaces, tricks of posing, carriage, &c., a familiar one being Dr. Johnson's habit of touching the same object in passing during an occasional walk. Many of these are well known among the inmates of lunatic asylums. These impellent ideas may become a positive torment, growing into persistent fearful ideas and becoming intolerable. There is an absolute inability of the will to inhibit them and they escape all attempts at volitional control.

These cases of imperative ideas are often consistent with sanity in so far as this concerns testamentary capacity and responsibility, but they border closely upon those forms of insanity described as abulic (ἀ, βουλή—will) in which violence and vehemence are more often due to loss than to increase of will-power, and in which there occurs as a clinical symptom a distinct loss of control of the higher inhibitory centres over thought and action. Moreover, there is an etiology common to the insane and the victims of these fears; in both there is a taint, both are among the neurotics, their relatives are the neurasthenic and the degenerate, although there may be of their kindred some who are noted for high literary and intellectual attainments. As to the pathology of impellent ideas the presumption that irregular stimulation of isolated cortical centres should cause motor instability on the one hand and vertiginous feelings, disturbed sensations, and emotions—corresponding to the subjective aspect—on the other, would seem to be as favourable a hypothesis as can be advanced according to our present knowledge.

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[1] Peur des Espaces, Gazette des Hôpitaux, 1877-78.
[2] Annales Médico-Psychologiques, 1885.
[3] Ibid., 1876; Archiv für Psychiatrie, Band vii.

Claybury.

URTICARIA AND ACUTE CIRCUMSCRIBED CUTANEOUS ŒDEMA.

BY H. OPPENHEIMER, M.D. HEIDELB., M.R.C.P. LOND.

THE intimate relation existing between urticaria and that peculiar angio-neurosis known as "acute circumscribed cutaneous œdema" has been a matter of conjecture ever since Quincke first described the latter disease. It has been frequently observed that the same causes which in some individuals call forth a nettle-rash produce in others a peculiar flying œdema which, like the former, is frequently attended with gastro-intestinal disturbance. The connexion between these conditions can be easily understood if it be remembered that the pomphi of urticaria are themselves characterised by local œdematous exudations due to vaso-motor influence; but in so far as I know, no cases are on record where both conditions co-existed at the same time in the same individual. Yet I do not think they can be very rare, as in less than three months I had four cases under my care where both urticaria and acute cutaneous œdema were present in a well-marked form—unless, indeed, chance has played me that trick which has so frequently been a matter of surprise and has been honoured with the title, "the law of multiplicity of cases." Indeed, I am convinced that both disturbances are absolutely identical, varying only in their manifestations and in the external appearances with the intensity of the process, with the part of the body involved, and with the depth to which the skin is affected. And as I think that the following cases offer some peculiarities in other respects I consider it worth while to publish them.

CASE 1.—A man, aged twenty-five years, came to me on Nov. 20th, 1897, suffering from gonorrhœa. He had been taking sandal-wood oil for the last three days. On getting up on the morning of the 20th he felt an unbearable irritation of the skin, and on inspection he discovered large, well-marked pomphi on the chest, abdomen, and thighs, while the prepuce was enormously swollen. When I saw him in the middle of the day the eruption had spread to the back and arms, the tongue was furred, and I learned that the bowels had not acted for the last two days. I ordered him to discontinue the sandal-wood oil capsules, to take frequent tepid baths, and I gave him a mixture containing bicarbonate of sodium and carbonate of magnesium. In the evening he called again; the rash had reached the face and the eyelids were greatly swollen. I prescribed lead lotion for the eyelids and penis, and the next day the eruption had somewhat subsided. He made a gradual recovery which was complete in about a week.

CASE 2.—This patient was a man, aged thirty-two years, who had been previously under my care for chronic dyspepsia. He came to me on Jan. 4th, 1898. He had had for luncheon on the previous day venison which was rather "high." In the night he awoke with violent itching and noticed some red spots on his abdomen and thighs, while the upper eyelids were very much swollen. The treatment prescribed was as follows: tepid baths, a full dose of Carlsbad salts, and bicarbonate of potassium in peppermint water. On the 5th the upper eyelids were free but the lower ones were much swollen; the lips were enlarged to about four times their normal size and the hands were greatly swollen and showed livid discolouration. There were plenty of confluent wheals on the back, buttocks, the extensor surface of the arms and the posterior surface of the legs; a very few isolated ones were on the chest, abdomen, and flexor surface of the arms and anterior surface of the legs. There was no rash on the face. Lead lotion was prescribed. On the 6th the eyelids were better. There was a plentiful eruption on the face and scanty spots were present on the scalp. The prepuce was very œdematous. On the limbs the order of things was reversed, those parts which previously were comparatively free being much affected and *vice versâ*. Salicylate of sodium was given internally while lead lotion was applied to the penis and ichthyol ointment to the hands. On the 7th the eruption was even more plentiful than on the day previous. There were enormous masses of wheals on the chest and abdomen. The face was better. The swelling of the hands and prepuce had almost disappeared, but the feet were so much swollen that the patient was unable to put on his slippers. Three grains of calomel and full doses of hydrochloric acid were given. On the 10th the skin was perfectly free, but there was marked dermography. On the 13th the patient had a relapse after partaking freely of roast goose. The eyelids, lips, and feet were very œdematous. There was a free urticaria eruption on the chest and abdomen. On the 17th the skin was normal. There was no dermography.

CASE 3.—A man, aged twenty-three years, came to me on Jan. 17th, 1898. He suffered from cystitis and had been on an exclusive milk diet for the last three days and had taken salicylate of sodium on the 16th. He awoke next morning with some pains in the wrist and ankles which were very much swollen and livid. The patient thought that he had acute rheumatism. For the last few hours he had felt very troublesome itching and on inspection I discovered a well-marked nettle-rash which the patient had not noticed before. The bowels were freely open and the tongue was covered with a thick milk fur. I ordered him to stop the salicylate mixture, to take tepid baths, and prescribed lead lotion for external use and internally hydrochloric acid in full doses. On the 18th the rash was fading away; there were no new eruptions. The ankles and wrists had decreased in size but the prepuce was very much swollen. On the 26th the skin had been normal for the last three days; the patient resumed the salicylate of sodium, and on the very next day the rash reappeared even more plentifully than before. The trunk and limbs were almost completely covered with urticaria; there were isolated pomphi on the face and scalp. The eyelids, lips, and prepuce showed œdematous infiltration. The previous treatment was resumed. On Feb. 1st the skin was perfectly normal and no more salicylate having been taken it has remained so.

CASE 4.—The patient was a woman, aged twenty-eight years, whom I saw on Jan. 21st, 1898. She had been previously healthy except for habitual constipation. On the 19th she had partaken of mussels and she awoke next night with a fearful irritation of the skin, and on getting up in the morning discovered that her whole body except the face was covered with an eruption which proved to be urticaria and that the eyelids, hands, and feet were very much swollen. The bowels had not acted for the last three days; the tongue was clean. The eyelids were very pale and the hands and feet were dark livid. Warm baths, lead lotion for the eyelids, and ichthyol ointment for the hands and feet were prescribed and internally Carlsbad salts and hydrochloric acid. On the 23rd the bowels had not yet acted. The rash had somewhat decreased but had spread to the face and scalp. The eyelids and hands were free but the feet were still swollen and livid. The nymphæ were œdematous and transformed into bags of the size of a hen's egg. The front and sides of the neck were blown up with serous transudation, so that the neck had the appearance of being surrounded by a thick collar. Calomel (two doses of three grains each) and hydrochloric acid continued in increased doses were prescribed. On the 24th there was less irritation. The rash was still visible. The swellings were diminishing in size. One dose of calomel (two grains) was prescribed. On the 27th the nettle-rash disappeared but the neck and feet were still somewhat enlarged. On Feb. 3rd the skin was perfectly normal.

Adamson-road, N.W.

A CASE OF SPONTANEOUS RUPTURE OF THE UTERUS DURING THE FIRST STAGE OF LABOUR.

BY HENRY W. J. COOK, M.B., B.S. DURH.

AT 5 A.M. on Nov. 28th, 1897, I was sent for to attend a woman, aged thirty-three years, in her fourth confinement. Her previous confinements had all been rapid and normal, all the children except one being alive and healthy. She was curetted for endometritis twelve months before the present occasion and became pregnant soon after the operation. I had casually seen the patient several times during her pregnancy, which advanced in a perfectly normal manner, the only point worthy of notice being that she was of a very highly neurotic temperament. On examining the abdomen as far as I could make out the presentation was normal; there was no unusual distension, the child's movements could be plainly felt, and I heard the fœtal heart sounds below and slightly to the left of the umbilicus. Per vaginam I found a capacious, roomy pelvis; the os was dilated only to about the size of a shilling, the head presenting normally, and the membranes unruptured. The pains, which had only lasted a couple of hours, were moderately strong and regular. As the case was evidently in an early stage I left the patient, returning about 7.30 A.M., when I found that the pains had become much more severe and the os had now dilated to the size of a half-crown, the head being engaged in the pelvic brim. I remained with her, intending shortly to rupture the membranes, and to allow her to sit about the room a little. About twenty minutes after, during a severe pain, she suddenly became very faint and pallid, so much so that she almost dropped on the floor, where I let her lie for a few minutes. According to her own statement the pain was so severe as to make her feel faint. Her pulse, previously normal, was rapid and soft, beating at about 120 to the minute; she vomited some milk and water which she had taken shortly before. I administered a hypodermic injection of brandy, after which she stood up and with the assistance of the nurse and myself got on the bed, complaining then only of slight pain in the abdomen. Her petticoat was wet with fluid and there was some blood coming from the vagina, though not in great quantity; the fluid was evidently liquor amnii. I immediately proceeded to examine her per vaginam and found at once that something unusual had taken place. The head had completely vanished; indeed, from the interior I could feel absolutely no part of the child; where the os and cervix should have been I could feel a raw ragged surface which at first felt to me exactly like placental tissue and I thought at first that I must have in some unaccountable way in my first two examinations missed a diagnosis of placenta prævia, especially as she was now losing some blood. I then turned my attention to the abdomen and at first sight saw that I had a case of ruptured uterus with the child floating free in the abdominal cavity. The abdomen was irregularly elongated transversely and in the right umbilical and lumbar regions I could plainly feel a foot through the abdominal wall and on the opposite side was an eminence which I made out to be a shoulder. On feeling again per vaginam (inserting my hand) I could now clearly distinguish the state of affairs; there was an extensive rent extending upwards from the upper extremity of the vagina up the posterior wall of the uterus reaching almost to the fundus; what I at first had taken to be placenta was the edge of the rent and the posterior surface of the posterior wall of the uterus which had evidently become somewhat inverted; through the rent I could feel the intestines but no part of the child or of the placenta. The examination caused the patient great pain and I could go no further without an anæsthetic. Being alone, with the exception of an untrained woman as nurse, I deemed it advisable to wait till I could get more assistance. The patient was almost pulseless and I preferred to wait and keep her going with stimulants rather than have her die under an anæsthetic without anyone else to help. I therefore sent a messenger on horseback to my nearest medical neighbour, Mr. W. H. Brown, of Colac, twelve miles distant. He arrived in two and a half hours and in the meantime I had rallied the patient and just succeeded in keeping her alive with brandy injected hypodermically and per rectum, salt, solution injection, &c. Ether was now administered and the hand was inserted into the vagina through the rent posteriorly (the uterus was partially contracted) and into the abdominal cavity. After some trouble a foot was seized and drawn through into the uterus, the rest of the child following easily, with the exception of the head which somehow caught in the tear; after considerable difficulty it was pulled through and then delivered with ease, there being a large, well-developed pelvis with absolutely no obstruction. There was slight prolapse of intestine which was returned easily. The child was dead. On tying the cord and dividing it the next thing was to find the placenta. This turned out a rather difficult matter, but after some search and by dint of following up the cord to its insertion it was found high up, almost under the liver. The uterus and vagina were douched out with solution of iodide of mercury, two hypodermic injections of ergotine were administered into the buttock, and the uterus, including the rent, was firmly packed with iodoform gauze. We had to finish hurriedly, for the patient being all but dead we turned our attention to rallying her. She improved so far as to be able to talk to her friends with the help of such means as raising the lower end of the bed, stimulants, salt-solution, compression of the abdominal aorta, &c. In the end, however, our efforts were unavailing, for she died six hours after the accident from pure shock. A post-mortem examination was not made.

I have deemed this case worthy of publication owing to its rarity and to the absence of any apparent cause. This lesion, at any time uncommon, generally occurs only in the lower segment of the uterus, and I believe tears beyond the cervix are mostly transverse. In the present case, however, it was almost longitudinal, and reached without a doubt nearly to the fundus. As regards the cause this, as I have stated, was quite unapparent. As far as we could ascertain there was no growth in the uterus nor were there any sharp processes of bone growing from the pelvis likely to cause laceration; the pelvis being large and roomy I fully expected a rapid delivery, and no ergot or other means had been used to produce excessive uterine contraction. The only way to account for the accident was the fact that the patient had suffered from endometritis and the uterine wall must have been affected as a result. The symptoms were well marked and unmistakeable almost immediately after the occurrence.

Regarding the treatment, the woman was so much collapsed that abdominal section was out of the question; she would certainly have died in the middle of it; besides, her surroundings were very unfavourable for such an operation. We were fortunately able to deliver her, though with much difficulty, *per vias naturales*.

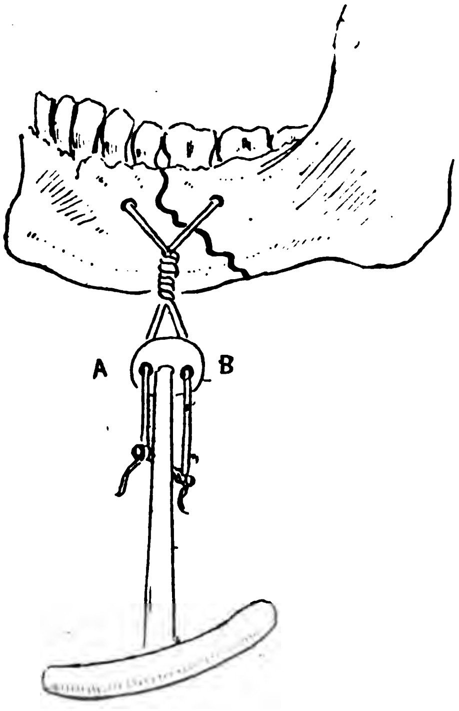
Birregurra, Victoria.

FRACTURE OF THE INFERIOR MAXILLA TREATED BY A MODIFIED METHOD OF WIRE SUTURE.

BY T. S. CARTER, L.D.S. R.C.S. ENG.,
HONORARY DENTAL SURGEON TO THE GENERAL INFIRMARY, LEEDS.

ON Dec. 29th, 1896, I was asked to see a patient, aged nineteen years, in No. 3 ward of the Leeds General Infirmary. He was a canal boatman and during the early morning of the 28th was winding a lock windlass when his foot slipped on a piece of ice and the revolving arm struck him across the jaw, causing a double fracture of the inferior maxilla and more or less concussion of the brain. On examination I found the jaw fractured through its body between the second bicuspid and first molar teeth on the left side and between the first and second bicuspids on the right side. The anterior portion was much depressed, and although there was no external wound there was considerable swelling and the patient was in an irritable condition. On the 30th he was anæsthetised and I adopted the method of wire suture which I described in THE LANCET of Dec. 3rd, 1892. In this case, however, I brought into use an instrument I have devised for metallic suturing. It is applicable in this or any other situation where osseous suture is required, and I found it answer so admirably that I feel justified in placing before the readers of THE LANCET a somewhat detailed description of its form and method of application. The accompanying illustration shows the design of the "suture key."

In tightening sutures with pliers it is necessary to release the hold of the wires with every turn given by the hand. This is very awkward in maxillary cases when the fracture is posterior to the angle of the mouth. If however two wires are passed through the holes marked A and B they may be tightened to any extent without being released from the grasp of the key. In this particular case I drilled (with a bayonet-shaped drill fixed in a dental engine) a hole through the body of the jaw between the first and second molars on the left side. Having passed a stout silver wire I drilled another hole between the first and second bicuspids and so returned the wire. Having repeated this on the right side I raised the depressed mental portion of the maxilla into position and used the "key" as depicted. Before turning down the twisted sutures I coat them with very soft gutta-percha, to act as pads and prevent chafing of the lip. It makes the silver wire softer and less liable to break if annealed in a spirit flame before use. It is well to supplement the sutures by applying a four-tailed bandage, and where there are many teeth and much displacement by a Hammond's splint. On March 15th, 1897, I tightened the sutures and on May 1st I removed them. Before doing so, however, I observed a sequestrum hanging like a threaded bead on the wire on the inside of the mouth. The hole through the centre was made by the drill and the necrosis was most probably due to heat produced by the speed of the revolving engine point. It is therefore well to observe caution in this respect and also not to advance the drill too rapidly through the bone tissue. The fractured portions of the jaw were perfectly united and there was complete antagonism between the upper and lower dentures. I do not think it is possible to bring about such a complete restoration and retention of greatly displaced portions of maxillæ in their normal positions by the methods usually adopted. Now, however, that the dental engine renders the drilling portion of the operation such a simple matter there is, I think, much to be urged in favour of this quick and effective method of dealing with what used to be considered tedious and somewhat unsatisfactory cases. The small instrument I have ventured to bring before the notice of the readers of THE LANCET will be made to my pattern by Messrs. Maw, Son, and Thompson.



The figure shows the key for tightening the wire after it has been passed through the bone. The free ends are passed through the holes A and B, twisted round the projections on the key, which is then turned round and round by the cross-handle.

Leeds.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

TWO CASES OF NEPHRORRHAPHY.

(Under the care of Mr. BOYCE BARROW.)

MUCH variety of opinion exists as to the best method of treating moveable kidney. For the minor cases in which the symptoms are not severe or continuous a belt is frequently all that is required; as to this all surgeons are agreed; but the more severe cases need different treatment, for in most of them belts have little effect in controlling the movements of the kidney, and if it be acknowledged that in some cases at least belts are useless then nothing can be done but to suture the kidney. It appears to be necessary that the stitches should penetrate the kidney substance and not be inserted merely into the capsule of the organ. As to the results obtained the general opinion is that the proportion of failures after nephrorrhaphy is small. Albarran[1] says that of 374 cases in which the operation was performed 78 per cent. were completely relieved. Relapses certainly do occur and, as in one of the cases recorded below, a refixing of the organ may be successfully performed. For the notes of these two cases we are indebted to Mr. J. H. Walker, house surgeon.

CASE 1.—A married woman, aged thirty-eight years, was admitted into King's College Hospital on Oct. 21st, 1897, complaining of pain in the back and right shoulder and of a moveable swelling in the abdomen. In January, 1897, she suffered from pain between the shoulders extending down the back and also from pain, "bearing down" in character, in the abdomen. She was under the treatment of a medical man for about three months and then the moveable abdominal swelling being noticed she was advised to have an operation performed. For this purpose she was admitted into St. George's Hospital and was operated on in August, 1897, for the moveable kidney. She was discharged cured on Sept. 20th and for about a fortnight she remained well, but after that the symptoms began to return and were soon as bad as ever. On admission to King's College Hospital her general health appeared to be good. She had never had any severe illness or accident and in her family history there was nothing noteworthy. In the right loin was seen a vertical scar three and a half inches long parallel to the outer edge of the quadratus lumborum muscle. On palpation the right kidney could not be felt, but deep palpation caused a good deal of pain. On the right side of the abdomen towards the loin a freely moveable tumour was easily found; it was slightly larger than a normal kidney. Manipulation did not cause any feeling of nausea. She complained of a continuous dull pain at the lower part of the abdomen. The urine was acid, of a specific gravity of 1030 and contained no albumin, sugar, or blood. On Oct. 24th she had retention of urine for twenty-four hours and complained of a sharp pain in the right flank and the lower part of the abdomen. On the 28th she was anæsthetised with the anæsthetic mixture and an incision between four and five inches long was made in the right flank about an inch below and parallel to the last rib, dividing the old scar at right angles. The incision was deepened through the muscles in front of the anterior border of the quadratus lumborum and entered the kidney which was found to be adherent to the old scar by its upper border so that the kidney could swing freely forwards and upwards. This adhesion was cut through and the kidney was examined, but no stone was discovered. The wound in the kidney was sutured with catgut, the kidney being brought outside the wound. Three stitches were then passed from the anterior aspect of the outer border of the kidney through the cortex to the posterior surface, the ends of the stitches being left long. The kidney was replaced and the ends of the stitches were passed by means of a handled needle from within outwards through the quadratus muscle and the ends were tied so that the kidney was held firmly against the muscle. The wound was sewn up, a drainage tube having been inserted, and a dressing of cyanide gauze was applied. On the following day and for a week later the urine contained some blood. The patient made an uninterrupted recovery, though she complained for some time of general weakness. She was discharged from the hospital on Dec. 1st perfectly well.

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[1] Gazette Médicale de Paris, Sept. 14th, 1895.

Case 2.—A married woman, aged twenty-eight years, was admitted into King's College Hospital on Dec. 14th, 1897, complaining of a pain and swelling on the right side of the abdomen. In September, 1896, she had first felt pain in the right loin and she noticed that on taking a deep breath she could feel something moving up and down. The pain had gradually become worse up to the date of admission; it was decidedly worse after exertion and shot down the right thigh and round the back. For the four months preceding admission there had been increased frequency of micturition, especially during the night. Eleven weeks before coming to the hospital she had an acute attack of pain which was so severe as to "double her up"; it lasted half an hour. On examination an oval, firm swelling of the size and shape of a kidney was felt on the right side of the abdomen; it was very moveable and could be displaced in any direction. It was only very slightly tender on pressure and but little pain was complained of when the swelling was handled. The right kidney could not be felt in the normal position and there was an absence of kidney dulness on percussion. The urine was acid and contained no albumin, blood, or pus. On Dec. 16th, the patient having been anæsthetised, an incision four inches in length was made in the right loin parallel to the last rib and an inch below it. The incision was deepened until the kidney could be felt and on cutting through a large amount of perinephral fat the kidney was exposed. Catgut sutures were then passed by means of a handled needle through the upper and lower extremities of the kidney and through the quadratus lumborum muscle and tied. The wound was sutured, a drainage tube was inserted, and an antiseptic dressing was applied. The patient made an uninterrupted recovery and except for a slight dragging pain in the loin she has felt perfectly well. Since the operation the urine has been quite normal and has not contained even a trace of blood or albumin.

BRITISH HOSPITAL, BUENOS AYRES.

THREE CASES OF HYDATID OF THE LIVER.

(Under the care of Dr. J. O'Conor.)

In The Lancet[1] last year we published three cases of abscess of the liver which illustrated in a striking manner some of the most important symptoms and complications. The following three cases are drawn from the practice of the same surgeon and demonstrate very clearly the treatment of hydatid of the liver. Though by no means rare in England hydatid disease is decidedly more common in some other parts of the world where naturally surgeons have greater opportunities of studying its treatment. The first case recorded below is remarkable for the large size of the cyst. In the second case, though there was no fluid in the pleural cavity, dulness extended upwards as far as the second intercostal space and the cyst was emptied by an opening through the diaphragm; and in the third case the urticaria which was present is worthy of note. Of all the methods of treating hydatid of the liver the best undoubtedly is to stitch the liver to the edges of the abdominal wound and then to open the cyst by incising the liver. Aspiration is always accompanied by a certain amount of risk of leakage and death in a few minutes has followed in several cases—in one from puncture of the portal vein[2] and in another an echinococcus has passed into the inferior vena cava and so into the heart.[3]

Case 1. *Hydatid cyst of the liver; cœliotomy; recovery.*—A schoolboy, aged ten years, was admitted to the hospital on Dec. 3rd, 1894, suffering from an enormous hydatid cyst of the liver which occupied almost the whole abdominal cavity; the size of the tumour was very graphically described by the head surgical nurse, Miss Taylor, who said: "You cannot see his face if you stand a few feet from the end of the bed." The boy was emaciated. The apex beat was displaced upwards, the respirations were altogether thoracic and hurried, and the pulse was small and weak. The temperature and urine were normal. On percussing the abdomen no tympanitic note could be found, fluctuation was very distinct, and the abdomen was greatly distended—in fact, he was all abdomen. On the 5th chloroform was very cautiously administered by the anæsthetist, Mr. Luck. A three-inch incision was made in the right semilunar line; as no adhesions existed between the cyst and the parietal peritoneum a medium-sized trocar was inserted and ten pints of clear hydatid fluid were removed. Marsupialisation having been performed in the usual manner the cavity was irrigated and the largest endocyst Dr. O'Conor had ever seen was evacuated. No untoward symptoms appeared until the fourteenth day, when the patient developed a sharp attack of measles. A fortnight later some bile was noticed in the dressings; this gradually increased in quantity until three or four ounces per diem were passed. After a month the biliary fistula closed. The patient then rapidly improved and was discharged recovered on the sixty-sixth day. His mother, recently reported that the lad was in excellent health.

Case 2. *Hydatid tumour of the liver; transthoracic operation; recovery.*—A married woman, aged twenty-five years, was admitted to the hospital on Feb. 3rd, 1895. The patient was transferred to Dr. O'Conor's care by Mr. Petty with the diagnosis of a large hydatid tumour having its origin in the upper part of the liver. The temperature and pulse were normal, the respiration was hurried on exertion, and there was slight cough without sputum. She complained of a dull pain in the right side of the chest which she had noticed gradually increasing for the past six months. On percussion there was dulness extending from the lower border of the second right costal cartilage to the subcostal plane. In the axillary line the dull area was about the same in extent. No air could be heard entering the right lung anteriorly, but posteriorly breath sounds were distinctly audible. On Feb. 5th (assisted by Mr. Shadbolt, Mr. Petty, and Dr. Cruikshank) Dr. O'Conor operated. An aspirating needle was inserted in the fourth intercostal space a little in front of the axillary line and a few drops of clear liquid were drawn off. Chloroform was at once administered and three inches of the fourth rib were resected. When the costal pleura was opened the diaphragm was found to be pushed considerably upwards and on palpation a tense cyst was felt beneath it. The diaphragmatic pleura and the diaphragm were then incised for about two inches and a white non-adherent cyst presented. A medium-sized curved trocar was inserted into the cyst and about five pints of clear hydatid fluid were drawn off; when the walls of the cyst were sufficiently lax the edges of the trocar opening were seized by two sharp hooks and the presenting portion of the cyst wall was drawn through the diaphragm and was sutured to the parietal wound. A large drainage tube was inserted and the cavity was irrigated with a weak solution of permanganate of potassium, but no endocyst appeared. The remaining portion of the external incision was closed by interrupted silk sutures. There is nothing to record in the convalescence excepting a nightly rise of temperature and the dressings had to be changed three times daily as the suppuration was profuse. On March 28th during irrigation the collapsed endocyst appeared and was delivered by the aid of a pair of pressure forceps. After this the cavity rapidly contracted and the patient left the hospital recovered five weeks later. During the past eighteen months she has frequently reported herself and her right thorax appears to be in every respect normal.

Case 3. *Hydatid tumour of the liver; cœliotomy; recovery.*—A married woman, aged twenty-nine years, was admitted to the hospital on Feb. 27th, 1895. The patient was sent to Dr. O'Conor by Mr. Robert Greene with the diagnosis of a large hydatid cyst of the liver occupying almost the whole of the right half of the abdominal cavity. On March 1st (assisted by Mr. Shadbolt, Mr. Arthur Greene, and Dr. Cruikshank) Dr. O'Conor made a three-inch vertical incision in the right semilunar line. As no adhesion existed with the parietal peritoneum the abdominal cavity was shut off with sponges; a trocar was then inserted into the cyst and about eight pints of clear hydatid fluid were drawn off. The opening into the cyst was next enlarged sufficiently to admit the hand, the endocyst was removed, and the cavity was irrigated with warm (1 in 2000) corrosive sublimate solution. The interior of the cyst was then carefully dried with sponges and some iodoform was dusted in. The opening in the cyst was closed by a continuous silk suture and the mass was returned into the peritoneal cavity; finally the external wound was closed by three continuous silk sutures. The patient felt greatly relieved. The highest temperature recorded was 99 6° F. on the second evening. The wound healed by first intention and the skin suture was removed on the tenth day. On the fifteenth day the temperature suddenly rose to 101·3°. The abdomen was carefully examined but nothing abnormal was noted. On the sixteenth day the nocturnal temperature was 101·6°. The tongue was slightly coated, but there were no abdominal symptoms. On the twenty-first day a profuse nettle-rash appeared which caused the patient considerable discomfort; and notwithstanding a strict milk diet and a liberal allowance of alkalies and magnesia this rash continued going and coming. On the thirty-second day she complained of a slight pain at the site of the incision and on examination a slight fulness was detected at the right costal margin. A hypodermic needle was inserted and a few drops of pus were withdrawn. Chloroform was at once administered and a two-inch incision was made over the puncture. On opening the peritoneum an abscess was suddenly struck; luckily dense adhesions had formed and the peritoneal cavity was firmly shut off. About one pint of pus was evacuated and the abscess cavity proved to be the returned cyst. A large drainage tube was inserted and the cavity was irrigated. Six days later the baneful urticaria disappeared, an uninterrupted convalescence ensued, and she was discharged recovered on May 6th. In September, 1896, she sent word that she was quite well.

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[1] The Lancet, Oct. 2nd, 1897, p. 858.

[2] Transactions of the Clinical Society, vol. xi., p. 230.

[3] London Medical Record, 1885, p. 414.

Remarks by Dr. O'Conor.—I wish to call particular attention to the dangerous and useless practice adopted by some surgeons of introducing sutures through the parietes and cyst wall before the latter is at any rate partially emptied. The cyst walls are so extremely thin and tense that it is futile to attempt to insert fixation sutures without entering the cyst cavity. In Case 1 I attempted this manœuvre with the result that at each needle puncture a continuous jet of fluid took place; unfortunately I was unprepared for the mishap and before I could help myself some fluid had entered the peritoneal cavity, but luckily no bad results followed. The tension inside these cysts is so great that liquid will escape through a puncture made by even the finest needle. In two of my cases in which hydatid toxæmia followed aspiration there can be no doubt that it was not the presence of the needle in the cyst that caused it but the escape of hydatid fluid through the puncture hole into a serous cavity where I presume the poison was elaborated and rapidly absorbed into the system. I have never yet introduced into a hydatid cyst in an open wound a trocar, hook, or needle without seeing an escape of fluid; this is bad enough in a patent incision, but infinitely worse in a diagnostic puncture or tapping. I always empty these cysts through a medium-sized aspirating trocar and cannula, taking care before doing so to have the peritoneal cavity well shut off with sponges. When the tension is relieved the cyst is seized by hooks, drawn to the surface, the trocar opening is enlarged, the sponges are removed, and the cyst is fixed to the parietal wound by sutures. In carrying out the last step of the operation the parietal peritoneum is ignored except at the upper and lower angles, my object being to bring about union between the cyst wall and the broad fibrous surfaces of the incision.

Case 2 afforded me a valuable hint, for I have since noticed if the endocyst is not removed at once profuse suppuration ensues, with marked constitutional symptoms, and these continue until the endocyst is expelled. Acting on this, I always continue the primary irrigation until the collapsed cyst is evacuated. Seizing it with forceps is unsatisfactory, for it is so friable that it frequently breaks off. The best method is to attach a long Jacques' catheter to the nozzle of the irrigator and pass it deeply into the cavity; immediately the quivering mass is forced by the pressure of the lotion into the wound and can easily be extracted by a pair of fingers. By this means subsequent suppuration and hectic fever are appreciably diminished.

Case 3 was particularly interesting to me, as it was the first occasion on which I practised Bond's operation, and, as far as I can see, I am not likely to repeat it. Of course, the advocates of this method may justly say that it is absurd to judge it by one case and that my technique was faulty. While most willingly admitting the force of such objections I must say that as marsupialisation is such a safe procedure and as the achievement of complete asepsis occasionally baffles even the ingenuity of the most painstaking surgeon I do not think the game is worth the candle. At the same time I do not consider marsupialisation by any means a Utopian performance, for it entails a long convalescence and frequently the patient is much debilitated before the cavity is finally closed. I think it would facilitate matters greatly if large parietal incisions were made in order to expose thoroughly the cyst. By so doing I feel confident that in the majority of these cases it would be an easy matter to remove a large portion of its wall and suture the remainder if necessary in folds to the external wound. The prolonged attack of urticaria in this case was very puzzling, for at the time I was not cognisant that there was such a thing as hydatid toxic poisoning, much less that nettle-rash was a symptom of it; for this knowledge I am indebted to a recent article in the *British Medical Journal*. In this case it is worthy of note that this toxic symptom did not appear until the twenty-first day after the operation and I presume as there was an elevation of temperature on the fifteenth day suppuration had already commenced in the cavity of the cyst.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Adjourned Discussion on Immunity and Latency after Operations for Cancer of the Breast.

A meeting of this society was held on Feb. 22nd, the President, Dr. Howship Dickinson, being in the chair.

The adjourned discussion on Mr. Marmaduke Sheild's paper on Immunity and Latency after Operations for Cancer of the Breast was resumed by

Mr. Pearce Gould, who said that on the threshold of the subject there were serious difficulties arising from our ignorance of the real nature of cancer, which was not much less now than it was twenty years ago. We had little real knowledge of the processes and conditions which regulated the varied developments of the disease. Another difficulty lay in the protean character of cancer, and par excellence, of cancer of the breast, which may terminate life in a few months or may last for many years; may remain limited to one spot for years or may spread all over the body in a few months, choosing any organ or all organs in which to manifest metastasis. From this variability arose the great difficulty in the discussion of the therapeutical problems. In his paper Mr. Sheild had presented a double series of facts, dealing first with cases in which there had been no return for many years, the patients having died from other diseases. These cases had been clearly successfully treated by operation, but before they could logically be called "cures" it would be necessary that the patients should have lived beyond the longest period after operation at which recurrence had ever occurred and that all the organs, including the bones, had been examined by a competent pathologist and found to be free from secondary growth, but it sufficed for practical purposes to show that the patient died after the lapse of some years of some other disease. In estimating how far the immunity was due to the operation the course of the disease in patients who had not been operated on must be borne in mind and it must also be remembered that for every case of immunity after operation any surgeon could point to many in which there was no such prolonged immunity. Mr. Hulke had prepared for him a table showing the number of patients suffering from cancer of the breast who had died in the cancer wards of the Middlesex Hospital during the last ten years, during which time the type may be assumed to have remained constant. Twenty-six patients had died on whom no operation had been performed and the average duration of the disease was forty-five months, the shortest being four months and the longest twelve years. Forty-eight patients had died who had been subjected to one or more operations, and in these the average duration of life was forty-six months, but while in these cases the shortest period was four months, as in the previous series, the longest was twenty-five years. Put in another form the statistics showed that of the cases not operated on 61·5 per cent. were dead within three years and of those operated on 50 per cent. Of those not operated on 76 per cent. were dead within six years, against 89·5 per cent. of those operated on. Hence it was clear that there was another side to the question, and that the immunity might be due to the variability of the disease as well as to the direct effect of operation. He did not regard subsequent occurrence of cancer, except in some cases in the opposite breast, as fresh attacks of cancer, but as true metastatic growths, these late recurrences developing in the same organs and tissues as the early secondary growths and in positions which were rarely the seat of primary scirrhus. The influence of the operation on the cancer was merely the removal of infected and infective tissue by amputation and the cancer could no more be said to be cured than gangrene could be said to be cured by the amputation of the leg. With our knowledge of the natural course of cancer the actual results of treatment might be anticipated, that often operation would be too late, secondary growths having commenced, but that sometimes recurrence might be prevented by early operation. From the nature of the disease it might have been expected, as was proved to be the case, that in some cases recurrence would be local and in others that there would be distant metastasis. The terms "complete" and "incomplete" were unfortunate and unjustifiable; "adequate" and "inadequate" were not much better. He preferred to divide the cases into "successful" and "unsuccessful" according to whether recurrence took place or not.

Mr. WATSON CHEYNE said that two years ago he had brought forward the results of twenty-two cases operated on by the new method, of whom thirteen were alive and free from recurrence now, more than three years after the operation. He did his best to find statistics of the results of the old operation and he found that from 10 to 18 per cent. were free from disease for three years or more. He was accustomed to remove the whole breast and the primary lymphatic tract in connexion with it, clearing out the axilla thoroughly. He did not mean to imply that in every case widespread infection had taken place, as it had been shown that in rare cases there was no recurrence even when the whole breast was not removed. Put shortly, the question was this, Were surgeons to be content with from 10 to 18 per cent. of successes or should they subject their patients to the more extensive Heidenhain-Stiles procedure in order to obtain from 40 to 50 per cent.? He was willing to admit that of his twenty successful cases several would have been completely relieved by the old method, but he could not tell at the time of operation, nor could he tell now, which would have been safe to leave. As to Mr. Sheild's second table dealing with latency in cases where recurrence ultimately occurred he remarked that there were three possible explanations: (*a*) that there was real latency, the cells lying dormant and springing into activity under some fresh stimulus; (*b*) that fresh development of cancer occurred; and (*c*) that there was very slow growth of cancer cells, as in atrophic scirrhus, so that it was long before the growths were tangible. In the majority of Mr. Sheild's cases recurrence took place in the neighbourhood of the scar. This was used as a proof of dormancy, but it was equally well explained as a second attack of cancer. The absence of recurrence in the opposite breast was also seen in cases left to themselves and it suggested that there was some previous local condition which led to the deposit of cancer in the affected breast and he suggested that it might also predispose to the occurrence of fresh deposits in the neighbourhood. He thought that the cases quoted favoured the operation of the Heidenhain-Stiles operation as the local recurrences occurred in tissues which would have been removed at the operation by that method. The theory of dormancy did not fully account for the late development of local metastases as they might be due to the very slow growth of cancer cells. The possibility of dormancy appeared to be indicated by Beatson's observation on the retrogression of cancer of the breast in certain cases after oöphorectomy. In one of the cases, however, he had been informed, the growth was again becoming active after a period of quiescence lasting for some years. In two cases on which he had performed oöphorectomy there was temporary diminution in the growth, but at the end of six months it was growing faster than ever. He thought that if three years passed without recurrence the term "cure" was fairly accurate, as in 85 per cent. of those who passed that term there was no recurrence. Of his own cases none in which the patients had passed the three years' limit had had any recurrence up to the present time. As to the frequency of metastatic deposits he believed that 90 per cent. of the cases that died, whether operated on or not, would show deposits. In recorded cases they were often not mentioned because no necropsy had been performed and the growths might not be of sufficient size to be detected. He agreed that the terms "complete" and "incomplete" were unsatisfactory. He also objected to calling the operation Halsted's operation. The investigations had been made and the rules for operation laid down by Heidenhain and Stiles and cases had been operated on and published by surgeons in this country and in Germany following the directions of those surgeons before Halsted published his cases. He preferred to speak of it as the Heidenhain-Stiles operation.

Dr. NORMAN MOORE thought that the pathological aspect of the question had been somewhat neglected. He did not think that there was any pathological evidence that second attacks of cancer occurred. He was unaware of any case in which a patient suffering from cancer of the mamma developed, for instance, cancer of the pylorus. The question of how far infection extended from the focus was not yet settled. He thought that the term "metastasis" should not be employed as it had an established use with another signification. He thought that an attempt ought to be made to discover at the time of operation whether infection of the internal organs had taken place. Much was already known of the general distribution of secondary growths, but there were often special groupings according to the position of the primary growth. Thus in cancer of the œsophagus secondary deposits were especially apt to occur in the kidney and heart.

Mr. W. H. BENNETT said that the term "cure" was understood by the ordinary man to mean complete and permanent relief from his disease and this could not be promised even after three years. There was a risk that by the use of the term "cure" inaccurately the profession might lose some of the reputation for candour and honesty that they at present enjoyed. He strongly dissented from the view that recurrences could in any case be looked on as analogous to repeated attacks of some acute disease such as pneumonia. These cases were not comparable, as pneumonia tended to a natural resolution while cancer was progressive. It was conceivable that some of the instances of development of cancer in the opposite breast were instances of fresh infection, but they were very rare. Recurrence almost always took place in direct lymphatic connexion with the original growth. As an example of the vagaries of cancer he mentioned two cases in which he removed both breasts. One woman, who had much the stronger physique, died from recurrence within nine months, while the other, who was operated on at about the same time, was alive and well at the present time. He was accustomed to remove the breast freely and to clear out the axilla in all cases, but he did not remove the pectoral muscle unless it was involved. He had seen cancer recur in the muscle, but it was rare. He wanted information whether there was proportional benefit to the patient corresponding to the greater severity of the new operation and whether the actual mortality was increased.

Mr. TREVES said that he did not think that the time was ripe for any dogmatic conclusion on the question as much of the evidence was very conflicting. It was quite clear that our knowledge of the nature of cancer was very little advanced from where it stood at the beginning of the century. The geographical distribution of cancer, the variations in the course of the disease and in the rapidity of recurrance, the disappearance of cutaneous nodules, as in Mr. Bryant's cases, and the effects of removal of the ovaries were at present quite unintelligible He doubted whether we were even justified in assuming that excision was the right and proper treatment, although it was the best available at the present time. He reminded the society that many years ago an aneurysm was regarded as a malignant growth and the more clot it contained the more malignant it was supposed to be. On this mistaken view of its pathology it was considered proper to excise the sac. When the pathology of cancer was properly understood he believed that many of the present methods of treatment would be discredited. He did not think that the cases which had been adduced showed the new operation in a very brilliant light and they showed that the old method did not deserve the contemptuous way in which it was often spoken of. He asked whether the new operation involved more risk to life or left the patient with a less useful arm. He mentioned two patients whom he had seen twelve months after the operation had been performed by a competent surgeon. The patients' condition then was deplorable. There was recurrence in both the scar and the axilla, the arm was firmly bound to the trunk, the hand was œdematous, and there was constant neuralgic pain in the arm, which was paralysed in one of the patients.

Mr. **Marmaduke Sheild**, in reply, said that the object of his paper had been mainly to find out the results of the old operation and he had not anticipated that the discussion would develop into a comparison of the old and the new methods. He himself did not think that the time had come for forming any definite conclusions. He hoped that the debate would encourage surgeons to bring forward series of cases which had been submitted to the more thorough operation. The senior surgeons appeared to be in favour of removing the breast only unless there were tangible disease elsewhere, while some others adopted the more severe method, removing the breast, pectoral muscle and fascia, and all the contents of the axilla, including often part of the axillary vein. Many adopted a middle course. He had not quoted in his paper a very large number of cases after operation by the lesser method as he had only asked for figures from surgeons whom he knew personally. Many additional cases had been quoted during the discussion and notes of others had been sent to him. It was clear that the majority of the surgeons did not adopt the dictum of Volkmann as to cases being cured after three years. Mr. Watson Cheyne had argued in favour of regarding secondary growths as fresh attacks, but he was unable to adopt that view, in spite of its endorsement by Mr. Hutchinson and Mr. Butlin, two past Presidents of the Pathological Society. Secondary growths were common in glands and in bones, situations in which primary scirrhus rarely occurred. Recurrence was most common in the lungs and liver, which were in direct lymphatic connexion with the breast. If an outlying operation only were involved he would only remove the breast. The axilla should always be opened, as microscopic sections showed that in the muscle and in the axillary fat groups of cancer cells could be traced which could not possibly be detected by the naked eye. He did not remove the pectoral muscle as a rule, but when he wanted to clear out the axilla very thoroughly he removed the sternal part of the pectoral muscle, which gave him plenty of room. Removal of the breast had been spoken of as an easy affair, but he wished to insist that it required the greatest care and skill. He thought that some of the cases had fallen into the hands of surgeons in whom due sense of proportion was lacking. He considered the operation of sawing through the clavicle and removing the arm in order to clear out the axilla quite unjustifiable. Mr. Sheild agreed that the term "cure" could never be used in connexion with cancer in the sense that it was used in speaking of the removal of a lipoma and he thought it important that in dealing with malignant diseases the terms used should be accurate and unequivocal. He did not wish to be regarded as a pessimist and he thought that the cases he had collected would justify the surgeon in encouraging patients although a definite prognosis of cure could not be given.

SOCIETY OF ANÆSTHETISTS.

Dosage in Anæsthetics.

A meeting of this society was held on Feb. 17th, the President, Dr. **Dudley Buxton**, being in the chair.

Professor **Waller**, referred to the experiments of Snow which showed that definite dosage of chloroform produced in man as well as in the lower animals results directly proportionally to the quantity inhaled. Snow, Paul Bert, and his own experiments coincided and showed that double the dose which produced anæsthesia caused death. Although a titrated method such as was employed by Paul Bert was too cumbersome for general adoption yet some apparatus, such as Junker's, allowed a certain degree of accurate dosage. The "open method" or "slapdash method" failed entirely to do this. Professor Waller then referred to his method of subjecting isolated nerve to the vapour of different anæsthetics and judging of their effect by noting the electric excitability by means of a galvanometer. His results were that ether affected nerve seven times less than chloroform. The effect of carbonic dioxide was, as he had previously showed, rather antagonistic than adjuvant to chloroform. Judging from nerve tissue he had shown that 1 per cent. excited, 2 per cent. anæsthetised, and greater strength destroyed the nerve. Clinical results (Dr. Carter of Weymouth, &c.) further demonstrated that very small doses maintained anæsthesia.

The **President** thought Professor Waller was right in insisting that a given dose of an anæsthetic produces anæsthesia while another causes death. It was, moreover, reducing a complex question to the simplest conditions to deal with isolated nerve, but the problem of dosing an intact human being presented greater complications. All admitted the importance of dosage except the advocates of the "open method," but no apparatus or method at present in use completely fulfilled all theoretical requirements. Elimination, at least as important a factor in safe anæsthetisation as a regulated intake, was a purely vito-physical process and was in many cases extremely difficult to measure. The cases of Dr. R. W. Carter were too few and too trifling for any reliable conclusions to be drawn from them. But no doubt existed in his (the President's) mind that with care and experience it was possible to equalise income and expenditure when a regulating apparatus was employed.

Dr. **Bradford** from his experiments was led to believe that while a gradual increase in the dose of chloroform caused death by asphyxia the heart was affected secondarily and the animal was recoverable, but if an animal were plunged into a saturated atmosphere the heart stopped at once and no stimulation succeeded in restoring its function.

Dr. **Wright**, who took exception to the statement that a saturated cloth held to the snout caused irrecoverable heart failure, suggested that opening the carotid artery to get rid of the chloroform-laden blood and lessen the work of the heart was the best method of resuscitating in chloroform poisoning.

Dr. **Heywood Smith** referred to an apparatus in which the air was aspirated by the patient over the chloroform. It was the invention of Dr. Protheroe Smith, and possessed the advantage that when the respirations were weakened the amount of vapour taken was lessened.

Mr. **Grant Morris** thought they wanted a "method" as well as a theory. All the apparatus, even Junker's, failed in some cases.

Mr. **Woodhouse Braine** said the method did exist, and had been suggested by the late Mr. Clover. In many thousand cases only one death had occurred.

Dr. **Cooke** deprecated the existing methods, especially the use of the A.C.E. mixture from a cone. After some remarks from the **President**, Professor **Waller** replied.

An interesting lantern slide demonstration of Professor Waller's experiments on Nerve was given.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.—Blackwater Fever.—Anti-streptococcic Serum in Puerperal Fever.

A meeting of this society was held on Feb. 17th, Dr. **Macfie Campbell** being in the chair.

It was resolved that a poll be taken of the members as to the desirability of commencing the ordinary meetings at 8.30 instead of 8 p.m.

Mr. T. H. **Bickerton** showed the following cases: (1) Molluscum Contagiosum; (2) Double Glaucoma in a child, aged eight years; and (3) Crystalline Lens undergoing Absorption after removal of a piece of steel from it by an electro-magnet.

Dr. G. **Stopford Taylor** showed a boy, aged thirteen years, affected with Ichthyosis. The disease was general and symmetrical in distribution and the scales were greyish-green. The axillæ, flexures of the elbow and knee, the intergluteal furrow, the genitals, and the inner side of the thigh and feet and toes were not affected, the skin being supple and moist there. The face was dry and harsh, the hair was poor, and the finger-nails were pitted and rough.

Dr. T. R. **Bradshaw** showed a man, twenty-six years of age, who had suffered from an attack of Acute Anterior Poliomyelitis. There was wasting of various muscles in both arms, the appearance suggesting progressive muscular atrophy. The paralysis came on acutely during a sharp febrile attack last May and was followed by rapid wasting. The legs were not affected at any time, there was no tendency for the atrophy to spread and a gradual improvement was taking place. It was pointed out that the mode of onset, distribution and wasting indicated that the affection was of the same nature as acute spinal paralysis in children. The extreme rarity of the disease in adults was alluded to.

Mr. G. P. Newbolt read notes of a case of Arterio-venous Aneurysm of the Popliteal Vessels in which he ligatured the popliteal artery and vein each in two places. The patient made a good recovery.—The President, Mr. Paul, and Mr. Larkin spoke.

Mr. Stanley Kellett Smith read a note on Blackwater Fever based on his experience of the disease in Central Africa. Tomaselli's views were cited for the purpose of drawing attention to the lack of full evidence as to the relation between quinine and the red blood-cell. Taking the opinion that "blackwater" was entirely malarial in nature he (Mr. Smith) thought it possible that the failure of quinine in many cases might be due to the aggressive action of the drug upon the malarial parasite being masked by its own chemical effects upon the blood and excretory organs.—Dr. Carter drew attention to the great value of Warburg's tincture in the disease and instanced a case where its administration changed the nature of the fever from remittent to intermittent, the patient recovering. Opium was also given.—Dr. Abram, Dr. Given, Mr. Burns Gemmell, Dr. Craigmile, and Dr. A. Davidson spoke.

Dr. Nathan Raw read a paper on the Value of Antistreptococcic Serum in Puerperal Fever which was published in The Lancet of Feb. 19th.—Dr. C. A. Hill recorded the results of his examination of the dried serum used, as also of the patient's urine and blood after the injection, which all contained living streptococci.—Dr. Heatherley drew attention to a paper read before the Guy's Hospital Physical Society by Mr. Turner, in which it was stated that the Pasteur Institute had succeeded in obtaining a serum by injecting pure toxins, thereby placing it on the same basis as diphtheria antitoxic serum.—Dr. E. T. Davies thought the case recorded to be one of sapræmia and that by clearing away débris and blood-clot with douching the patient would probably have recovered without any serum injection. He suggested caution with such a dangerous remedy and a certain diagnosis of streptococcic infection being made first.—Dr. Abram pointed out that in most of the cases mentioned where no apparent benefit followed the use of the serum there was no proof that the patient was suffering from streptococcic infection.—An interesting discussion was kept up by Mr. Stansfeld, Dr. Alexander, Dr. Buchanan, Dr. Grünbaum, Dr. Gemmell, Dr. Monsarrat, and Mr. Thelwall Thomas, opinions somewhat differing.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Relapse in Typhoid Fever.—Heredity in Disease.—Cerebellar Tumour.

A meeting of this society was held on Jan. 14th in Leeds General Infirmary, Dr. Braithwaite, the President, being in the chair.

Dr. Churton showed a boy, aged seventeen years, who had had a relapse of Typhoid Fever. After defervescence on the twenty-first day of the fever he was exceedingly impatient of restrictions in diet and obtained food from other patients. At length, twenty-two days after defervescence a regular relapse began and lasted three weeks. To prevent his desire for solid food he was placed in a private ward out of sight and smell of the meals of other patients, where he took with perfect contentment no other food than milk for four weeks. Three months after recovery he was exceedingly well and had become quite stout.

Dr. Churton related some cases observed by him which seemed to justify the proposition that a person is liable to, or has a proclivity to, the diseases of the parent whom he most distinctly resembles and not those of the other parent. Thus (1) a man, aged sixty-three years, with no apparent cause for any illness, had cancer of the œsophagus. His father died from apoplexy in his seventy-eighth year, but his mother, whom he closely resembled in features and disposition, died from cancer of the stomach in her sixty-third year. (2) A lady complaining of various neuroses states that she is one of a family of eleven children; that of these all having dark complexions like the mother are alive all strong, but all with fair complexions like the father were delicate and, except herself, are all dead. (3) A man, thirty-seven years of age, has wasting diabetes. His mother, whom he greatly resembles, died from that disease at forty years of age. His brothers and sisters, the eldest aged forty-seven years, resembled the father and are quite well. Several similar instances were mentioned. Apparent exceptions had been met with, but none of them had hitherto withstood investigation.

Dr. E. W. Selby (Doncaster) read a paper on a case of Cerebellar Tumour in a boy, seven years of age. Death occurred at the end of two months. At the necropsy a soft, smooth, globular tumour the size of a large walnut was found in the centre of the cerebellum springing from the middle lobe. It was a round-celled sarcoma.

Mr. Moynihan read a paper on the Operation of Gastrorrhaphy with notes of a case. We hope to publish the paper in full shortly.

Cerebral Abscess.—Malignant Scarlet Fever.

A meeting of the society was held on Feb. 4th in Leeds General Infirmary, Dr. Braithwaite, the President, being in the chair.

Mr. Roper described a case of Cerebral Abscess under his care. The patient, who was fourteen years of age, had left otorrhœa for two years. Lately the discharge had become fœtid and there had been severe pain in the left ear and side of the head lasting from three to four days. Afterwards there was loss of memory for words, slow pulse, slight rise of temperature, vomiting, and loss of power in the right arm. There was no mastoid tenderness. Double optic neuritis was present. Mr. Roper asked Mr. Littlewood to see the case with a view to operation. The temporosphenoidal region of the brain was explored and an abscess was found and drained. The arm recovered its power at once, the memory returned gradually, and the patient is now quite well.

Dr. Trevelyan read notes of a case of Malignant Scarlet Fever occurring in a patient aged twenty-five years. The illness began within twenty-four hours after exposure. A patchy rash appeared on the second day and some petechiæ on the fourth day. Death occurred on the thirteenth day from broncho-pneumonia.

GLASGOW SOUTHERN MEDICAL SOCIETY.

The Use of Forceps in Obstetrical Practice.

A meeting of this society was held on Feb. 17th, the President, Dr. James W. Allan, being in the chair.

A discussion on the Use of Forceps in Obstetrical Practice was opened by Mr. Stuart Nairne, who answered the following questions: When should the forceps be used? What kind of forceps should be used? and How to use the forceps? Since the introduction of chloroform the use of forceps had been extended. In easy cases the woman might be allowed a choice. In some cases they must be used, and when used they must be used skilfully. With an anæsthetic it is not bad midwifery to expedite delivery in all cases. There are benefits and dangers in the use of forceps. The patients benefit mentally and physically. They need not suffer in any way; the period of delivery may be much shortened; properly conducted instrumental delivery never hinders recovery, but here the "personal equation" comes in. Accidents can be avoided; danger lies in (1) too early application and (2) too late application. Judgment is essential, errors are due to stupidity and ignorance—again the "personal equation" was invoked—the proper method is to eliminate the stupid person. A man should use the forceps which he prefers and not insist on their use being universal. That forceps are abused to the extent recently asserted Mr. Nairne absolutely denied. He spoke for Glasgow, not for another large city, and was of the opinion that the error in Glasgow was one of omission not of commission. In easy cases forceps ought not to be applied without the offer of an anæsthetic and this offer should be made as soon as the patient desires. In tedious cases the use of anæsthetic and forceps should be insisted upon if necessary. In difficult and dangerous cases the use of anæsthetic and forceps is compulsory. When he was in general practice he had used forceps in nearly every case and in his whole obstetric practice had had only some six deaths.

Professor **Murdoch Cameron** did not agree with all that that Mr. Nairne had said. He had seen many instances of the abuse of forceps, and these were described at great length in his characteristic and humorous manner. Careful measurement of the conjugate should always be made before using forceps to make sure a head could come through. Leishman's long straight forceps tend to lacerate the vagina and tear the perineum as it was difficult to get good adaptation of the blades to the head. The perineum should in all cases be prepared for the use of forceps. Introducing the cone-shaped hand into the vagina the fist is closed and withdrawn again and again until there is sufficient dilatation induced for the head to pass. The dorsal position is by far the best, and in simple cases the forceps should be inserted first and chloroform used afterwards; very little is required and the patient, anxious for relief, inhales it readily. All the modern forms of forceps were shown and commented on. Smellie's wooden forceps were also passed round. Dr. Cameron's axis-traction antero-posterior forceps and a cephalotribe on the same principle were shown.

Dr. **James K. Kelly** had when in general practice used forceps in about 10 per cent. of his cases and always those he was taught to use—viz., Leishman's straight forceps—applying these even above the brim. Forceps are used to supply defective power—owing to weak "pains"—weak in relation to size of parts concerned or in regard to time. The following were the conditions in which he considered the use of forceps necessary: (1) the membranes ruptured; (2) the os sufficiently dilated or dilatable; (3) the head should have engaged or entered or should not be moveable above the brim; and (4) the head should be of suitable size, not too large or too small—e.g., hydrocephalic or six months' fœtus. When the pelvis is small a difference of opinion as to the use of forceps comes in. Where delivery is possible without diminishing the size of the fœtus forceps may be used—i.e., where nature could in time complete the case. Forceps may be tried down to very great degrees of contraction; owing to the structure and mobility between the pelvic joints a wedge-like action of the head is possible. The use and benefit of Walcher's position and symphysiotomy show that there must be such mobility of the pelvic joints. If there is such even to a small degree it justifies a trial of forceps. In more than 3000 cases Dr. Kelly had had no Cæsarean section, craniotomy, or embryotomy—only forceps, and among these patients there must have been a considerable number of cases of contracted pelvis. He had no accidents and had never had a case of rupture of the uterus.

The discussion was adjourned until the next ordinary meeting of the society.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

Vaginal Colpotomy.

A meeting of this section was held on Feb. 11th, Dr. **F. W. Kidd**, the President, being in the chair.

Mr. **T. Henry Wilson** read a paper entitled "Vaginal Colpotomy; its Advantages and Limitations," confining his remarks to the treatment of pelvic tumours and adhesions. Having described the method of anterior colpotomy, he pointed out the facility with which the adnexa may be drawn down and examined, adhesions of the ovaries separated, and tubes and ovaries removed or, if found healthy, replaced. Small subperitoneal myomata, if pedunculated, may be ligated, or if sessile incised, removed, and the peritoneum closed over. Small ovarian and parovarian cystomata may likewise be easily treated, or if too large the contents may first be evacuated, the pedicle tied, and the cyst removed. He then dwelt specially on the treatment of pyosalpinx by this method and laid stress upon the usual site of rupture of the pus sac when separating adhesions—namely, the posterior surface, which is the most unfavourable situation in operating by cœliotomy but favourable by vaginal colpotomy. Having described the operation of posterior colpotomy he discussed the question of pelvic hæmatocele and pelvic abscess, pointing out the great advantage which this method presented for efficient drainage. Densely adherent ovaries deeply situated in Douglas's pouch he regarded as suitable for the posterior operation, but he deprecated treatment of ruptured tubal pregnancy by the vaginal method. Two difficulties in colpotomy were emphasised—viz, rendering the vagina aseptic and reaching the peritoneum. No one should undertake vaginal colpotomy who was not prepared to open the abdomen if found necessary as there was always present the danger of uncontrollable hæmorrhage and the possibility of being unable to complete the operation from below.

The **President** said that in some cases it is absolutely impossible to diagnose whether one is dealing with a single or a double salpingitis.

Dr. **A J. Smith** thought that for prolapsed ovaries and catarrhal tubes it was a matter of slight difference whether the abdomen was opened from below or above.

Dr. **Henry Jellett** thought that enough importance was not given to vaginal cœliotomy as a means of diagnosis pure and simple.

Dr. **Smyly** said that whether posterior or anterior colpotomy should be performed depended upon the circumstances of the case, whether the uterus was anteverted or retroverted and where the pathological condition was situated. He did not approve of Dührssen's method of anterior colpotomy, but of Mackenrodt's. In pyosalpinx the uterus is really infected before the tubes and unless the uterus is removed the disease is not cured.

Dr. **R. D. Purefoy** thought that vaginal colpotomy was very suitable for small moveable tumours whatever their origin, but that it was not as good as laparotomy for most cases of pyosalpinx and tubal pregnancy. He was quite unable to accept the proposition that in every case of pyosalpinx the uterus should be removed.

Dr. **Winifred Dickson** thought that it was a great advantage not to have an abdominal incision.

BOMBAY MEDICAL AND PHYSICAL SOCIETY.

Subcutaneous Symphysiotomy.—Cystic Disease of the Kidney.

The annual general meeting of this society was held in the University Library on Jan. 7th, Surgeon-Major-General G. **Bainbridge**, M D. Durh., F.R.C.S. Irel., the President, being in the chair.

The names of the committee for 1898 were announced as follows: President: Surgeon-Major-General G. Bainbridge, M.D Durh., F.R.C.S.Irel. Secretary and treasurer: Surgeon-Captain H. Herbert, M.R.C.S. Eng., L.R.C.P. Lond. Members: Surgeon-Colonel G. W. R. Hay, M.D. Edin.; Brigade-Surgeon-Lieutenant-Colonel F. C. Barker, M.D. R.U.I., F.R C S.Irel.; Surgeon-Lieutenant-Colonel H. W. B. Boyd, F.R.C.S. Irel.; Surgeon-Lieutenant-Colonel W. K. Hatch, M.B., C.M.Aberd., F.R.C.S Eng; Surgeon-Major H. P. Dimmock, M.R.C.S Eng., L.R.C.P. Lond.; Brigade-Surgeon-Lieutenant-Colonel J. M. Beamish, M.D. R.U.I.; Dr. Edulji Nashirvanji; and Dr. Temulji Bhicaji Nariman.

Surgeon-Major H. P. **Dimmock** read a paper on Subcutaneous Symphysiotomy. After delivery he has the woman kept on her side with a shot bag weighing about 9 lb. placed over the upper hip, the result being that the surfaces of the symphysis are maintained in apposition and fibrous union takes place very satisfactorily. Three months' rest was required and he would not operate unless this could be secured.

Surgeon-Lieutenant-Colonel W. K. **Hatch** gave particulars of a case of Cystic Disease of the Kidney in which he had operated. The kidney was of the horseshoe variety; the portion removed was on the left side; no ureter could be found in connexion with it. The patient is recovering.

Mr. J. T. **Leon** described Unna's Method of Staining Ringworm and Allied Fungi.

Vaccination at Exeter.—It was reported at the meeting of the St. Thomas Board of Guardians (Exeter) that during 1896 there were 1306 births in the district and there had been 1055 successful vaccinations, 101 deaths, 96 postponements, and 42 removals.

Reviews and Notices of Books.

A Practical Text-book of the Diseases of Women. By ARTHUR H. N. LEWERS, M.D. Lond., Obstetric Physician to the London Hospital. Fifth Edition. London: H. K. Lewis. 1897. Price 10*s.* 6*d.*

THE fourth edition of this excellent manual appeared in 1893 and in issuing this new edition the author has taken the opportunity of thoroughly revising the entire work and enlarging many of the chapters, especially those dealing with tubal pregnancy, the surgical treatment of uterine fibroids, and the radical treatment of cancer of the uterus. Tubal pregnancy has been more fully studied and several interesting cases are recorded. There is one case deserving of special notice as its details are very instructive in which two abdominal sections were performed within twelve months. At the first operation there was found a three months' fœtus lying among the intestines. A good recovery was made but in about a year afterwards the patient suffered from somewhat similar symptoms. Dr. Lewers, with commendable candour, relates that a diagnosis of tubal gestation was again made and abdominal section was decided on. The day before the proposed operation, however, the patient passed a blighted ovum of about the size of a hen's egg from the uterus which had been known to be enlarged. The lateral fulness still remained and the operation as arranged was performed. The swelling to the left of the uterus which had been thought at first to be a tubal gestation was found to be a small ovarian tumour of about the size of a cocoa-nut. It was removed and the patient made a good recovery.

Questions connected with the treatment of uterine fibromyomata have received very careful consideration, especially the operative measures of hysterectomy with intraperitoneal treatment of the stump and pan-hysterectomy, illustrative cases treated by each method being recorded. There is noted a case of so-called decidua malignum which the author considers one of primary sarcoma affecting the posterior wall of the uterus, near the fundus and developing quite independently of pregnancy. Dr. Lewers's statistics of radical operations for uterine cancer are satisfactory. He has had more than sixty radical operations and over thirty of these have been supravaginal amputations of the cervix without a death; in thirty of the vaginal hysterectomies there have been only three deaths. We observe with regret that the author sometimes shows a want of precision in the use of anatomical terms while describing a patient's symptoms, employing on more than one occasion the expression "pain in the stomach' when he evidently means the lower part of the abdomen. On the other hand, we are glad to note that in this manual Dr. Lewers exemplifies from his own practice the methods of treatment which he recommends. The work is not only a valuable text-book for students and practitioners but in many of its chapters a book to be consulted by gynæcologists.

The Relief and Cure of Spinal Curvatures. By PERCY G LEWIS, M.D. Brux., M.R.C.S. Eng., Honorary Medical Officer to the Victoria Hospital and Surgeon to St. Andrew's Convalescent Home, Folkestone, &c. Containing over 50 Original Illustrations. London: John Bale, Sons, and Danielsson, Limited. 1897. Pp. xii. and 208. Price 7*s.* 6*d.* net.

IN the preface we are told that these chapters have been written "for the general practitioner by a general practitioner, in the hope that they may aid in the simplification of the treatment of spinal curvatures and help in the clearing away of many of the mysteries which have previously surrounded the subject," and we think that the author may claim with reason that he has achieved his purpose. The treatment of curvature of the spine has suffered from two totally different causes; it has on the one hand been neglected as of but little importance and on the other it has been considered of such severity and complexity that it has required the services of a "specialist" and an instrument-maker. The majority of the cases of spinal curvature are very amenable to treatment, especially if seen early, but most medical men require more knowledge of the subject than is usually possessed at the time of obtaining the qualifying diploma and Dr. Lewis's work would in great part supply this deficiency. The directions for treatment are on the whole excellent and may be followed with advantage. The chapter on "medical exercises" is especially good. The work is illustrated by reproductions of photographs of cases and by numerous little diagrams showing the method of carrying out the various mechanical exercises which are advised. It may be added that the spinal curvatures treated in this book do not include the "angular curvatures of the spine" which are the result of caries.

Lectures on Angina Pectoris and Allied States. By WILLIAM OSLER, M.D., F.R.C.P. New York: D. Appleton and Co. 1897. Pp. 160.

ANGINA pectoris is historically of great interest and the story of its discovery by Edward Jenner and his reluctance to make his facts known to the public because his friend John Hunter was, as he rightly thought, the subject of this disease formed an appropriate introduction to Professor Osler's admirable lectures. It is a disease comparatively rarely met with in hospital practice and, like migraine, it numbers among its victims many prominent and distinguished persons, the Arnold family being a remarkable instance in point. In seven years' hospital practice at the Johns Hopkins Hospital there have only been four cases, while Professor Osler has seen sixty cases in private. Physicians are comparatively often affected, there being thirteen amongst the author's cases, and we see with grim satisfaction that he says of angina, as Sydenham did of gout, that it attacks more wise men than fools. A simple classification is given of angina pectoris vera with organic heart disease and of pseudo-angina, under which hysterical, vaso-motor, and toxic forms are included. His graphic description of the symptoms of true angina is illustrated by numerous cases and by quotations extending from Seneca's account of his own sensations down to the present day. The pain, dolor pectoris, and the mental anguish, angina animi are fully dwelt on, and angina sine dolore (Gairdner) and other states allied to true angina, such as syncope anginosa and the Adams Stokes syndrome, are dealt with in a separate chapter.

The existence of pseudo-angina is fully recognised by Professor Osler, and the characters that distinguish it from true angina—i e., that its victims are chiefly women, that it occurs at an earlier age, and the absence of a fatal termination, are clearly set forth. Two main groups of functional angina are described: (1) the neurotic, including hysterical, vaso-motorial, and reflex anginas; and (2) toxic angina, due to tobacco, tea, and coffee; but of the two latter causes Professor Osler has no experience.

Passing to the theories of true angina we find a full and interesting account of the theory of intermittent claudication which explains the relation between coronary disease and the crises of angina. Generally ascribed to Potain (1870), this hypothesis is shown to have been first and clearly stated by Allan Burns (1809). The state of the cardiac muscle and the seat and cause of the pain in angina are discussed and some interesting though cautious reflections are made on the vaso-motor changes in angina, The difficulties that may arise in the diagnosis of true from false angina are insisted upon and the section on treatment is full of wise counsels and the lessons of wide experience. In conclusion, we may say that these lectures supply a full and philosophic account of angina pectoris told in scholarly language and illustrated by many historical cases.

La Responsabilité Médicale. By P. BROUARDEL. Paris: J. B. Baillière et Fils. 1898. Pp. 456.

THE "responsibility" of a medical man has never been stated with precision. It has been differently interpreted under varying circumstances and the code of one country is different from that of another. No one is more qualified to express an opinion on such subjects than Dr. Brouardel, consequently this volume will be read with interest by all medical men and it is to be hoped that an English edition will soon be forthcoming.

The first chapter deals with the general theory of medical responsibility, its history and its position at the present time, and the position of a medical man towards society. The author further proceeds to discuss the various suggestions that have been made as to the tribunals before which a case of professional misconduct should be tried, but in this respect the French code varies much from ours and comparison is of very little use.

The second chapter is an exhaustive review of the "professional secret." The author deals with the subject in a most thorough and impartial manner and the perusal is rendered especially interesting by the large number of illustrative cases quoted. We next find the laws in relation to birth dealt with from the point of view of the medical man and then the question of real and apparent death and certain matters respecting the disposal of the dead. Chapter V. deals with the vexed question of expert evidence; here again the methods of French procedure differing in many respects from our own render some of the sections into which the chapter is divided of less value to the English reader than they otherwise would be.

The remainder of the work is occupied with the reports of actual cases which have been brought under the notice of the author. They have evidently been carefully selected and this section forms by no means the least interesting part of the work.

To those readers who are especially interested in these matters we can cordially recommend the book. It contains a mass of interesting material and original thought. In some respects English readers will, as we have already suggested, have a little difficulty in following Dr. Brouardel's reasonings, but the great portion of the book will be of great value to all members of the medical and legal professions.

LIBRARY TABLE.

Notes on the More Common Diseases of the Eye. By ROBERT W. DOYNE, Surgeon to the Oxford Eye Hospital. London: H. K. Lewis. 1896. Pp. 47. Price 2*s.*—This little work by a competent ophthalmic surgeon deals with the chief forms of ophthalmic trouble that are met with in practice and will prove useful to any practitioner who has not had, or has not taken advantage of, opportunities of observing cases of disease of the eye in a special or general hospital. Although it is probable that there are now few or none who are unaware of the danger of using atropine in glaucoma and of its value as a remedial agent in iritis, yet it is well that all who have occasion to refer to a work on ophthalmic medicine should find, as they will find here, such facts strongly insisted on. The chief points to which the practitioner should turn his attention in the ordinary cases met with in the daily routine of practice are very briefly but correctly given. Mr. Doyne is so good an ophthalmic surgeon and the notes are so brief that in making any criticism of the book it is rather a question of what is omitted than what is given, but under the heading of phlyctenular ophthalmia we might suggest that a drop or two of a solution of cocaine allowed to fall into the inner angle of the eye will often save much screaming on the part of the child and enable an examination to be made without any forcible attempt to separate the lids—which indeed often fails. Cataract, again, might have been treated a little more fully. We should have thought also that the subject of lacrymal abscess might have been noticed, as it is often mistaken for erysipelas. The book would be more useful if it were increased in size.

Raid and Reform: By a Pretoria Prisoner. With Two Essays on the Antiquity of Man in South Africa. By ALFRED P. HILLIER, B.A., M.D., C.M. Edin. London: Macmillan and Co. New York: The Macmillan Company. 1898. Pp. 156. Price 6*s.*—Dr. Hillier has accomplished the feat of writing a very interesting book which, strange to say, appeals with almost equal force to the political agitator and the archæologist. His intimate knowledge of the modern part of his subject may be inferred from the facts that in addition to being a member of the Reform Committee in Johannesburg he has lived about sixteen years in South Africa, has been a vice-president of the Transvaal Medical Society, and in the course of his medical practice was at one time in partnership with Dr. L. S. Jameson (vide p. 100). Although strongly opposed to the policy of the Boer Government his language is studiously moderate and the case for the "reformers" appears to be very ably presented by him. His chief complaint against the House of Commons Select Committee of Inquiry is that Mr. Schreiner (Boer partisan) was heard in "no less than four sittings," whereas Mr. Charles Leonard (reform partisan) was confined "to less than a single sitting." As it is not probable that there will be political harmony in the South African Republic during the present generation Dr. Hillier's book deserves the attention of all who are interested in the state of parties in that country. In the chapters on the Antiquity of Man in South Africa he gives some account of numerous discoveries of stone implements resembling those found in the valley of the Somme in France.

Spinal Caries (Spondylitis or Pott's Disease of the Spinal Column). By NOBLE SMITH, F.R.C.S. Edin., L.R.C.P. Lond., Surgeon to the City Orthopædic Hospital. Second edition. London: Smith, Elder, and Co. 1897. Price 5*s.*—This book gives a very practical account of the treatment of spinal caries chiefly based on Mr. Noble Smith's own experience. It is copiously illustrated and should prove of use to those who wish to know more of the treatment of this condition than is to be found in the ordinary text-books of surgery. In this edition a few changes have been made, the chief of which is the description of a form of headpiece intended to replace the jury mast and sling in the treatment of caries of the cervical region of the spine. It consists of a band, metallic behind and flexible in front, encircling the cranium at the level of the forehead and the occiput; this band is attached by a metal stem to a dorsal support. A very interesting chart faces page 38; it illustrates the beneficial effect on the temperature which may result from careful fixation of the spine. A short note is given in an appendix on the Calot treatment of spinal caries by forcible reduction. Mr. Noble Smith does not venture to express any decided opinion on its value.

A Surgical Handbook for the Use of Students, Practitioners, House Surgeons, and Dressers. By FRANCIS M. CAIRD, M.B., F.R.C.S. Edin., and CHARLES W. CATHCART, M.B. Edin., F.R.C.S. Eng. and Edin., Assistant Surgeons to the Royal Infirmary, Edinburgh. With very numerous Illustrations. London: Charles Griffin and Company, Limited. 1897. Pp. xv. and 321. Price 8*s.* 6*d.*—Caird and Cathcart's "Surgical Handbook" is so well known that the appearance of this new edition only requires us to say that it is as good as it has ever been. We know no book which will be of more value to a house surgeon or a dresser than this. It will teach him many things which he will want to know in his practical work and yet will not succeed in finding even after a prolonged searching of many other works. The new edition has been very carefully revised and though twenty-eight new diagrams and many new matters have been introduced, yet by omitting several of the old diagrams and reducing the size of others it has been found possible to limit the work to a size convenient for the pocket. The strong leather binding is very suitable for a book which is intended to be much used.

The Religio Medici and other Essays. By Sir Thomas Browne. Edited by D. Lloyd Roberts, M.D. St. And., F.R.C.P. Lond. London: Smith, Elder, and Co. 1898. Price 3*s.* 6*d.*—Dr. Lloyd Roberts has added one more to the many editions of that *aureus libellus* the "Religio Medici" and we can only say that his introduction and editing are in every way worthy of the subject. The other essays in the book are "Christian Morals," "A Letter to a Friend," the little tract on "Dreams" and the "Hydriotaphia." To our minds this last, though not the most popular and one of the least known works of Browne, is an absolutely flawless gem. Both Carlyle and De Quincey esteemed it highly. There are passages in it which no one with an ear for music can fail to be impressed by. Take the following: "But who knows the fate of his bones or how often he is to be buried? Who hath the oracle of his ashes or whither they are to be scattered?" Or this: "Time which antiquates antiquities and hath an art to make dust of all things hath yet spared these minor monuments." Browne's English with its solemnity and dignity is like the organ music of Bach, always melodious but yet complex while seeming most simple. The printing and binding are worthy both of the author and the publishing house which is responsible for the issue.

The Tragedy of the Korosko. By A. Conan Doyle, M.D. Edin. London: Smith, Elder, and Co. Price 6*s.*—Dr. Doyle's new story is a good one and, what is more, well written. The plot is exciting and by no means, as exciting plots often are, impossible. The characters are well drawn and all of them natural and the only blemish that we can find in the story is the burlesque episode of the colonel and his hair dye, which seems to us to be out of place. However, even great-minded men have their little weaknesses and perhaps the mention of them in this case makes the colonel all the more real.

JOURNALS AND REVIEWS.

The *Quarterly Journal of Microscopical Science.* Edited by E. Ray Lankester, M.A., LL.D., F.R.S., Adam Sedgwick, M.A., F.R.S., and W. F. R. Weldon, M.A., F.R.S. London: J. & A. Churchill. 1898. New Series, No. 160. Price 10*s.*—This part contains (1) materials for a Monograph of the Ascons, a group of calcareous sponges of very primitive type. The article deals with the mode in which the investigation was conducted and gives an account of the origin and growth of the triradiati and quadriradiati spicules in the family Clathrinidæ, by E. A. Minchin, M.A., with five plates. It is shown that the spicules are formed by cells. (2) The Early Development of Amphioxus, by E. W. MacBride, M.A., with three plates—a valuable contribution to what has been already worked out by Kowalewsky, Hatschek, Lankester, and Willey, and by Lwoff. MacBride's specimens were preserved in osmic acid. 3. On Drepanidotænia Nemignathi, a new Species of Tapeworm, with one plate, by Arthur E. Shipley. This tapeworm was procured from the intestine of the bird named Hemignathus Procerus. 4. Spengelia, a new Genus of Enteropneusta, by Arthur Willey, D.Sc. 5. On a Prorhynchid Turbellarian from Deep Wells in New Zealand, by William A. Haswell, M.A., D.Sc., F.R.S., with a plate. Lastly, Professor Lankester has a note on the Development of the Atrial Chamber in Amphioxus.

The British Dental Journal.—This is a new monthly publication and aims, according to the introduction, "to bring into line dental surgery with medicine and surgery, to endeavour to extinguish the 'quack' and 'advertiser,' and to provide a reliable record of everything useful to the dental practitioner." The first issue consists of twelve pages of readable matter more or less interesting. There are editorial articles on Dental Representation on the General Medical Council and Unqualified Dental Practitioners.

Birmingham Medical Review.—The three original communications are very good ones. In a paper on the Nature and Prevention of Puerperal Fever Dr. Thomas Wilson describes the use of antiseptics in the lying-in room both for the genital region of the patient and the hands of the medical attendant. Mr. Christopher Martin gives details of the removal of a large pedunculated accessory lobe of the liver together with the gall-bladder. The operation was performed on Nov. 4th, 1896, the patient recovered quickly, and on Jan. 25th, 1898, reported herself as being in fairly good health. The illustration showing the tumour is a fine example of the new process of photo-trichromatic printing.

In the *Phonographic Record* for February Dr. E. S. Reynolds narrates a series of cases of Curious Aortic Aneurysms, each of which illustrates the protean characters which the signs and symptoms of aortic aneurysm often assume; Dr. Donkin has a lecture on an unusual case of Hemiplegia and Hæmi-anæsthesia in a man aged forty-six years; there is an obituary notice of the late Dr. Foster, of Bradford, who as a student took verbatim notes which were utilised when the lectures of the surgical professor were issued to the profession; a note on Unconscious Reporting is given; and we are told that Sir Wm. Thomson, of Dublin, is preparing a monograph on Some Diseases of the Rectum, to be issued in shorthand as the second volume of the Medical Phonographic Library.

Sheffield Medico-Chirurgical Society.—A meeting of this society was held on Feb. 3rd, Dr. Sinclair White, F.R.C.S. Eng., President, being in the chair.—Mr. Snell showed recent specimens mounted in formol (Priestley Smith's method) of three instances of Sarcoma of the Choroid—one being a leuco-sarcoma—and Glioma of the Retina. Photographs of Fibroma of the Upper Eyelid were shown with stereoscopes, together with microscopic slides of the sarcomata.—Mr. Archibald Cuff showed a boy who had fallen on a broken bottle in June, 1897, opening the left elbow-joint from side to side, cutting off the olecranon process and severing the ulnar nerve. The treatment consisted in thoroughly cleansing the parts, suturing the bone ends with chromic catgut, periosteal sutures, and suturing the cut ulnar nerve. The wound, which was an extensive one, healed by primary union. There is now perfect movement, the bony fragments are united by bone, and there is almost complete return of the function of the cut nerve. Mr. Cuff also showed a case of Circular Ulcer of the Leg of seventeen years' standing now perfectly healed. The treatment consisted in ligation of the saphenous vein, cleansing of the ulcer, and the application of lead plates to its surface.—A discussion on Efficient Vaccination was introduced by Mr. Dale James and Mr. William Skinner.—The President, Mr. Kilbam, Mr. Longbottom, Mr. Snell, Dr. Leonard Giles, Mr. Gale, Dr. Richards, and Dr. Keeling made remarks.

Analytical Records

FROM

THE LANCET LABORATORY.

(1) BETUL-OL; (2) COLCHI-SAL; AND (3, CHINOSOL SANITARY TABLETS.

(B. KÜHN, 36, ST. MARY-AT-HILL, E.C)

BETUL-OL is a compound liniment of methyl salicylate, the predominating constituent of oil of wintergreen. The oil possesses the peculiar fragrant odour of the natural oil and it is suggested is useful as a local application in the administration of salicylates by the channel of the skin. In this way it is said to have been used in the treatment of rheumatism and gout with results which merit the method being tried on a wider scale. That the application of oil of wintergreen in this way leads to absorption of salicylic acid is evident from the results of an examination of the urine. Colchi-sal capsules contain oil of wintergreen in which has been dissolved colchicine—a well-known specific, of course, in acute gout. Each capsule contains 20 centigrammes of natural methyl salicylate derived from *betula lenta* and $\frac{1}{50}$th grain of colchicine. It is obvious that in both of the foregoing preparations the advantages of the natural salicyl compounds are secured, advantages which, as is well known, are of considerable physiological importance. Chinosol is now established as one of the best and most convenient disinfectants, antiseptics, and deodorants, since while it exerts, as Dr. Klein has shown, a very powerful germicidal action, it is non-poisonous and is easily soluble in water. It is now prepared in the convenient form of "sanitary tablets" which, by being dissolved in known volumes of water, will produce solutions of standard strength.

"PURO" BEEF JUICE.

(AGENTS, T. CHRISTY AND CO., 25, LIME-STREET, E.C.)

The merits of this preparation as a powerful nutrient are at once evident when the results of our analysis are considered. The analysis was as follows: moisture, 42·52 per cent.; organic matter, 47·48 per cent.; and mineral matters 10 per cent. The organic matters were found to be composed as follows: beef albumin, 21 37 per cent.; peptone 3·36 per cent.; and extractives soluble in alcohol, 22 75 per cent. Thus the albumin amounts to no less than 21·37 per cent., which together with 3·36 per cent. peptones forms almost exactly one-half of the organic beef constituents present. The fluid exhibits the characteristic spectrum of hæmoglobin and the albumin on boiling separates in abundant flocks, which, as we have found, are very readily digested by pepsin solution. The taste is not unpleasant and is free from excess of salt. The juice should prove, according to the above results, of real service to those requiring a powerful because easily assimilated food.

SCOTT'S EMULSION.

(SCOTT AND BOWNE, LIMITED, 95, GREAT SAFFRON-HILL, E.C.)

The value of the hypophosphites combined with cod-liver oil, especially in wasting diseases and in debilitated conditions, is well known. In addition to these constituents the above preparation contains also glycerine, which is well recognised as assisting very materially in the absorption of oils and fats. We have examined the preparation with care and find that it fulfils all the requirements and presents all the conditions of a very satisfactory emulsion. In appearance and consistence it is not unlike cream and under the microscope the fat globules are seen to be of perfectly regular size and uniformly distributed. In fact, the preparation microscopically examined presents the appearance of cream. So well has the oil been emulsified that even when shaken with water the fat is slow to separate, the liquid then looking like milk. The taste is decidedly unobjectionable and is pleasantly aromatic and saline. We had no difficulty in recognising the presence of the hypophosphites in an unimpaired state. The emulsion keeps well even when exposed to wide changes of temperature. Under the circumstances just described the emulsion should prove an excellent food as well as a tonic.

WORTH'S PERFECT FOOD.

(WORTH'S FOOD WORKS, CHELTENHAM.)

This is a cereal food containing a very high proportion of soluble carbohydrates, a result which is to be attributed to malting and to careful cooking. It contains a very satisfactory proportion of nitrogenous matters, amounting to one-sixth of the dry preparation. The mineral matter amounted to 0·71 per cent. and contained a desirable proportion of soluble phosphates. The cereal food presents a composition satisfactory alike in the amount and nature of carbohydrate, nitrogenous, and fatty constituents.

VIBRONA.

(FLETCHER, FLETCHER AND CO., 469, HOLLOWAY-ROAD, N.)

Vibrona is a standard preparation and consists of a delicate, pleasant-tasting red wine containing an exact and constant quantity of the principles of cinchona bark Moreover, these principles are presented in such a form as to obviate the distressing results frequently following the administration of ordinary cinchona extracts well known as cinchonism. This result is secured by combining the cinchona principles with bromine. Our analysis of the sample submitted to us confirms the claims made in its favour and in regard to its composition. The analysis was as follows: alcohol, by weight 18·46 per cent., by volume 22·64 per cent., equal to proof spirit 39·68 per cent.; and mineral matter, 0·26 per cent. The total alkaloidal constituents amount to nearly a quarter of a grain in two fluid ounces. The wine is stated to be examined at intervals with the view of maintaining its standard of strength. It is slightly but agreeably bitter to the taste. The wine was perfectly sound and free from sediment. As the above results indicate the wine is clearly a tonic preparation of a superior character. An interesting description of Vibrona, as well as other preparations, including a champagne, appears in a very neat and artistic *brochure* which has been drawn up and printed "for private circulation" by the above firm.

TURTLE SOUP.

(T. K. BELLIS, 6, JEFFREY-SQUARE, ST. MARY-AXE, E C.)

Turtle soup is notoriously nutritious and has the advantage of a pleasing, delicate flavour. Its properties as a valuable nutrient are undoubtedly due to the easily assimilable form in which the nitrogenous and gelatinous constituents exist in the flesh of the turtle. The expense of turtle soup somewhat militates against its use, especially for invalids, but in the present instance we find clear turtle soup containing some slices of the turtle flesh conveniently put up either in glass jars or in tins at the comparatively moderate price of 5*s*. Two pint tins added to a quart of good home-made clear stock are said to make sufficient soup for twelve persons. We have very carefully examined the preparations submitted to us, but we could find no cause for reproach on any point. Thus in the specimen enclosed in the glass jar we found no preservatives, while in the tinned specimen we could obtain no evidence of injurious metal being present in the soup or of the slightest corrosion of the tin. The soups are excellent in flavour, with a delicacy which must satisfy the *gourmet*, but, what is of more importance, which should appeal to the sensitive palate of invalids. The soups proved to be in sound condition. It is evident that great care is taken in the selection, conveyance, and treatment of the turtle, which under these conditions alone could produce such an excellent soup.

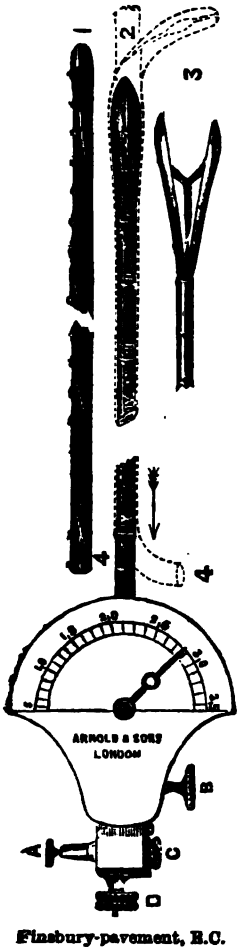
VICTOR LIQUID COFFEE.

(THE DUKE'S PATENTS COMPANIES, 20, HIGH HOLBORN, W.C.)

Particular attention would appear to have been paid to the preparation of this extract whereby the full aromatic flavour of the freshly-roasted berry is retained. At any rate, the flavour of the coffee prepared with this extract is certainly superior to that of several preparations which we have tried. The genuineness of the preparation is attested, too, by the fact that it yields on suitable treatment nearly 0·8 per cent. of the alkaloid caffeine. Coffee in a large measure owes its stimulating property to this crystalline constituent. The amount in the extract is satisfactory, since on adding two teaspoonfuls to a breakfastcupful of boiling water the strength of the infusion in regard to caffeine is practically identical with an infusion of ordinary coffee made by using two ounces of the crushed berry to half a pint of boiling water. The aromatic oils of the roasted berry are, however, necessarily absent.

New Inventions.

A MEANS OF PASSING STRAIGHT INSTRUMENTS INTO THE BLADDER IN PROSTATIC ENLARGEMENT.

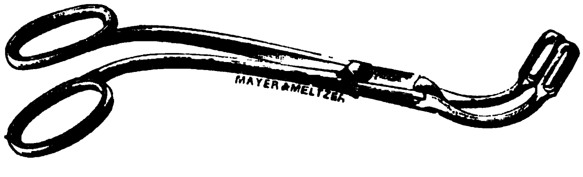


THE illustration shows the urethrometer made for me many years ago by Messrs. Arnold and Sons, now adapted to another use—viz., the diagnosis of some prostatic obstructions not determinable by rectal touch, especially that antero-posterior narrowing caused by a middle lobe, often valvular in shape and often better treated when diagnosis can be arrived at by less heroic means than those so much in vogue at present. A simple means enables me to pass the straight urethrometer (4) into the bladder, which by its expansion (3) diagnoses automatically prostatic encroachments; (1) is a rubber catheter split spirally (or straight) to, and at its extreme tip which pulled over the stem of the instrument hangs from its end at (2). This glides easily into the bladder carrying the urethrometer with it. When there one hand catches the catheter at (4) and withdraws it, leaving the urethrometer in the bladder. This is then withdrawn with its scale vertical and will show automatically the presence and degree of encroachment. I may say to slit a catheter thus is to afford an easy way of cleaning it. The above means might also prove useful when prostatic irregularities render the passing of calculus sounds difficult.

Finsbury-pavement, E.C. JAMES MAC MUNN.

FORCEPS FOR NASO-PHARYNGEAL ADENOIDS.

OF the various modifications which have been effected in the shape of the post-nasal forceps originally made by Löwenberg I think the one designed by Jurasz has not met with the attention it deserves. In this form the extent of the cutting surface and the size of the fenestræ allow of large portions of the growth being grasped, so that very few introductions of the instrument are required. I venture to think that in common with most forceps used in the removal of these growths those of Jurasz are unnecessarily large, long, and heavy. In the pair which Messrs. Mayer and Meltzer have made for me the instrument only weighs one ounce instead of three and a half ounces, and in a straight line it measures six inches instead of ten and a half inches. The hinge is of a different construction, allowing the instrument to be easily taken to pieces to be purified, and at the same time so arranged as to diminish any risk of the uvula being caught in the joint. The slighter build leaves more room for the index finger to be manipulated along with the forceps in the post-nasal space, while the shorter handles give more power. I have found this six-inch pair sufficiently large for patients up to sixteen years of age. The forceps have also been made with straight handles, as in Ruault's modifications, for those who may prefer this form.

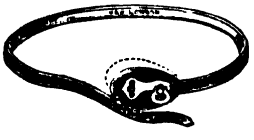


STCLAIR THOMSON, M.D. Lond, F.R.C.S. Eng.

Queen Anne-street, W.

"THE ADJUSTABLE PAD TRUSS"

THIS truss, devised by Mr. Draper, of York, consists of a light, softly covered body spring and a small, light, flexible hernia pad; no under-strap is necessary. The special feature of the truss is that the hernia pad is so fixed to the body spring that by a simple mechanical contrivance the obliquity of the pad may easily be altered and refixed either by the patient himself or by his medical attendant; thus the annoyance of having frequently to send a truss to the makers for alteration is altogether avoided—a matter of no small importance with fidgetty patients. The truss is made by Messrs. Maw and Son, of Aldersgate-street, in various qualities and at moderate prices.



TAUNTON AND SOMERSET HOSPITAL.—The annual meeting of the Taunton and Somerset Hospital was held on Feb. 10th under the presidency of the Hon. E. W. B. Portman. The report showed that the income was less by £387 than in 1896 and a loss of £624 had arisen on the year's working. This deficit, added to the adverse balance previously brought forward, made the present deficit on the general account amount to £1275. The accounts of the Nursing Institute showed a surplus of £119.

BRIDPORT DISPENSARY AND COTTAGE HOSPITAL.—The annual meeting of this institution was held on Jan. 31st under the presidency of the mayor. The report showed that during 1897 there were 257 cases treated at the dispensary as compared with 263 in 1896 50 in-patients had been admitted into the hospital and 12 patients were sent to the convalescent branch at West Bay. The financial statement showed that the ordinary income during the year amounted to £815 and the expenditure to £803. The income of the convalescent branch was £39 and the expenditure £21. A bequest of £500 had been received from the late Mrs. Chick.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 26, 1898.

The discussion which has occupied the last three meetings of the Royal Medical and Chirurgical Society has been of psychological interest rather than of surgical value. The subject—the Operative Treatment of Cancer of the Breast—is one that interests all surgeons and upon which every operating surgeon must of necessity acquire experience. But it cannot be said that the science or the art of surgery has been in any way advanced by the discussion although several eminent and experienced surgeons have contributed to it from the stores of their experience. The discussion was initiated by a paper in which a series of cases collected from many sources were tabulated and briefly discussed. These cases were in the strictest sense of the word selected, chosen to demonstrate two facts. In one table were ranged cases in which patients had lived for long years after an operation for cancer of the breast without any obvious return of the disease. In the other table a larger series of cases was presented in which the disease had reappeared only after long periods of freedom from all signs of cancer. The existence of such cases has long been well known to all surgeons and practitioners of medicine, but none the less Mr. Sheild has done well to present us with a number of well-ascertained facts. As all other cases of cancer of the breast were rigidly excluded from his paper it is clear that its value was limited within certain lines and that any attempt to base wide generalisations upon a series of isolated and selected facts would be as unwise as to attempt to support a pyramid on its apex.

It must strike every reader of this discussion, which has been reported from week to week in our columns, that the one subject that found almost no place in the speeches is the natural course of the disease, and when the matter was referred to it was only too often to make a dogmatic statement which a wide survey of the facts would not wholly support. We have been watching this dread disease for generations and yet how little we know of it! Not only is its intimate nature—its *vera causa*—still concealed from us, but all the laws which govern its progress and development are entirely unknown. Medical men sometimes speak as if this disease pursued a definite course and as if the future of any case could be more or less accurately foretold. And yet the longer a man's experience the more reason he has to know that this is a groundless assumption and that of no disease is exact prognosis not only more difficult but more impossible. It is a very elementary proposition that a knowledge of the natural history of a disease, and not only of isolated facts in its morbid anatomy and clinical etiology, must precede any definite conclusions as to therapeutical results; yet this aspect of the subject was hardly referred to or briefly dismissed by most of the speakers. A great deal was said as to Volkmann's dictum that patients who remain free from disease for three years after operation may be classed as "cured," and, strangely enough, it received most support from the adherents of the more extended operative interference. In spite of the very great variation met with in the development of cancer of the breast we can safely assert that the local and lymphatic secondary deposits occur in a centrifugal direction—that is to say, the earlier of either series are those nearer the primary growth, the later those further from it. For example, the cervical glands show signs of disease after and not before the axillary glands. From this it necessarily follows that the more limited the operation performed the shorter the period of freedom from disease that may be regarded as an indication of "cure." A time—three years—which conceivably may have been roughly accurate for Volkmann's cases is obviously too short for cases submitted to the Heidenhain-Stiles operation, and yet the advocates of the latter procedure are quite content to apply Volkmann's rule to their cases. Apart, however, from this obvious fallacy the discussion showed clearly that the so-called rule is no rule at all if language is to have either its common or its technical meaning, and we may hope that it will soon disappear from contemporary medical literature. Mr. Sheild's second table ought to be the death-blow to a dictum that would not have survived until now if it had not been associated with the great reputation of its originator.

The discussion turned largely upon the relative merits of the "old" and the "new" operation. Mr. Sheild's paper, in accordance with its definite limitations, threw no broad light on this question and we do not think that such facts as were adduced by the various speakers could have seriously influenced the opinion of anyone present. The value of the statements made was largely affected by the uncertainty attaching to the words used. Let it be granted that the "old" operation is, anatomically considered, the incomplete removal of the breast and its primary lymphatic area, it may yet be a complete removal of the whole infected area and therefore a satisfactory therapeutic measure. The "new" operation is theoretically the complete removal of the gland and of its primary lymphatic area, yet it may not only be an unnecessarily extended operation but it may fail either because it falls short of a removal of the whole infected area or because of error in its execution. Its success in the properly selected cases must depend upon each stroke of a knife in an operation that lasts an hour or more. Who can assert that not once has his knife transgressed the limits he has mentally laid down for it. Certain extensive operations that have been sometimes advocated were generally condemned by the speakers, as were also such operations as even the older surgeons would call "partial." There was a general consensus of opinion that not only should the entire mamma be removed but also the fascia over the pectoral muscle and the entire lymphatic and fatty contents of the axilla. While some were in favour of removal of the greater pectoral muscle as a routine measure, the majority of the speakers only adopted that precaution in certain more grave cases. All concurred in advising resort to operation at the earliest possible time, and short of severe mutilating procedures the more widely the parts were removed the more hopeful was held to be the outlook. This is a very general statement and, like all others made in connexion with cancer, is one requiring serious qualification in individual cases. The time has not yet arrived for dogmatic assertion and probably not until the secrets of the pathology of this dread disease as distinguished from its morbid anatomy have been laid bare shall we be able to speak with any real certainty of its therapeutics or to approach the treatment of any given case with a full and well-grounded confidence in our ability to treat it successfully. But Mr. Sheild has done good service by bringing up the subject for discussion.

One word more must be added as to this lengthy debate. It was curious to notice how the same word would be made to bear a different meaning by different speakers. Even our old friend "cure" was held to signify freedom from manifest disease or proved freedom from actual and potential disease. "Immunity" by one speaker was used in its technical sense, but as this was inconvenient to another speaker he preferred to employ it in its "plain English sense," as if that had any bearing at all upon its use in a scientific discussion. Disease was spoken of as "latent," although the speaker was unaware whether it was really hidden away or non-existent. Looseness of thought is never far removed from such looseness of language.

An important paper was read at the Imperial Institute on Feb. 17th by Mr. H. M. Birdwood, C.S.I., Member of Council of the Bombay Government, on the Visitation of Plague in Bombay. The paper was addressed to the Indian Section of the Society of Arts and it dealt essentially with the circumstances under which plague had commenced and spread in Bombay during the 1896-97 epidemic and with the measures of prevention that were adopted. Mr. Birdwood had with much care prepared a very complete story of plague both in the past and as affecting Bombay; he entered into details as to its bacteriological aspects, and he discussed its etiology and the question of its prevention by means of prophylactic inoculation. The discussion which followed admitted to the full all that could and, indeed, ought to be said in praise of the individual efforts which were made to stop the progress of the disease in Bombay, and amongst those deserving such praise it was the unanimous feeling of a crowded meeting that to Mr. and Mrs. Birdwood the plague-stricken in Bombay owe a deep debt of gratitude. But on some points there was evidently a difference of opinion, and the subject that came mainly under discussion related to the action taken by the administration of Bombay both as regards the conditions which have permitted plague to find so favourable a soil for its diffusion and propagation and as to the system under which the preventive measures were inaugurated and superintended.

Sir Richard Thorne in opening the discussion gave full expression to the gratitude which the country owes to those who at much self-sacrifice undertook the work of prevention, but he drew attention to the fact that efforts which had been aptly described as well-nigh superhuman had not prevented the epidemic of 1896-97 from being followed by that of 1897-98, through which Bombay is now passing, and which is, if anything, even more serious and fatal than the previous one. Some explanation of this seemed called for, and, disclaiming all personal knowledge of Bombay, he quoted from the statement which Surgeon-General Cleghorn laid before the Venice Conference in his capacity as Anglo-Indian representative, demonstrating that there is but little difficulty in assuming that owing to former errors in administration Bombay presents precisely the conditions under which plague is known to spread. Mr. Birdwood had aptly quoted an eminent Indian medical authority to the effect that the "all-important factors to be remembered" were the filthy and insanitary "chawls" which are inhabited by 70 per cent. of the population of Bombay, and recalling the terms of Surgeon-General Cleghorn's report Sir Richard Thorne gave the following summary account of these chawls. They are mostly great tenement buildings, many of them from five to seven storeys high, built on the flat system. Through the length of each flat runs a corridor, the interior of which is dark and unventilated, in which are situated latrines and out of which open on either side the doors of the numerous tenements. The rooms are about 8 ft. by 12 ft. in area, and each one is generally occupied by from six to eight persons or even more. So crowded are these chawls on any given area that window openings in respective blocks look one into another; they are therefore commonly kept covered, and apart even from this the rooms are so dark that, according to Surgeon-General Cleghorn artificial light had to be used in them by day. Between two rows of chawls is a species of back passage into which the inhabitants throw filth from the floors of the chawls—each of which is referred to as often containing from 500 to 1200 inhabitants; and these passages, it is added, are rarely scavenged. It is also pointed out that these chawls were erected to meet the demands of the cotton industry, and hence they are the outcome not of native ignorance but of Western civilisation so-called. Surgeon-General Cleghorn further added that the overcrowding due to these chawls is three times worse than anything that could be found in London, and his astonishment was, not that plague had become epidemic in Bombay, but that the disease had not carried away half the population.

On this Sir Richard Thorne recalled the fact that the influence of soil in its widest sense was one of the first considerations to be held in view as regards a filth disease such as plague, and he pointed out that on Mr. Birdwood's own showing these chawls afforded precisely the soil needed for the maintenance of the epidemic. Even ordinary garden soil teems with micro-organic life and pathogenic organisms find in soil a favourable medium for life and multiplication. One point only did he appear in any way to criticise in Mr. Birdwood's paper—namely, his assertion that anxiety must remain "unless science ...... can suggest some effective means of eradicating the plague bacillus." As to this he contended that there were times when the appeal should be to practice rather than to science, and that so long as the chawls of Bombay remained what they are it was of no use to call upon experts or to wait for advances in science. Although it is doubtless a mistake to believe that the great fire of London freed this metropolis from its plague, yet, if medical considerations were alone in question, the destruction by fire of the chawls of Bombay would, he insisted, in the long run end in gain. So, also, as regards the eradication of the plague bacillus, this is not what is wanted; it is rather the removal of conditions which enable an accidentally imported specific organism to multiply and spread. Action on this principle has all along been our English practice. We are prepared to receive any number of vessels from western ports of India; we never propose to quarantine them lest they should carry plague bacilli; but we aim at receiving those vessels under conditions which are inimical to foreign pathogenic organisms.

Dr. SIMPSON, late medical officer of health of Calcutta, also bore testimony to the splendid work of individuals in attempting to control plague, but he found fault with the heads of administration as to their methods. Thus he stated that the only medical member of the Bombay Plague Committee was not even required to give his whole time to those duties and that he was engaged in obstetric work in a Bombay hospital. This circumstance recalls the fact that at present the chairman of the Plague Committee is a distinguished service military officer who was announced to the meeting as having gained great credit in the Chitral expedition. It seems strange to us in England to put a military expert at the head of such essentially medical work, especially when the Indian Medical Service contains so many who are fully capable of undertaking the duty of supervising the control of disease. Another interesting speaker was Mr. H. H. ACKWORTH, formerly Municipal Commissioner in Bombay, who first announced that he was personally responsible for the construction of many of the chawls, but then added that when the municipality of Bombay prepared by-laws so as to secure open space about future dwellings the Bombay Government actually inserted a clause which prevented their application to areas already built on. This is as much as to say that the by-laws were to apply where at present there is no need of them and that they were not to apply where they are urgently and immediately called for.

The paper and the discussion cannot fail to be of use in indicating the lines on which future action should be taken, and we feel sure that the head of the Bombay Administration, in face of the "appalling perplexities" of his high position, will, whilst continuing to commend those public-spirited men and women who with a devotion which is beyond all praise have faced the epidemic with unwavering steadiness, also give heed to the warnings which are conveyed in the mere descriptions of Indian officials and others as to the Bombay chawls. So long as these remain undealt with so long will Bombay contain within its very midst conditions which tend to the promotion of epidemic disease of one and another sort. These crowded localities contain within themselves and in the soil on which they are massed the very conditions which science has for long taught to be identified with the spread of filth diseases. Mr. BIRDWOOD gave hope of a "new Bombay." May his hope be realised without unavoidable delay.

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AT the late Gloucester Assizes ALBERT GRIFFITHS, of Bristol, aged seventeen years, was tried and convicted of the crime of wilful murder. The facts are briefly as follows. The victim of the tragedy, JAMES RICKETTS, a farmer, residing at Wick, was previously unknown to the culprit. On Jan. 17th, 1898, he went to Bristol and on his way home stayed to dine at Kingswood as was his custom. The prisoner was also at the inn. From the evidence it appears that RICKETTS gave GRIFFITHS a lift in his cart. At seven the same evening the former was found on the road dying from stabs in the chest. On Jan. 25th GRIFFITHS surrendered voluntarily to the police at Birmingham and confessed the crime. Before leaving Bristol on the day after the murder he pawned his coat which, when recovered, contained an American clasp knife, a sham moustache, a disguise for the nose, and a substance used for blacking faces. On the knife was a stain of blood.

The instrument, however, with which the injuries were inflicted was a butcher's knife belonging to the prisoner's father. This was found on the road covered with blood. It was alleged by the prosecution that robbery was the motive for the crime. No doubt the prisoner knew that the deceased was possessed of money; but on the other hand there was no proof that any was stolen. Indeed, it seems probable that such was not the case, otherwise there would not have been the necessity to resort to the shift of pawning the coat for 5*s.* The defence was based on the presumption of insanity at the time of the murder. It is important whilst discussing the probabilities to consider the antecedents of the prisoner. As regards his family history we have the testimony that a maternal uncle died in an asylum and that a paternal great-aunt was twice confined in one. Personally he bore a good character and up to a recent period had been affectionate to his relatives. Then he became moody and morose and was given to fits of crying. Two years ago he suffered from ruptured kidney and a witness said: "One boy went into the hospital and another went out." A few months before the murder he sustained a blow on the head with a cricket-ball. Counsel for the defence argued that the deed was the result of a homicidal impulse which the prisoner was unable to restrain. Mr. Justice DAY, who tried the case, refused to allow the medical witness for the defence, Dr. LIONEL WEATHERLY, of Bailbrook House Asylum, to be interrogated as to his opinion of the state of the prisoner's mind at the time of the murder from his knowledge of the history of the crime and the history of the criminal. He stoutly adhered to the crystallised principle of the law—viz., that successfully to maintain the theory of insanity it must be shown that prisoner was unable to appreciate the quality and nature of the act and to be unable to distinguish right from wrong. Inasmuch as the prisoner had not evinced symptoms of insanity since his surrender there was no possibility of proving what the statute required. As the law at present stands the issue of the trial was—the facts not being disputed—a foregone conclusion. The prisoner by his counsel was not allowed to plead impulsive insanity. On strict legal grounds we are unable to oppose the course taken by the judge, but we certainly join issue with his Lordship when he states his views of the nature of mental disorders. "Irresistible impulses as they are called were often merely the result of unrestrained passions," said Mr. Justice DAY in his summing up. Just so; but the essential point in the argument—viz., whether the impulses were unrestrainable—seems to have been unaccountably ignored. In his nomenclature there would be nothing between complete intellectual insanity and sheer wickedness, a presentment we hold inconsistent with the dictates of common sense, not to speak of its being at direct variance with the teachings of science. Nor can we dismiss this aspect of the case without expressing our regret that his Lordship thought fit to traverse the theory that the prisoner had betrayed premonitory symptoms of insanity. Insanity or "disease of the mind," according to his view, is one and indivisible, beginning and ending in itself. Nor did he accept material injury to the nervous system as a cause of insanity. He thought "the ruptured kidney had nothing to do with the case and probably every boy had been struck by a cricket-ball." His Lordship's refusal to entertain the precepts of medicine which undoubtedly were strong in advocacy for the unhappy youth was in marked contrast to his deliverances as a fellow Christian and a fellow man. We are glad to see that the recommendation to mercy, a recommendation founded on the youth of the prisoner, has been acted upon and thus the unhappy lad's life has been spared, but we hope that in addition to this the authorities will take heed that his mental condition is not aggravated by the ordinary prison discipline, a discipline trying enough to well-balanced minds.

Annotations.

"Ne quid nimis."

THE GOVERNMENT AND THE NEW FOOD BILL.

THERE is reason for believing that considerable pressure is being brought upon the Government to introduce a satisfactory Bill this session providing for the suppression of the adulteration of food. We learn that a great number of petitions coming, oddly enough, from the country have been laid upon the table praying for an early amendment of the law. Mr. Kearley, who could not find any definite promise in the Queen's Speech that legislation in this direction would be proceeded with, made it the subject of an amendment. Mr. Chaplin confessed that he has been busily engaged in framing a satisfactory measure and so we may justly conclude that the useless measure introduced by him and Mr. Russell previously has been dropped. We are very glad of this and it justifies the very unfavourable view which we felt bound to take of the proposals embodied in this draft Bill in a leading article in THE LANCET of Jan. 8th, 1898. Mr. Balfour said that there was a statement in the Queen's Speech which amounted to an assurance that something would be done and therefore he was puzzled to know why such an amendment was proposed. In the end the amendment was defeated and it was practically the last of any importance before the Address from the throne was formally agreed to. It is curious that the petitions praying for early legislation in this matter should have come from the rural districts, but we think that the explanation probably is that home producers feel the unfair competition of imported adulterated articles very keenly. A satisfactorily amended measure is therefore doubly demanded, first in the interests of the health of the community and secondly in the interests of honest trading.

DEATH AND UNQUALIFIED PRACTICE.

IT is cruel in the law to allow unqualified men to pose as regular practitioners and go through all the forms of medical attendance and practice among the poor. The poor are deceived by such conduct and entrust their own lives and those of their children to such false practitioners often with fatal consequences. A case in point has just been investigated at Brightside. A boy, aged thirteen years, was taken ill and the mother had to stay at home to nurse him. She called in one Mr. J. Hope Allan, believing him to be qualified, who pronounced the patient to be suffering from rheumatism and charged sixpence. After the lapse of two precious days and on the advice of the unqualified attendant the poor-law medical man was called in—Dr. James A. Milne, assistant to Mr. Longbottom. He diagnosed double pneumonia and the boy died with a temperature of 108° F. an hour after Dr. Milne's visit. The diagnosis was confirmed by a post-mortem examination. This is an illustration of cheap fraudulent sixpenny medical practice which is a disgrace to our law and to our civilisation. The jury found a verdict in accordance with the evidence and added a rider "that they were of opinion that had the deceased been seen on the Saturday previous to death by a properly qualified medical man there was a possibility of saving life." We leave such a pitiable case to the reflection of our representatives in Parliament who are responsible for the present state of the law.

"HEREDITY IN RELATION TO LIFE ASSURANCE."

THERE are several most interesting points concerning heredity in relation to life assurance discussed in Dr. Hermann Weber's presidential address delivered to the Life Assurance Medical Officers' Association at the first meeting this year. He first points out that the non-appearance of disease in the different children must not be regarded as proof that they had not inherited any particular disease from their ancestors. Occupation, manner of living in general, or climatic influences may prevent the development of the disease in one generation and yet it may reappear with all virulence in the next. Dr. Weber proceeds to make some remarks on a kind of heredity which is not always taken sufficiently into consideration—the heredity of the duration of life. He divides people into three classes: (*a*) In the majority of families the average duration prevails; the greater number of members who reach adult life die between sixty and seventy-two years of age, unless some infectious diseases or other unfavourable circumstances produce an earlier death. This large division was not discussed. (*b*) Long-lived families. In a smaller proportion of families is found a tendency to very long lives—viz., from seventy-five to ninety years and more. Infectious diseases and other accidents sometimes likewise cut these lives short, but they frequently survive even these, while the possessors of average lives succumb to them. The latter, for instance, mostly die if they contract typhoid fever after the age of fifty-five or sixty years, while Dr. Weber has seen five cases of recovery from this disease in persons the ages of between sixty-two and sixty-eight years. These long-lived families are of great and profitable importance to insurance

From these facts Dr. Crocker would appear to infer that if the pits were found infected they must have received their infection prior to the notification of the cases—i.e., thirteen months previously. Professor Delépine employing the usual methods was unable to isolate the enteric fever bacillus from the other bacteria present, but by taking advantage of the motility of the bacillus and by employing a special method, all the details of which he has not yet made public, he was enabled to obtain colonies of the bacillus in question. This discovery of the enteric fever bacillus in the walls of a privy-midden is one of considerable importance, and we shall await the results of further work in this direction with much interest. What, however, does the discovery in this instance teach us? The inference that the pits were infected thirteen months before the discovery of the bacillus is, it appears to us, not a legitimate one. Presumably the pits were in use during the thirteen months here referred to, and the fact that no case of enteric fever was notified in connexion with these pits during this period can only be accepted as meaning that no case of the disease was recognised. To assume that notification is instrumental in telling us of all cases of infectious disease is to assume that the science of diagnosis has reached a state of perfection to which we fear it can hardly lay claim. Then again there arises the question as to whether the discovery teaches us that the bacillus can maintain its existence in a privy-midden or whether it can only survive when it gains access to the organically polluted earth which probably exists between the bricks of an ordinary privy-pit. Under any circumstances the results of Professor Delépine's investigations are highly interesting and we should like to see them applied to fæcal matter taken from the contents of a privy-midden. That the bacilli can exist under these circumstances for a limited period is certainly probable from an etiological standpoint, since the evidence as to the influence of the dried contents of privy-middens in the causation of enteric fever is decidedly strong.

THE ARMY ESTIMATES FOR 1898-99.

A GOOD many people who do not commonly consult the Army Estimates will probably refer to them with some interest and curiosity at the present time; but it is to the explanatory memorandum of the Secretary of State for War and not to the Estimates that they will mostly turn, in the belief that it is in this memorandum, if anywhere, that the intentions of the Government in regard to the army will be found. Moreover, it is not everyone who has the courage to charge a *chevaux de frise* of figures or the time and patience required to encounter an attempt to analyse them. Lord Lansdowne has mainly followed the lines which he has already laid down in his speeches and his steps in this direction are those advocated by the more prominent of recent army reformers. Whether the War Minister has gone far enough is another matter, but as the subject will soon be thoroughly thrashed out in Parliament we need not enter upon this at present. We gather that the principle of the double battalion system is to be adhered to and that a large accession to the strength of the army will be made, for which purpose a large number of recruits will be necessary. In order to procure these the War Minister has, of course, to endeavour to increase the popularity of the army and to offer better terms to the classes from which recruits are obtained. A certain number of men will as an experiment be allowed to enlist in the Infantry of the Line for a term of three years with the colours, with the option of extending such service to seven years. In effect the soldier is in future to have a clear shilling a day, but this increase will be received only by men who are nineteen years of age and are efficient and will not be given to men enlisted for three years' colour service. A scheme for providing volunteers for military service in small wars from the reservists is to be brought forward and a number of other matters are discussed into which we need not enter. Those who are interested in the subject have already had an opportunity of reading Lord Lansdowne's memorandum for themselves. Turning to the Army Estimates we cannot find, as far as the figures tabulated under the headings of the different votes are concerned, any clue to the intentions of the War Office regarding the army medical service. The pay, &c., of the medical establishment in the Abstract of Army Estimates (effective services) for 1898-99 is set down as £295,800 net, the same as last year. The sum estimated for pay of militia medical officers and civilian medical practitioners in 1898-99 is £14,500, as against £10,600 in 1897-98. The Medical Staff estimated for in 1898-99 is 953, of which number 335 are on the Indian establishment. The total pay of the Medical Staff, British establishment, is given as £174,320 home and £54,780 colonial; the estimate for 1898-99 being £229,100, as against £233,200 for 1897-98. The estimate for the Army Medical School, Netley, is £8150, as compared with £7900 in 1897-98.

THE UNIVERSITY OF LONDON COMMISSION BILL.

THE Duke of Devonshire has lost no time in redeeming one of the promises given by the Government of future legislation. On Monday evening last His Grace introduced into the House of Lords a Bill for the reconstitution of the University of London on lines that are familiar to all readers of THE LANCET. The Bill was read for the first time and being brought on the *tapis* in this manner at the beginning of the session has certainly a chance of surviving until the attainment of a practical issue. There will be opposition, much of it honest and well organised, some of it racial, religious or greedy; but as both political parties have at different times promised to support a measure having for its object the reconstitution of the University of London we cannot but hope that legislation will at last put an end to the present chaotic condition of things and the friction necessitated by the protracted struggle. We shall print the Bill in an early issue of THE LANCET with such comments upon it as we think necessary for its elucidation.

VACCINATION LEGISLATION AND THE JENNER SOCIETY.

A MEMORIAL to the President of the Local Government Board is being promoted by the Jenner Society and has already been influentially signed in the county of Gloucester. The memorialists urge: (1) the need for early legislation "with the view of so ordering the practice of vaccination that whilst reasonable regard shall be shown to parental objections the safety of the community shall not be seriously jeopardised"; (2) that the concession to conscientious objection should be in the form of temporary suspension of the legal requirements, (3) the obligation being revived at school age, or if further suspended, (4) again enforced when the child is about to leave school. The memorial (5) also urges the enforcement of re-vaccination about the age of twelve years and the continuance of the practice for all persons entering the public service. Lastly (6), the transference of vaccination from Poor-law boards to sanitary authorities is advocated. From the report of the Executive Committee of the Jenner Society for 1897 we regret to learn that from lack of resources the society is unable adequately to perform the task it set itself—namely, that of enlightening the public as to the value of vaccination and the correction of misstatements by objectors. We trust that the proposal to reorganise the society and extend its limits will be successful, yet past experience shows that save in times of small-pox invasion the public are wont to be very apathetic on the question. We do not, however, think that it is either desirable or seemly for the medical profession to take a prominent part in such propagandism, partly because of the opportunity thus given to the baseless and calumnious assertion that the profession are guided in their advocacy solely by their financial interest in the maintenance of the practice. We can, however, show by precept and example that our confidence in Jenner's discovery is unshaken and is firmly founded and if the people at large prefer to follow the lead of ignorant and prejudiced advocates they must reap the consequences of their folly. On the other hand we feel persuaded that the British people in general will not be so deluded and that they will rally to the support of a movement which appeals to their self-interest as it does to their philanthropy.

NERVE CELLS IN ALCOHOLIC NEURITIS.

IN the *Comptes Rendus des Séances de la Société de Biologie* Déjerine recently related an interesting observation. A man given to considerable alcoholic indulgence began to suffer at the age of forty-one years from severe multiple neuritis affecting all four extremities. There was considerable atrophy with contractures and general hyperæsthesia. In the course of the next three years there was slow improvement, so that the upper extremities again became normal. The lower, however, remained as before, completely paralysed. In the following year death ensued as a result of cirrhosis of the liver. Microscopical examination revealed considerable alterations in the cutaneous and motor nerves. The spinal cord, examined by Nissl's, Marchi's, and the Weigert-Pal method, revealed no alterations in the cells or in any other part and the case shows that in spite of very great alteration in the peripheral nervous system the anterior cornual cells may remain unaffected in alcoholic paralysis.

THE GENERAL MEDICAL COUNCIL AND DENTAL EDUCATION.

A CORRESPONDENT sends us a long communication on the subject of the General Medical Council and Dental Education. In the course of his remarks he states that the question of dental education has never received the careful consideration it deserves by discussion between representatives of the various schools concerned and at the gatherings of the British Dental Association. He maintains that dentistry possesses such possibilities as to constitute it a *distinct profession*, although requiring many elements of medical science. He enters a protest against the suggestion that dental practitioners should take a medical qualification and makes the somewhat futile remark that it might as well be suggested that all surgeons should take a dental qualification. The period of study allotted to the curriculum—namely, from four to five years—he considers none too long, but suggests pruning the general side, and this he thinks can be done, not only by the limitation and better arrangement of attendance at the general hospitals, but by insisting on special courses of lectures being given by the lecturers in general medicine and surgery and in general anatomy and physiology confined to the enunciation of general principles as detailed consideration of the direct and indirect influence on local conditions. He would like to see added a course on general pathology and an elementary course on biology as the latter will give the student a greater interest in dental anatomy. Further study of dental materia medica, metallurgy, physics, electricity, jurisprudence, and bacteriology he considers desirable. The question of dental representation on the General Medical Council is then referred to and he maintains that the only qualification for such a representative should be the L.D.S. The views held by our correspondent are by no means in accord with our own upon this important subject and although space will not enable us to discuss the question fully we feel that any curtailment of the general side of the curriculum can only be extremely detrimental to dental education. Dentistry is something more than the mere filling of a tooth or insertion of an artificial denture and every day brings to light fresh facts which tend to show that dental disease is much more closely related to general systemic conditions than is usually considered to be the case and it is therefore not difficult to see that for a dentist to carry out his profession in anything like an intelligent manner he must certainly have a good sound knowledge of the whole body both in health and disease.

THE MEDICAL SCHOOL OF CAMBRIDGE UNIVERSITY.

A MEETING is to be held at the Rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, W., on Wednesday next, March 2nd, at 4.30 P.M., to discuss the question of raising funds in aid of the Medical School Buildings at Cambridge and to form a committee to act in the matter. Dr. W. H. Dickinson will take the chair and the Right Hon. A. J. Balfour, M.P., Professor Jebb, M.P., Professor Clifford Allbutt, Professor Michael Foster, and others will address the meeting. The Vice-Chancellor and the Right Hon. Sir John Gorst, M.P., will also be present and it is hoped that all medical graduates of the University and others interested in the progress of the school will be able to attend.

THE BILLS FOR THE WATER BILLS OF THE LONDON COUNTY COUNCIL.

A RETURN has been asked for by an order of the House of Commons which should show the amount expended by the London County Council upon the question of the metropolitan water-supply since the year 1890—

> (*a*) In prosecuting and conducting inquiries and negotiations relative to the supply of water, or companies supplying water, in or near the Administrative County of London, under the London Council (General Powers) Act, 1890 [53 & 54 Vict. c. ccxliii], section 38, which sum was limited to £5000;
>
> (*b*) In making inquiries as to the existing supply of water within the metropolitan water area and the charges made for the same and as to the possible sources of supply under the London Water Act, 1892 [55 & 56 Vict. c. cxxx.], which was limited by section 3 to a sum of £10,000 in addition to the sum which the Council were authorised to pay for similar purposes by section 38 of the London Council (General Powers) Act, 1890, above mentioned;
>
> (*c*) Distinguishing any sums expended upon like purposes during the period in question which may have been considered as properly applicable to the cost of the promotion of any Bills in Parliament dealing with the general question of water-supply within the whole of the metropolitan water area.

The return has now been presented to the House, which shows that under (*a*) £5000 has been spent and under (*b*) £7026 0*s*. 1*d*. With regard to (*c*) the return says:—

> Sums expended upon like purposes during the period in question which may have been considered as properly applicable to the cost of promotion of any Bills in Parliament dealing with the general question of water-supply within the whole of the metropolitan water area, the Comptroller of the London County Council states as follows: There are no sums expended under heads (*a*) and (*b*) which are to be "distinguished" as properly applicable to the cost of the promotion of Bills in Parliament, but as the Council are anxious to avoid any misapprehension that might arise if they confined themselves strictly to the information asked

> for I am directed to add that the total sum expended by the council in promoting Bills in Parliament relating to the supply of water in the administrative county of London has amounted to £29,900 13*s.* 3*d.*, and this sum is additional to the sums specified above.

These are, of course, large figures, but the interests at stake are so colossal that an expenditure of £40,000 cannot be regarded as wanton extravagance and the party politicians who take such a view are either badly informed or careless of any but party interests.

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Among the multiplicity of subjects which the School Board teaches, or tries to teach, are natural philosophy and mechanics. Under one or other of these headings it might impress upon the minds of children that if an engine-driver comes into contact with a stone when he is going sixty miles per hour the effect is the same as if he were to stand still and be hit by the same stone travelling at the same rate. We earnestly hope that the disastrous consequences mentioned in the circular may include a smart application of the birch-rod to that portion of the body which has been generously supplied by Providence with some sixteen different sensory nerves.

THE GREAT NILE DAMS.

THE most important thing in Egypt is without question the Nile, for if that famous river were to dry up or be diverted from its present channel the result would be speedy destruction throughout the entire land of all animate creatures except the rare forms than can survive in a waterless desert. As a habitable country Egypt owes its existence solely to the Nile. Without water man cannot live, and save for the supply brought down from Central Africa and Abyssinia the essential fluid is nowhere obtainable. The Nile feeds all wells and springs and even in the deep borings that have lately been carried out with considerable success the fountain-head is still the same. When an entire population numbering between 8,000,000 and 9,000,000 souls is dependent on one single source for its potable water every effort ought to be made to maintain the purity of that source, but unfortunately in Egypt this is far from being the case. On the contrary, the river and its derivatives are converted into common sewers, being habitually made the receptacles for ordure and filth of every description. As long as the stream flows rapidly the effects of this abominable pollution are not marked, but when the current grows slack the quality of the water quickly deteriorates, and when, as so constantly occurs during the summer, the flow ceases altogether the contents of the stagnant pools become not only offensive to the smell but absolutely poisonous, little children in particular succumbing in appalling numbers. Such being the disastrous condition of things in a country with which nature has dealt so bountifully the news that at last a contract for the construction of two great dams for the storage and control of the water of the Nile has been concluded with an English firm will rejoice the hearts of all sanitarians who take an interest in Egyptian matters. Although intended primarily for irrigation purposes during the low-Nile season the water held up behind these dams which would otherwise run to waste into the Mediterranean Sea will also most effectually subserve the interests of hygiene by sweeping away all accumulations of refuse and putting an end to stagnation. When the Assuan reservoir with its head of forty-six feet of water is complete and in operation there should certainly be an improvement in the death-rate of infants during the Egyptian summer.

CHARGES TO PATIENTS IN ISOLATION HOSPITALS.

DR. M. YOUNG has forwarded us a copy of his paper (reprinted from the *Medical Magazine*, October and November, 1897) on Charges to Patients in Isolation Hospitals. Dr. Young is medical officer of health and medical superintendent of the corporation hospitals in the borough of Crewe. Like most other medical officers of health he approves of making the admission of patients of all classes into isolation hospitals easy and argues that the law does not sanction any other charge than one that covers bare maintenance. He thinks that ratepayers should be admitted to "their own hospitals"—a misleading expression. They are no more entitled to be admitted to their own hospitals than to their own workhouses. They should prove fitness and especially their inability to secure isolation at home. At least, this is our reading of the law. It is painful to read in Dr. Young's paper the proofs of the eagerness of the public to avail themselves of isolation and medical treatment at the public expense. Thus Mr. Gornall, medical officer of health of Warrington, is quoted: "Years ago we had endless difficulty in getting patients into the hospital. Whether it was owing to our then charging for treatment, or to sentiment, or to prejudice, I cannot say, but since we declared the hospital free there is no objection even by the well-to-do to the removal of cases." Dr. Herbert Manley, medical officer of health of West Bromwich, says: "Our neighbours tried to collect for charges of maintenance, &c., but the effect on the removals was so great that they abandoned it. People will use the hospitals gratis but they won't pay." Such sentences are very interesting from a sociological point of view and suggest that our isolation hospitals, unless regulated, as they were meant by law to be, by the Local Government Board, may become a powerful means of demoralisation to classes that would shudder to be considered as paupers.

INFANTILE DIARRHŒA.

AN interest, always fresh if not always the happiest, attaches to the pathology and the treatment of diarrhœa especially in childhood. Its varying causation, its difficulties, the sudden and rapid improvement which even in desperate cases has often rewarded its judicious management suffice to explain why this disease has so frequently been treated in the monographs of practitioners. By one or other of these a variety of dietary and medicinal measures have been extolled from time to time each in different ways illustrating rules of treatment which are successful because they are founded on a rational pathology. The questions before us in such cases do not concern merely a choice of drugs. The value of many such may be freely admitted, but this is not enough. Our first duty is rather to ascertain the stage of the disorder, the presence or absence of irritant matters in the bowel, and to decide as to the means of their removal if present. Even this last, though an apparently rational proceeding, is not always immediately advisable, since nature may already have exerted her energies to exhaustion. The routine aperient is not then appropriate. So with astringent remedies; now it is chamomile, now bismuth, now rhubarb and opium, now another. Each case is its own evidence, though it is none the less indebted to the practitioner's experience of others like it. In giving bismuth the best rule is to give it freely. Dr. A. C. Dutt in a short paper on this subject speaks highly of tincture of chamomile, which he found invaluable in a recent epidemic of infantile diarrhœa. A suitable diet is of course of the first importance in diarrhœa. How often the disorder is kept up in infancy by a persistence in milk diet has frequently been proved. In such cases a temporary cessation of milk and the adoption of raw meat juice in its place has repeatedly turned the tide of illness towards recovery. These three points therefore—the removal of irritant matter if practicable by a moderate purge or enema, the use of bland astringents, and the careful regulation of diet—constitute the substance of treatment in diarrhœa. More precise details must be left to the judgment and experience of the practitioner to whom each case is an individual microcosm of instruction.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON: THE LECTURES FOR 1898.

THE following dates have been fixed and subjects have been announced for the official lectures of the year. The Goulstonian Lectures will be delivered by Dr. J. Rose Bradford, F.R.S., on March 15th, 17th, and 22nd on the Pathology of the Kidneys; the Lumleian Lectures will be delivered by Sir R. Douglas Powell on the Principles which Govern Treatment in Diseases and Disorders of the Heart; and the Milroy Lectures will be delivered on May 3rd, 5th, and 10th on the Natural History of Vaccinia by Dr. S. Monckton Copeman. We regret to hear that the delivery of the Milroy Lectures, which was arranged for next week, has been postponed owing to the illness of Dr. Copeman. The lectures will be delivered at the college at 5 P.M. on the respective Tuesdays and Thursdays indicated by the dates.

INQUESTS WITH UNSATISFACTORY RESULTS.

Two inquests have recently been held by the deputy coroner at Poole, Dorset. The deputy coroner is a medical man, Mr. W. Turner, and although we have always said, and always shall say, that a coroner ought to be a medical man, it seems to us that in both these inquests the primary object of an inquest—namely, the ascertaining of the cause of death—was not attained. The first inquest was held on Feb. 10th on the body of an infant, aged one year and nine months. It was said to have been delicate from its birth and was blind. It had been suffering from a cold, and the mother sent for Mr. Carrington, but the child died before he arrived. The jury returned a verdict of "Death from natural causes." No medical evidence was called or given at this inquiry. The second inquest, held on Feb. 15th, also by the deputy coroner, was on the body of a child aged two years and nine months. This child, according to the mother, had always been delicate. The boy had a cough on Feb. 13th and was given some cough mixture and also some milk and port wine. On Monday morning the child seemed to have a fit and the mother sent for Mr. Bond, but the child died before he arrived. The coroner is reported as saying that he thought the milk and port wine were calculated to cause sufficient nervous irritation to produce convulsions, which were doubtless the cause of death, together with the fact that the child was in a rickety condition. The jury returned a verdict that death was due to convulsions, the result of improper food being ignorantly administered, and that the parents had been guilty of neglect in not obtaining medical attendance. At this inquest there was no post-mortem examination made or any medical evidence called. A verdict of death from convulsions is a useless one—nearly every person has convulsions of some sort before death—and we should much like to for I am directed to add that the total sum expended by the council in promoting Bills in Parliament relating to the supply of water in the administrative county of London has amounted to £29,900 13*s.* 3*d.*, and this sum is additional to the sums specified above.

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THE most important thing in Egypt is without question the Nile, for if that famous river were to dry up or be diverted from its present channel the result would be speedy destruction throughout the entire land of all animate creatures except the rare forms than can survive in a waterless desert. As a habitable country Egypt owes its existence solely to the Nile. Without water man cannot live, and save for the supply brought down from Central Africa and Abyssinia the essential fluid is nowhere obtainable. The Nile feeds all wells and springs and even in the deep borings that have lately been carried out with considerable success the fountain-head is still the same. When an entire population numbering between 8,000,000 and 9,000,000 souls is dependent on one single source for its potable water every effort ought to be made to maintain the purity of that source, but unfortunately in Egypt this is far from being the case. On the contrary, the river and its derivatives are converted into common sewers, being habitually made the receptacles for ordure and filth of every description. As long as the stream flows rapidly the effects of this abominable pollution are not marked, but when the current grows slack the quality of the water quickly deteriorates, and when, as so constantly occurs during the summer, the flow ceases altogether the contents of the stagnant pools become not only offensive to the smell but absolutely poisonous, little children in particular succumbing in appalling numbers. Such being the disastrous condition of things in a country with which nature has dealt so bountifully the news that at last a contract for the construction of two great dams for the storage and control of the water of the Nile has been concluded with an English firm will rejoice the hearts of all sanitarians who take an interest in Egyptian matters. Although intended primarily for irrigation purposes during the low-Nile season the water held up behind these dams which would otherwise run to waste into the Mediterranean Sea will also most effectually subserve the interests of hygiene by sweeping away all accumulations of refuse and putting an end to stagnation. When the Assuan reservoir with its head of forty-six feet of water is complete and in operation there should certainly be an improvement in the death-rate of infants during the Egyptian summer.

CHARGES TO PATIENTS IN ISOLATION HOSPITALS.

DR. M. YOUNG has forwarded us a copy of his paper (reprinted from the *Medical Magazine*, October and November, 1897) on Charges to Patients in Isolation Hospitals. Dr. Young is medical officer of health and medical superintendent of the corporation hospitals in the borough of Crewe. Like most other medical officers of health he approves of making the admission of patients of all classes into isolation hospitals easy and argues that the law does not sanction any other charge than one that covers bare maintenance. He thinks that ratepayers should be admitted to "their own hospitals"—a misleading expression. They are no more entitled to be admitted to their own hospitals than to their own workhouses. They should prove fitness and especially their inability to secure isolation at home. At least, this is our reading of the law. It is painful to read in Dr. Young's paper the proofs of the eagerness of the public to avail themselves of isolation and medical treatment at the public expense. Thus Mr. Gornall, medical officer of health of Warrington, is quoted: "Years ago we had endless difficulty in getting patients into the hospital. Whether it was owing to our then charging for treatment, or to sentiment, or to prejudice, I cannot say, but since we declared the hospital free there is no objection even by the well-to-do to the removal of cases." Dr. Herbert Manley, medical officer of health of West Bromwich, says: "Our neighbours tried to collect for charges of maintenance, &c., but the effect on the removals was so great that they abandoned it. People will use the hospitals gratis but they won't pay." Such sentences are very interesting from a sociological point of view and suggest that our isolation hospitals, unless regulated, as they were meant by law to be, by the Local Government Board, may become a powerful means of demoralisation to classes that would shudder to be considered as paupers.

INFANTILE DIARRHŒA.

AN interest, always fresh if not always the happiest, attaches to the pathology and the treatment of diarrhœa especially in childhood. Its varying causation, its difficulties, the sudden and rapid improvement which even in desperate cases has often rewarded its judicious management suffice to explain why this disease has so frequently been treated in the monographs of practitioners. By one or other of these a variety of dietary and medicinal measures have been extolled from time to time each in different ways illustrating rules of treatment which are successful because they are founded on a rational pathology. The questions before us in such cases do not concern merely a choice of drugs. The value of many such may be freely admitted, but this is not enough. Our first duty is rather to ascertain the stage of the disorder, the presence or absence of irritant matters in the bowel, and to decide as to the means of their removal if present. Even this last, though an apparently rational proceeding, is not always immediately advisable, since nature may already have exerted her energies to exhaustion. The routine aperient is not then appropriate. So with astringent remedies; now it is chamomile, now bismuth, now rhubarb and opium, now another. Each case is its own evidence, though it is none the less indebted to the practitioner's experience of others like it. In giving bismuth the best rule is to give it freely. Dr. A. C. Dutt in a short paper on this subject speaks highly of tincture of chamomile, which he found invaluable in a recent epidemic of infantile diarrhœa. A suitable diet is of course of the first importance in diarrhœa. How often the disorder is kept up in infancy by a persistence in milk diet has frequently been proved. In such cases a temporary cessation of milk and the adoption of raw meat juice in its place has repeatedly turned the tide of illness towards recovery. These three points therefore—the removal of irritant matter if practicable by a moderate purge or enema, the use of bland astringents, and the careful regulation of diet—constitute the substance of treatment in diarrhœa. More precise details must be left to the judgment and experience of the practitioner to whom each case is an individual microcosm of instruction.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON: THE LECTURES FOR 1898.

THE following dates have been fixed and subjects have been announced for the official lectures of the year. The Goulstonian Lectures will be delivered by Dr. J. Rose Bradford, F.R.S., on March 15th, 17th, and 22nd on the Pathology of the Kidneys; the Lumleian Lectures will be delivered by Sir R. Douglas Powell on the Principles which Govern Treatment in Diseases and Disorders of the Heart; and the Milroy Lectures will be delivered on May 3rd, 5th, and 10th on the Natural History of Vaccinia by Dr. S. Monckton Copeman. We regret to hear that the delivery of the Milroy Lectures, which was arranged for next week, has been postponed owing to the illness of Dr. Copeman. The lectures will be delivered at the college at 5 P.M. on the respective Tuesdays and Thursdays indicated by the dates.

INQUESTS WITH UNSATISFACTORY RESULTS.

Two inquests have recently been held by the deputy coroner at Poole, Dorset. The deputy coroner is a medical man, Mr. W. Turner, and although we have always said, and always shall say, that a coroner ought to be a medical man, it seems to us that in both these inquests the primary object of an inquest—namely, the ascertaining of the cause of death—was not attained. The first inquest was held on Feb. 10th on the body of an infant, aged one year and nine months. It was said to have been delicate from its birth and was blind. It had been suffering from a cold, and the mother sent for Mr. Carrington, but the child died before he arrived. The jury returned a verdict of "Death from natural causes." No medical evidence was called or given at this inquiry. The second inquest, held on Feb. 15th, also by the deputy coroner, was on the body of a child aged two years and nine months. This child, according to the mother, had always been delicate. The boy had a cough on Feb. 13th and was given some cough mixture and also some milk and port wine. On Monday morning the child seemed to have a fit and the mother sent for Mr. Bond, but the child died before he arrived. The coroner is reported as saying that he thought the milk and port wine were calculated to cause sufficient nervous irritation to produce convulsions, which were doubtless the cause of death, together with the fact that the child was in a rickety condition. The jury returned a verdict that death was due to convulsions, the result of improper food being ignorantly administered, and that the parents had been guilty of neglect in not obtaining medical attendance. At this inquest there was no post-mortem examination made or any medical evidence called. A verdict of death from convulsions is a useless one—nearly every person has convulsions of some sort before death—and we should much like to know why no medical evidence was called. It was all the more necessary in this case for the parents of the child, according to the coroner, were within measurable distance of being tried for manslaughter. For a court to find that a death arose from convulsions upon the sole evidence of two non-medical people is to bring such court into disrepute.

"A MISERABLE PIECE OF EXTORTION."

> " But when ...... he seeks his fee
> The devil looks less terrible than he."

His Honour Judge Emden has been several times commended in these columns for his action with regard to the modern method of taking the oath. But we are sorry to see in the report of a case which came before him recently that he does scant justice to the medical profession. The case was tried on Feb. 15th at the Lambeth County Court and was an action brought by a woman against the owner of a house where the plate covering the coal-cellar was out of order. Mr. Colam appeared for the defendant and read a letter from Dr. R. P. Rowlands, the house surgeon at Guy's Hospital, who attended to the woman. This letter embodied a report upon the patient's condition and Dr. Rowlands incidentally mentioned that he generally did not send in these reports without first receiving his fee, but upon this occasion he did so. The fee was two guineas. Judge Emden remarked that the fee was too much and went on to say that "for a responsible professional man in a hospital to exact these high fees from the poor is shameful. It is a miserable piece of extortion of which this is not the first instance that has come under my notice." Evidently his Honour, like Mrs. Gilpin, has a frugal mind. Surely if a patient is rich enough to bring an action he or she is rich enough to pay for a medical report. We are quite certain that the plaintiff's counsel did not act for her for nothing and why should he? But in this case the report was not drawn up for the poor plaintiff but for the rich defendant, so the extortion plea falls to the ground. Lawyers never work for nothing and why should medical men? Drawing up this report was quite outside Dr. Rowlands's hospital duties and there is no doubt whatever that he is entitled to his fees.

THE NINTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

La Higiena Popular of Madrid announces that all the Spanish railway companies and the Spanish transatlantic steamship companies have agreed to grant a reduction of 50 per cent. in the cost of tickets to all members attending the forthcoming International Congress of Hygiene and Demography. To obtain this reduction in the railway and steamship fares the members of the Congress must show at the booking-office a *cédula de identificación*. This paper or card of identification will be forwarded by the general secretary of the Congress to all who have paid the fee of membership. This fee, amounting to 25 pesetas, or £1, should be forwarded at once to the treasurer of the Congress, Señor D. Pablo Ruiz de Velasco, President of the Madrid Chamber of Commerce, Member of the Municipal Board of Health, &c., Madrid. A similar reduction in the cost of freight is granted for all objects sent to the Exhibition of Hygiene to be held in connexion with the Congress. As we have already announced in The Lancet of Jan. 8th, 1898, Dr. Amalio Gimeno is the general secretary of the Congress and communications should be addressed to him at the Ministry of the Interior, Madrid. The Congress is represented in England by Sir Douglas Galton, Dr. Corfield, and Dr. Moline, and we hope that these gentlemen will be successful in their efforts to secure the presence at Madrid of numerous representatives of British sanitary science. In continental text-books on hygiene the sanitary progress accomplished in Great Britain is frequently mentioned and lengthily described. Those who contributed to bring about such progress will be expected to give some account of the good work they have helped to accomplish, and on this occasion it may well be said *noblesse oblige*. The time is now rapidly approaching when the Congress will meet and it is not fair to the organisers to leave everything to the last moment. Those willing to speak or read papers should therefore send in their names and subjects at once. The Congress will commence on April 10th and will last till the 17th, but the Exhibition of Hygiene will remain open for three months. Written communications must be sent before March 15th. They may be written in Latin, Spanish, Portuguese, Italian, French, English, or German, but must be accompanied with a short summary written either in Spanish or in French. These summaries should be forwarded immediately, for it is proposed to publish them and send them to all members of the Congress before the meeting of the Congress. The members will thus have some knowledge of the principal points and arguments to be brought forward before the Congress meets and will therefore be better able to take part in the discussions. Again we urge that there is now no time to lose and that intending members must send a notification of their intentions and subscriptions at once together with a summary (written either in French or Spanish) of the papers which they intend to read.

Dr. W. S. Playfair, having reached the age limit, will retire from the duties of the chair of Obstetric Medicine and the Diseases of Women and Children at King's College, together with those of the appointment of physician for diseases of women and children and physician accoucheur at King's College Hospital, at the end of the winter session. Dr. Playfair has been connected with King's College and King's College Hospital for the past thirty-five years.

The Fellows of the British Balneological and Climatological Society will dine together at Limmer's Hotel, Conduit-street, at 6.45 p.m. on Wednesday next, March 2nd, previously to the ordinary meeting of that date. Those intending to dine should communicate with the secretaries, Dr. Septimus Sunderland, 11, Cavendish-place, W., and Mr. A. A. Macfarlane, 1, Montpelier-terrace, Brighton, before March 1st.

Dr. James Cantlie will deliver an address on the Organisation of the Colonial Department at the Imperial Institute on Wednesday afternoon next, March 2nd, the paper forming an introduction to a discussion on the subject. The chair will be taken at 3 30 p.m. by Sir Joseph Fayrer.

The death is announced at Cairo on Feb. 23rd of Sir James Mackie, K.C.M.G., LL.D., M.B. Aberd. The deceased was born in 1838 and was physician to the Khedive and surgeon to the British Consulate.

The Lord Mayor will preside at the Mansion House on the afternoon of Feb. 28th over the annual meeting of supporters of the Royal Hospital for Children and Women, Waterloo-bridge-road, S.E.

Miss Florence Eva Morgan, the acting lady superintendent of the General Plague Hospital and Nursing Establishment, Bombay, has died in that city from the plague.

The Acting Governor of Jamaica has reported by a despatch dated Jan. 31st that the island was at that date entirely free from yellow fever.

NOTES ON THE

NIGER-SOUDAN CAMPAIGN OF 1896-97.

By R. Horace Castellote, M.D. Lond.,
F.R.C.S. Eng.,
LATE EXPEDITIONARY MEDICAL OFFICER TO THE
ROYAL NIGER COMPANY.

(*Concluded from page 457.*)

General Hygiene and Sanitation.

With one or two exceptions we only occupied each camp for one night at a time. On our return marches the same camps were reoccupied, but the interval which elapsed was sufficient for the kites, ants, and other scavengers of nature to clear the ground of all that was offensive and render these camps as good if not better than new ones without the labour of clearing the ground of undergrowth. In the camp outside Bida, which we occupied for three days and also to a less extent in Bida itself, where we stayed four days, the difficulties of keeping the camp healthy were very great. The whole force at the former position was necessarily for military purposes huddled together as close as possible, as we had to keep the square formation. The condition of affairs in consequence became so unbearable for the white men that it was found necessary at the end of the second day to remove the officers' tents a short distance outside the lines, though even then the position was anything but agreeable. Several causes contributed to this trouble. In the first place we were encamped on the scene of a two days' battle and though the bodies of most of the enemy killed had been removed by their friends in their retreat and at night, there were many fragments of dead men and horses scattered about within a short distance of the camp which in the intense heat of the tropics began to decompose in a very few hours. In addition, the early reconnoitring parties into Bida and the surrounding villages had returned with large quantities of livestock which were eagerly seized by both troops and carriers, to whom a good meat meal is a great luxury. The killing and disembowelling of these took place in the camp and no attempt was made by the natives to cover up or dispose of the offensive refuse, which consequently in a few hours began to contribute to the malodorous condition of the surroundings. The natives also were very lax in the matters of nature. Either from indifference or fear they could not be induced, especially at night, to wander more than a few yards from the lines, and though the officers all did as much as they could to enforce more care in this and other objectionable practices it was impossible for a mere handful of thirty-two white men to wean more than 1000 natives from ingrained habits of filth and beastliness in a few days.

One of the most disagreeable results of this insanitary condition was a terrible visitation of the common fly, which infested every place, and its powers of biting were greatly superior to those possessed by flies of home production, more resembling the sting of a bee but without the resulting inflammatory reaction. If the theory of the infection of micro-organisms by flies is correct it is a wonder that we did not all suffer severely from boils, &c., but as it was no bad results followed the visitation. It was fortunate that we were able to vacate this position on the third day as I fear we should have undoubtedly had some serious epidemic had we stayed there much longer. As regards the possibly bad results of this camp on the natives I shall have more to say under the head of "dysentery."

In the town of Bida itself the military conditions were much more favourable to the carrying out of sanitary regulations. The enemy had evacuated the place and retired many miles from the town, so that more space was available for the arrangement of the camp, and one great advantage was that the carriers were segregated a short distance from the white men and troops in a compound by themselves. In addition separate buildings and compounds were set apart for the stabling of livestock, for killing, and for latrines, all more or less remote from the camp, and each provided with a military guard. Guards were also mounted over wells that we considered unwholesome. The other wells were allotted to the different sections of the force. So that with all these arrangements the condition of affairs in Bida was an improvement on that in the camp outside. But we were followed by a strong contingent of the flies, which at the end of our stay in the town became almost as troublesome as they had been before. I fear also that in spite of the improved methods of sanitation the healthy state would not have survived many days longer, as when we were leaving the odours of decomposing animal matter in the surrounding compounds were already beginning to make themselves objectionable.

Diseases.

The climate of the Royal Niger Company's territories can hardly be considered a healthy one. But the prevalence of disease varies considerably in the different parts. The lower river and delta regions are undoubtedly admitted to be the worst with their low elevation, thick vegetation, and moist air. As one ascends the river one comes to regions where the elevation is greater, vegetation more scanty, and where during a good part of the year the prevailing wind is the dry, hot Harmattan blowing from the north off the Sahara and often heavily charged with fine sand, giving the appearance of mist. In general terms the higher one ascends the river the less sickness there is amongst both white and black men. I have already endeavoured to show the nature of the country through which we had to pass in the several expeditions, with a comparison of the amount of disease prevailing. Throughout the campaign out of thirty-two white men engaged in the Bida expedition only one got through without having been ill in some way or other. Of those directly engaged in the expeditions we were fortunate in losing only one man from sickness, but one or two others got fairly within sight of a speedy end. Two or three officials died in the river during the time.

There seems to be no question that with more care in matters relating to exposure, food, and drink the West Coast of Africa need not have such a high mortality and consequently such an unenviable reputation among white men as it now has. The prevailing affections were malaria and gastro-intestinal troubles and of these I shall endeavour to emphasise only those points which may be considered important and unusual or in any way peculiar to the country.

Malaria.—The types of fever met with in the Niger Company's territories are most irregular. We never saw a typical ague attack with its characteristic hot and cold stages. In the remissions and intermissions there is great irregularity but most of the attacks approach the quotidian type.

As regards etiology it is generally supposed that exposure to the sun is a very potent cause of malarial attack, but in this connexion I am very much inclined to think that many short attacks of pyrexia following exposure which are usually put down to malaria are in reality mild attacks of insolation. They are quite short in duration, often lasting not more than a few hours, and with no recurrences; the usual drugs—antipyrin and quinine, so useful in malaria—are apparently ineffective in lowering the temperature and the fall when it does occur is unaccompanied by the profuse sweating that is so typical and, at the same time, so uncomfortable in the true malaria attack.

But in spite of these facts it is very possible that some malarial attacks are really brought on by exposure to the sun and in this connexion the comparative freedom of women on the west coast from malaria may have some bearing, but in the absence of careful microscopical search for the plasmodium it is difficult I think to differentiate these two nearly identical conditions. The possibility of malarial infection by water was presented by one or two facts. The only white officer who got through the campaign without an attack of some sort assured me that he had not touched a drop of unprepared water during the whole time of his stay on the Niger. He had had several attacks in East Africa at a time when he was not so convinced of the importance of this precaution. Mr. Stanley, I believe, emphasises the importance of sterilising water in combating malaria. It may be possible that the plasmodium is really introduced into the system by water, but that its manifestation as a fever attack is caused by certain atmospheric conditions. The influence of newly-disturbed virgin soil in causing fever was forcibly shown by one case. A white official in the Delta region had occasion to get a grave dug for an officer who died there. He was a man who had lived for many years in malarial climates, had had many attacks, but of late years these had been quite mild and at long intervals, and he had begun to imagine himself almost immune. The ground in which the grave was dug was moist and swampy and closely surrounded by dense vegetation and as the earth was removed the hole partly filled with water. Instead of simply giving directions to the native labourers and leaving them to complete the work he remained standing about the place superintending for two or three hours. On the following day he was down with one of the worst attacks of fever I saw, which developed the following day into the blackwater type and as nearly as possible proved fatal. He did eventually recover, with very slow convalescence, and had to leave the country.

As regards symptoms I have mentioned the great irregularity of the febrile disturbance. The onset is usually quite insidious, patients turning up complaining usually of headache or backache or of general slackness. On taking the temperature one may find it up to 103° F. or more. Amongst the most serious and troublesome cases are those with obstinate and continuous vomiting. It is most difficult to treat as the ingestion of antipyrin and quinine is almost impossible, rather tending to increase the vomiting. Even rectal medication in many of these cases is out of the question as profuse and frequent watery stools often accompany the vomiting. As in blackwater fever these bad cases do not occur in the early attacks of malaria as a rule.

The great fatality in the Niger territories and I believe in other parts of Africa from malaria is from those cases which assume the blackwater type; fortunately they are not very common, but when they do occur they make a complete wreck of the patient. It is wonderful to see in a few hours the tremendous anæmia which is produced accompanied by many of the symptoms of acute hæmorrhage, such as great restlessness and sighing respirations amounting almost to air hunger. In the absence of more accurate apparatus for examination it is difficult to say from the appearance of the urine whether the loss is due to hæmaturia or hæmoglobinuria, but I should say it is the latter. I believe it is held by some authorities that in many cases it is really hæmaturia and in the absence of more careful examination I am not prepared to deny this as regards cases in the Niger. Blackwater fever is accompanied by the other severe symptoms in ordinary malaria and here again treatment is difficult owing to the constant vomiting and diarrhœa which are commonly present.

As a general rule, during the white man's first year of residence in the Niger territories, provided he is in good health when he arrives, he suffers a few attacks of malaria of a fairly mild character which do not seriously affect his health in the intervals or on his return to Europe. The most fatal time is between this time and his third year. If he comes safely through this period he commonly experiences less severe attacks afterwards. It is doubtful whether a complete immunity is ever developed, but it is unquestionable that men who have been out five or six years often get on with only mild and occasional attacks which do not lay them up. Of course, to a certain extent this is a case of survival of the fittest, but it is found that many of these men have in their earlier days in the tropics been through severe times. It is rare for sufferers from blackwater fever to pass safely through three attacks and often they succumb in the second. The first attack is frequently not fatal but necessitates a prolonged holiday for convalescence.

The diagnosis of some cases from sunstroke I have already touched upon. The diagnosis of malaria from dysentery is by no means as easy as one might expect in some cases. The probability is that the two conditions are very frequently combined. One sees cases of pyrexia with profuse diarrhœa and frequent vomiting, great abdominal pain, and occasionally blood in the stools in greater or less quantity, in which the only signs of malaria are the great and sudden variations of temperature combined with profuse sweating and sometimes rather sudden onset. Thus these cases at first closely resemble dysentery, and yet the short course they run, the influence of antipyrin and quinine when the patients are able to get it down, and the fairly rapid convalescence, really point to the attacks being malaria complicated with acute gastro-enteritis, which I should place as the most common complication of malaria in the Niger.

In reference to prophylactic treatment, as elsewhere, the regular taking of quinine does much to diminish the frequency and severity of malarial attacks, but in itself is not sufficient to entirely prevent it. Other deleterious conditions acting on an individual who takes his 5 grain tabloid of quinine daily or every other day will undoubtedly produce fever, but usually it runs a milder and shorter course with him than with one who has neglected this precaution. Exposure to sun and chills must be avoided and sleeping in the open air is a very frequent cause of fever. As is well known on homeward voyages, the arrival in cooler climates is often heralded by malarial attacks even in those who have not previously suffered.

It is generally recommended not to take cold baths in malarial districts. I think the importance of this is to a certain extent exaggerated. Certainly if on the march or on arrival in camp one were to plunge into a stream or bath while one is perspiring freely and very hot the result might easily be a chill followed by fever. But a chill would very possibly result from the same thing at home and I do not think that one's morning bath in Africa in water which is never at the most more than cool does anyone any harm. Certainly I felt better after I had had it and no bad results followed. The comparatively good health (as regards fever) which women enjoy on the west coast is probably largely due to the more temperate lives they lead and to the fact that their duties do not necessitate exposure out of doors at the most trying periods of the day.

As regards treatment of fever during the attacks I only wish to emphasise one point that very soon brought itself to my notice. This is that with high fever as a rule it is difficult to give much quinine. It often produces vomiting with consequent cardiac depression and has not nearly the same influence in lowering the temperature as antipyrin; ten or fifteen grains of the latter repeated about every two hours till the temperature falls should be given. When this happens then is the time to administer a good dose of quinine, to be repeated a few hours later and again the following morning before the temperature goes up. In this way remissions and intermissions may very frequently be avoided, in the early attacks especially.

Dysentery.—On the Niger dysentery is a common and very fatal disease, if anything more fatal though less common than malaria. The only white man in the column who died was suffering from dysentery and developed an abscess of the liver. On the Bida expedition by the time we had entered the town and while we were in it there was a very considerable epidemic amongst the native troops and carriers of severe intestinal flux with great pain, copious watery stools and passage of more or less small quantities of blood. One or two white men suffered in the same way. This condition of affairs, I believe, was largely attributable to the unhealthy condition of the camp outside the town and the large amount of more or less putrefying animal matter that the natives consumed. Their method of preparing meat for food was peculiar. Lumps of meat were stuck on sticks in the ground for a day, next day it was just superficially roasted and left for another day; then it was finally cooked and eaten. In this way, although the final cooking may have been supposed to have killed all the putrefactive organisms, there must have been a good deal of the chemical results of putrefaction remaining in the joints and certainly the odours which emanated from them were not enticing to the white man's appetite.

The whole of the above class of cases was probably not true dysentery; in fact, I believe a large majority of the cases were not, but rather cases of severe septic gastro-enteritis. Some cases were short in duration, others went on for some time and were probably cases of true dysentery developing in the mucous membrane primarily damaged by the enteritis which must act as a very favourable predisposing cause. Amongst the Europeans so attacked the possibility of the aerial infection of dysentery on a simply inflamed mucous membrane was suggested by one or two cases in which sterilising precautions on water had been carefully carried out and in which decomposing flesh had not been consumed. The primary enteritis was possibly due to the septic exhalations from the putrefying animal matter in and around camp.

In speaking of this subject of dysentery and ordinary septic enteritis the course of the one fatal case is worth mention, although the intestinal condition started before we reached the unhealthy camps. At the end of from three to four weeks of what was apparently typical dysentery combined with malarial pyrexia, which was much influenced by antipyrin and quinine, symptoms of abscess of the liver developed and ran a very rapid course, the patient dying about a week after the liver symptoms first appeared. The fever, which before the last week had been distinctly malarial in character, with considerable diurnal variations, remained high and was uninfluenced by the previously mentioned drugs. There were no rigors. It was a little difficult at first when the pain and discomfort about the liver occurred to determine whether the enlargement of that organ was due to anything more than the congestion which so frequently occurs in malaria, but the rapid further enlargement with tenderness on pressure, œdema, and slight redness of the skin soon put that point at rest. Unfortunately we were travelling down river at the time in canoes, launches, &c., and I wished to delay operating until I could do so under more favourable conditions with improved appliances, not anticipating that the case would run such a rapidly fatal course in an otherwise strong, healthy young man. The patient died almost immediately on our arrival at the coast. The development of abscess of the liver so early in the course of the disease and the rapid course it ran is unusual and, I think, points to the hepatic suppuration being of a purely septic or pyæmic nature rather than a specific one as seen in cases of chronic dysenteric abscess of the liver.

The diagnosis of dysentery from certain cases of malaria and the frequent combinations of the two I have already mentioned. The distinction of the disease from septic gastro-enteritis turns almost entirely on the effects of treatment. The latter cases recover rapidly and completely in from two to four days under anodyne and antiseptic treatment. The favourite prescription used was $\frac{1}{12}$th grain of perchloride of mercury, 20 minims of chlorodyne, with water to one ounce, every four or six hours.

The treatment of dysentery proper varies in the cases of natives and Europeans. The former can take large doses of ipecacuanha without unpleasant effects and with marked improvement, but in the case of white men this drug even in small doses produces retching and vomiting which makes the last condition of the patient worse than the first. The same result occurs even when a dose of anodyne is administered a short time previously. The drug we carried was called ipecacuanha sine emetin (!). Those patients who could take a dose of from 10 to 15 grains without vomiting were apparently very little improved by it, so that I very soon gave up the use of this drug for Europeans almost entirely and substituted perchloride of mercury and chlorodyne. The effect of this prescription was at first very marked. The number of stools a day decreased to from two to four and the pain and weakness diminished, but in spite of this improvement complete recovery in most cases took some time, usually three or four weeks. This effect of antiseptic treatment seems to point to the conclusion that much of the severity of the symptoms of dysentery is really due to the septic micro-organisms which even in health abound in the intestinal tract and in disease may readily be supposed to increase and multiply and become more active. Whether the much vaunted treatment of dysentery by perchloride of mercury does more than influence this by-process or whether it has any beneficial effect on the true dysenteric disease is a moot question. I am rather inclined from my short experience in Africa to believe in the former supposition.

A few remarks about diseases occurring in the Niger Company's territories which are less common or less serious will close this portion of my notes.

Guinea-worm.—This was a very common disease amongst those native carriers who came from the coast regions of Elmina and Accra. Often both legs are affected, sometimes two or three worms presenting in one leg. They are troublesome cases in that on the march the suppuration and swelling of the leg soon incapacitates these men so that instead of being useful they become incumbrances. They prefer trying to extract the worms themselves when they present and generally succeed in breaking them. This is one reason in favour of recruiting carriers from the river tribes in preference to the coast regions as the former suffer much less from this complaint.

Beri-beri.—This occurred to a moderate degree amongst the Haussa and Yoruba troops and at the inspection before the column started from headquarters a few men had to be left behind on this account. As far as I could learn the disease is purely of the non-œdematous variety in the Niger. I heard of one rather doubtful case only in a white man and in his case it proved fatal.

Leprosy.—Cases of leprosy are seen from time to time at different places on the river, but none came under my notice.

Elephantiasis, affecting mostly the legs, is not at all uncommon, but unless the legs are very much enlarged it does not seem to greatly interfere with the usefulness of the native. In contrast to Guinea worm, this disease seems to be more common amongst the river tribes than the coast ones.

Abscesses.—One common complaint amongst the natives is large subcutaneous abscesses which apparently in many cases occur without any primary cutaneous lesion. One case I saw had a huge abscess which probably started in the axillary glands and occupied the whole of the front and back and one side of the thorax and from which we got at least three pints of pus.

WOUNDS.

Practically all the wounds received by carriers and soldiers were bullet wounds, mostly of the Snider bullet. The only striking features about these cases were: 1. In many cases the difficulty in telling the wound of entry from that of exit. This is to be accounted for, I think, by the long range—mostly over 400 yards—at which they were fired. 2. The remarkable way in which wounds of the natives heal even under the more or less rough-and-ready treatment that they necessarily receive on such an expedition. Very little, if any, suppuration occurs; even a case of amputation of the shoulder (in one of the enemy) for a bullet wound received three days before, and in which the inner flap had to encroach on the foul-smelling wound, healed up with very little formation of pus and only three or four stitches gave way. Two compound, comminuted, complicated fractures of the lower end of the humerus from Snider bullets healed up without suppuration, one of them getting back complete mobility of the elbow-joint and the other movement through an angle of nearly 90°.

Only one case of arrow wound came under my notice. The arrow heads are thickly coated with poison of some sort, probably decaying animal matter. The case mentioned healed up very well without suppuration after vigorous antiseptic treatment at the time, but for several days the patient suffered from general, and especially cardiac, depression, which raised a suspicion of some vegetable poison, but of what nature it was impossible to say. In some other parts of the Niger territories the arrows are said to be poisoned with strophanthus. One of the officers who was with us had received two wounds previously in those regions and had suffered severely for some time afterwards. Immediately after the wounds he suffered great cardiac irregularity, which left him very weak for some weeks. In other regions, again, the arrow wounds are followed by symptoms of tetanus, but there is great difficulty in determining the exact source and nature of these poisons. Probably many of them are composite.

GLOUCESTER AND SMALL-POX.

(Continued from p. 530.)

For many years previously to the epidemic of 1895–96 Gloucester had been comparatively free from small-pox. As in Leicester and many other places, occasional cases or small groups of cases were dealt with without serious extension of the disease. From the reports of the medical officer of health, as quoted by Dr. Coupland, we learn what was the custom in managing such cases. In 1890 six cases were discovered. They were promptly isolated and supervised. After commenting on the earlier of these Dr. Campbell says: "A week or two afterwards two cases occurred in another street of the city, and the same prompt measures were adopted with like result. I feel sure that a threatened epidemic was thus averted, for I have no doubt that had I not been made aware of the existence of the *first two* cases, happening, as they did, in a small house occupied by a large family, and subsequently of the advent of the other cases, in time, probably the city would have had a very serious outbreak of this disease, which might at the present time assume serious proportions from the fact that nearly all, or a large proportion of, the young children of the city remain unvaccinated." This shows how keenly alive the medical officer of health was to the risks of unrecognised cases in a town containing a large number of unvaccinated children. The Notification Act was adopted in 1891. In 1893 three cases were notified and at once dealt with. In 1894 "seven cases were notified at different periods, none of them traceably connected with each other. All were promptly removed and their homes disinfected." In Leicester these would have been described as seven different importations of the disease, all successfully stamped out by the "method," and the necessity for calling the attention of the Royal Commission on Vaccination and the rest of the universe to such marvellous results would have been duly dilated on. Dr. Coupland states regarding the procedure in Gloucester: "I was informed by Dr. Campbell that the following was the procedure adopted at the earlier period of the epidemic with regard to all cases of small-pox. On receipt of the notification the medical officer of health visited the house, confirmed the diagnosis, and directed the sanitary inspector to remove the case to hospital. Removal was in all cases promptly done. The bedding, carpets, &c., in the rooms occupied by the patients were destroyed by the sanitary authority, and compensation granted by the sanitary committee of the town council. The remaining inmates of the house were then kept at home under 'quarantine' surveillance for a period of fourteen days after the removal of the case. Or, if the case were not removed, the 'quarantine' was prolonged until fourteen days after the patient had been declared free from infection. After the close of the quarantine period the house was disinfected by the sanitary authority. The room which had been occupied by the patient was sprayed with mercuric chloride solution and fumigated with sulphur for a period of six hours. The windows and doors were then thrown open and the floors cleaned with carbolic soap. The ceilings were limewashed and the walls mostly re-papered." As a supplement to vaccination and re-vaccination there is not much left to suggest here in the way of stamping out small-pox. Dr. Campbell in his annual reports had repeatedly called attention to the want of a steam disinfector, and anti-vaccinationists, in the course of their struggles to explain away the Gloucester disaster, have set great store by this fact. Being aware of the defect the medical officer took the best possible way of overcoming it. "The bedding, carpets, &c., were *destroyed* and compensation granted."

The next question is—How the procedure above described was carried out. If we compare the total cases with the total removals to hospital month by month in the Leicester and Gloucester outbreaks we find as follows:—

Month of outbreak.	Leicester, 1893-94.		Gloucester, 1895-96.	
	Incidence.	Sent to hospital.	Incidence.	Sent to hospital.
1st	1	1	1	1
2nd	6	5	—	—
3rd	11	11	3	3
4th	14	14	1	1
5th	37	35	3	2
6th	54	49	7	7
7th	18	17	12	11
8th	21	15	52	48
9th	44	38	146	121
10th	54	52	604	208
11th	32	30	733	214
12th	18	17	283	48
13th	16	15	122	39
14th	7	7	13	9
15th	11	8	—	—
16th	10	9	—	—
17th	3	3	—	—
Total... ...	357	326	1979	712

It will be seen that in the early months removal to hospital was carried out very thoroughly both in Leicester and Gloucester. The differences between cases and removals in the first six months are accounted for almost entirely in both towns by attacks which were at first overlooked or unrecognised. But though practically all known cases were removed to hospital, the question may still be asked, Was every case removed promptly? In giving advice to Coventry, even whilst the Gloucester epidemic was in progress, the *Vaccination Inquirer* remarked: "All depends on the energy and thoroughness with which early cases are dealt with." May there not, then, have been in Gloucester some delays which might account for the remarkable extension of the disease? The reply is unequivocal. Dr. Coupland's table of cases shows that till nearly the end of January (cases having occurred so early as the previous June) every individual patient sent to hospital was removed on the day of notification. Not until the sixtieth removal to hospital was there a delay of a single day, and then the delay was of one day only. Under this system what were the results? In June, 1895, a case occurred. "He was promptly isolated and no further case arose in connexion with his attack." On Aug. 2nd there was another case—a lad in the employment of a commercial traveller who, though not himself attacked, is supposed to have brought the infection into the town. This patient also was removed to hospital on the day of notification. But about the end of the month other cases arose, probably more or less related to the infection introduced by the commercial traveller. No possible system of isolation, quarantine, and disinfection could prevent infection of this sort—where the bearer of it did not himself take the disease and did not even come under suspicion until after the mischief had been done, and only then as a result of carefully tracing back one case and another till the possibility of a common origin began to suggest itself. One of the cases was that of an unvaccinated child where the disease was supposed to be "malignant measles" and caused death in less than a week. These cases occurred in August, September, October, and November. By the end of November the total was fifteen. Each, excepting the unrecognised case, was at once sent to hospital and we have already quoted Dr. Campbell's account of the procedure with regard to quarantine, disinfection, destruction of clothing, &c. Yet the disease was not stamped out. On the contrary, in spite of the continuance of these measures the outbreak rapidly extended till the hospital could hold no more and became overcrowded. In December there were twelve new cases; in January, 1896, fifty-two; and in February, 145. In its issue for March the *Vaccination Inquirer*, with its usual fatuity, airily referred to "the recent outbreak" in Gloucester. Instead of being a thing of the past the epidemic was only approaching its climax. In March there were 604 cases and in April 733 cases. After this a rapid diminution set in, the total ultimately reaching 1979, besides three cases that occurred after Dr. Coupland's inquiry had ceased. Clearly, therefore, removal to hospital, quarantine, and disinfection proved quite unable to prevent a tremendous spread of the disease. Indeed, it will be observed from the table above given that hospital isolation had nothing to do with the checking and ultimate cessation of the epidemic. The hospital was very little used in the later months and yet the cases in the town diminished, though hundreds were being treated at home. What was the agency which stamped out small-pox in Gloucester even whilst there were hundreds of centres of infection in the town and whilst there were still perhaps 35,000 people who had never had the disease? We shall soon see, but meantime some other questions call for attention.

As in Leicester, so in Gloucester, the hospital was a structure of wood, or wood and iron. In Leicester it was old and unsightly and had been unfavourably commented on from time to time by central and local public health officials without any sufficient result in the way of remedy. In Gloucester, however, the town council was not so lax and had added to its accommodation before the epidemic began and had forty-eight beds at its disposal to devote to small-pox. The recognised standard for infectious diseases in general, and not for a single disease, would have required only forty-two beds for Gloucester; besides, every small-pox case known of in Gloucester was removed to hospital on the very day of notification during the earlier months of the epidemic. In the face of these plain and undeniable facts it is yet alleged that insufficiency of hospital accommodation was a main factor in the Gloucester epidemic. So small was the hospital in the opinion of General Phelps, the president of the Anti-vaccination League, that he describes it as a "toy hospital." The *Vaccination Inquirer* says (July, 1896) "the hospital accommodation was from the first wretchedly inadequate, and the accounts of the patients being stowed three in a bed can no longer be denied." To an anti-vaccination meeting at Coventry Mr. (now Dr.) Walter R. Hadwen stated that the accommodation at Gloucester was "totally inadequate" and that at one time two wards of eight beds each had had in them twenty-six children and eleven women, two beds having four children each in them. The place, he said, was a "miserable little hospital of forty-eight beds."

These quotations (and they could easily be multiplied) are of special interest at the present time. No doubt the hospital was overcrowded in the sense that it contained more than forty-eight cases at once. But this was the result simply of a strenuous endeavour by the Gloucester authorities to control small-pox by removing every case to hospital. If they had stopped taking cases when only forty-eight were in the wards it may be safely believed that they would have been blamed for not receiving more cases, and it could have been urged that a hundred cases or two hundred cases would have had more cubic space per head than in many an ordinary bedroom.

But what is adequate hospital accommodation for small-pox for a town in which vaccination has been neglected? Dr. Collins and Mr. Picton in their Statement of Dissent from the findings of the Royal Commission on Vaccination lay great stress on the necessity for "adequate accommodation." Mr. Alfred Milnes, M.A., explained to the people of Coventry that "they wanted adequate hospital accommodation outside the town permanently ready and compensation in full for loss of wages and property to those who consented to be quarantined." Never yet, however, has any anti-vaccinationist stated what he means by "adequate" accommodation. But we may gather from the above what amount of accommodation is *not* adequate. No place of 42 000 inhabitants is to look on forty-eight beds as constituting anything more than "a miserable little hospital," according to Mr. Hadwen, or a "toy" hospital, according to Major-General Phelps, and the *Vaccination Inquirer* declares (falsely, but that is *more suo*) that the sick were "huddled together in numbers four times too great for the hospital accommodation." It is apparent from the figures given above that during the earlier months of the outbreak nearly all cases were removed, and even in March the Sanitary Committee struggled hard to carry out the practice. Yet in April and May the cases of small-pox were 1337. That being so, would a hospital of 1337 beds have been accepted by anti-vaccinationists as "adequate" for a place of 42,000 inhabitants? Or, if rural populations could do with less, may we assume 1000 beds to be the proper average figure? If so, then for a population of thirty millions we would need 750,000 beds for small-pox, say in the United Kingdom. Now it is to be assumed that the best kind of accommodation should be provided, and this could hardly be done for less than £250 or £300 per bed. Let us, however, take the amount at only £200 per bed, and we get a capital cost of £150,000,000 for small-pox hospitals. But there is also the cost of maintenance and repair and of an army of nurses and medical men kept "in permanent readiness," and then there is to be compensation for wages for the quarantined, who under any complete scheme would be far more numerous than the patients. Then, too, there is compensation for all articles destroyed. The calculation need not be pursued. The dream of adequate small-pox hospital accommodation for an unvaccinated nation is a dream fit only for a bedlamite in the "exaltation" stage of his malady, believing himself to be possessed of the riches of Crœsus and the powers of the gods.

But there is another point that merits attention in connexion with the hospital. In his speech at Coventry Mr. Milnes laid it down as a necessity that a small-pox hospital should be "outside the town." In this declaration we have the unusual pleasure of being in hearty agreement with Mr. Milnes. Owing to aerial diffusion and other agencies a small-pox hospital inside a town is a danger to the community. And Mr. Walter R. Hadwen, in a speech at Reading on the Gloucester epidemic, is reported to have told his audience that "in the centre of the populous neighbourhood they built the small-pox hospital and kept on adding to it."[1] At Weston-super-Mare he said: "And where was this small-pox hospital situated? It was situated in a field, surrounded by a thickly-populated neighbourhood." This seems explicit enough. But what do we find on turning to the evidence of Mr. George Newman, the secretary to the local anti-vaccination society, as given before the Royal Commission on Vaccination? Regarding the hospital he was asked by Mr. Dugdale (Q. 18,236), "Is it in the town or outside?" and the reply came straight and clear, "It is outside the town."

The hospital was erected about 1874. Obviously if it was built or situated in a thickly populated neighbourhood in 1874, and if in 1891 it was "outside the town," then either the town must have withdrawn itself from the hospital or the hospital must have travelled to the outside of the town. These, however, are high questions which we leave to the judgment of those who care to tackle them. Turning to Dr. Coupland's report we seem to find that the facts were just the reverse—that the hospital was built outside the town and that the town came out and to some suburban extent approached or surrounded the hospital. Dr. Coupland says: "It will be seen from the annexed plans that the ground upon which the hospital stands has become considerably surrounded by dwellings since it was first opened. Many new roads have been formed or are in process of formation, the houses in them being for the most part semi-detached villas or short tiers of terraces. The ground that is still open and that is not taken up by the hospital site is used for allotments and pasturage." The situation of the Gloucester Hospital in this respect perhaps resembles that of the Leicester Hospital, as to which Dr. Coupland reported, "When originally erected in 1870–71 it was well removed from inhabited dwellings, but within the past few years the adjoining district of Newfoundpool has been much built over." The total number of small-pox beds in proportion to the population was considerably greater in Gloucester than in Leicester and most of the accommodation was more modern. Gloucester, therefore, was on the whole better off than Leicester as regards isolation accommodation, and we have seen how for months every case was promptly removed. But in Gloucester small-pox reached an enormous prevalence and its hospital is denounced by Mr. Hadwen as being "totally inadequate," while in Leicester, he says, there was a "splendid system of isolation." The fact is that in Gloucester the epidemic went on after the hospital was full, while in Leicester the scarlet fever cases were sent to their homes in the town, being followed there by disasters on which we have already commented, while the small-pox epidemic stopped before the wards were overcrowded.

These criticisms as to the situation of the Gloucester Hospital are important in this respect, that they show that to satisfy opponents of vaccination it will be necessary to remove small-pox hospitals so far from towns and suburbs that there shall be no possible chance of even a villa or suburban population coming very near them and that if this unexpectedly should occur, then forthwith new hospital accommodation must be obtained at a greater distance. Now all this anti-vaccination argument about the situation of the Gloucester Hospital has no doubt served its purpose in helping to withdraw the minds of the people of Gloucester from the neglect of vaccination, which was the outstanding fact requiring their attention. But it is obvious that if Parliament is to be influenced in the direction of trying hospital accommodation as a substitute for vaccination it must not be frightened by the prospect of local authorities courting bankruptcy in their efforts to get sites and build hospitals of "adequate" size in places away from the populations they are intended to serve, and to build new hospitals whenever the population approaches the old ones, and to keep such hospitals staffed and in constant readiness. Therefore, the argument regarding the influence of the Gloucester hospital having served its purpose in helping to preserve anti-vaccination from reproach, we may now expect a change of attitude. Calling attention to Dr. Savill's Warrington report and to the opinion expressed there that aerial spread of small-pox from the hospital did not take place in Warrington, the *Vaccination Inquirer* says: "It is hardly necessary to point out the immense importance of this if it can be maintained ......; for clearly if small-pox is not conveyed by air current to considerable distances and can only be, as it were, passed on from hand to hand by a proximity approaching to actual contact, then as soon as a small-pox patient is removed by isolation to a certain distance from contact with his fellows, his ability to communicate small-pox ceases." Notwithstanding the handle made of the (alleged) situation of the Gloucester Hospital in a thickly populated neighbourhood we shall not be surprised if in Parliament some opponent of vaccination is put up to argue that the situation of small-pox hospitals is of so little consequence that there need be no difficulty in finding sites close to or in towns and yet harmless to the surrounding population. Such inconsistency would be as nothing compared with the glaring and constant inconsistencies that seem to be part and parcel of the agitation against vaccination.

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[1] Berkshire Chronicle, Oct 10th, 1893.

(To be continued.)

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE twelfth meeting of the Commissioners was held in Committee Room A at the House of Lords on Monday, Feb. 21st. With the exception of Sir George Barclay Bruce all the Commissioners were present. The whole of the sitting was taken up with the examination of Mr. Gomme, statistical officer to the London County Council.

At the commencement of the proceedings the CHAIRMAN said that Mr. Pember had rather challenged some statements which had been made by Mr. de Bock Porter with regard to charges for water rents which were made by some of the metropolitan companies. A statement illustrating the statutory charges of the various companies as supplied to houses of rentals ranging from £10 to £50 per annum had therefore been made for the Commissioners. This table gives in the case of all the metropolitan companies a list of the amounts of water rents payable, showing how they vary with the rateable value of the houses and giving the extra charges which are made for high service, for baths, and for water-closets. The table gives also an explanation of the statutory meaning of high service as laid down in the Acts of the different water companies. In the case of the Chelsea Company high service means the delivery of water at an elevation of more than 10 ft. above the pavement in the front of the premises supplied. In the case of the Grand Junction and of the West Middlesex Companies it means a height of over 10 ft. above the footway or pavement. In the case of the New River Company it means any level above the ground floor. The New River Company is authorised to charge 1 per cent. on the annual value of any premises to which a supply is given at an elevation of more than 160 ft. above Trinity high-water mark and the West Middlesex Company is authorised to make the same charge for all supplies given at an elevation of more than 200 ft. above Trinity high-water mark. In the case of the Southwark and Vauxhall Company high service means a supply at a greater height than 10 ft. above the footway or pavement in front of the premises supplied. The East London Company is authorised to make an additional charge up to 25 per cent. for high service, which in the case of this company means any place 20 ft. above the level of the adjoining or nearest pavement. The Acts relating to the Lambeth and the Kent Companies contain no reference to extra charges for high service.

Mr. GOMME put in a table giving an account of the revenue and expenditure of the Glasgow Corporation Waterworks. From this table it appears that since the water-supply was taken over by the corporation a public water-rate has always been made in addition to the rent charged to individual consumers for the supply which they receive. With regard to the charges there was formerly some difference in that made to water consumers on the north and on the south of the River Clyde and those living outside the municipal area have always paid at an increased rate. The amount charged for domestic supply at the present time within the city limit is less than half the amount charged when the waterworks was taken over by the corporation.

Mr. Gomme was cross-examined by Mr. LITTLER, who represented the Kent Company. The witness and counsel did not agree with regard to the comparative sizes of houses obtainable at a given rental in the Kent district and in Birmingham.

With regard to the water-supply of Manchester a letter from the Town Clerk at Manchester was read in which it was stated that the sanitary authorities of that city pay the water department for the amount which they use for all sanitary purposes. There is in Manchester a rate of 3*d.* in aid of the water-supply. The only water for which payment is not made is that used for extinguishing fires and as in the case of London no payment is made for water so used. The public rate of 3*d.* yields a sum very nearly as great as the amount paid in water-rents by private consumers.

The CHAIRMAN pointed out that it seemed to him that the tables which had been presented by Mr. Gomme would be of little service. What the Commissioners wished to have and what he had asked for was an accurate statement of the accounts of the water companies before their purchase and a statement of the accounts after the undertakings had been bought by the various municipal authorities. If the money necessary for carrying out the water undertakings is paid for partly out of the rates and partly out of the rent paid by the water consumers, and if water for sanitary purposes is paid for by the sanitary authorities and the money is given to the water department, the money is simply taken out of the one pocket and put into another. "In no instance," the Chairman said to Mr. Gomme, "do you give us a complete case."

With regard to a table which had been put in by Mr. Gomme showing the different amount which was spent for public purposes at St. Olave's and Plumstead respectively for water used by the vestries Mr. Gomme was asked whether he could tell what was the area or measurement of the roads watered in the case of Plumstead. On this point the witness had no information.

Mr. LITTLER pointed out that the Plumstead roads amounted to over twenty-eight miles and suggested that the amount of water used was therefore necessarily much greater than that used in St. Olave's and that therefore the table put in by the witness was without value because unlike things were compared. Mr. Littler gave the witness a table comparing charges made for water at Bradford and by the Kent Company.

On behalf of the London County Council Mr. BALFOUR BROWNE objected to the table being put in till they were in a position to examine the compiler of the table.

More questions were also asked with regard to the contention that the witness had held at the previous sitting to the effect that the capital of the companies ought to be written down..

Lord ROBERT CECIL, on behalf of the Hertfordshire County Council, said that it had been shown by the evidence brought before the Commissioners that people who lived in the areas immediately outside provincial towns were often charged for water at a higher rate than those who lived within the boundaries of a city. He asked Mr. Gomme if he would prepare a table giving a list of the provincial towns which managed their own water-supply, arranged to show in what cases people living in the outlying parts paid (1) the same rates; and (2) higher rates; and if he would add a list of those places in which water was bought in bulk.

Mr. RICKARD, on behalf of the Chelsea Company, pointed out that dividends were paid on the statutory capital of the company and that the bonds to which reference had been made at a previous meeting did not receive the same rate of interest.

The CITY REMEMBRANCER wished to know in case of the purchase of the metropolitan water companies by the County Council what Mr. Gomme considered would be the correct method of finding out what amount ought to be paid for them. Would the estimate be based on the present income of the companies or would it be taken on the capital value of the works? If income were the basis of the estimate how many years' purchase would be allowed and did the County Council propose to give evidence on these matters? The witness could not give any information. He thought the stability of the income of the companies should be taken into account and that some figures which he had given before on this matter would be of use in that connexion.

In answer to further questions the witness said that he did not assist in preparing the memorandum which had been made by the Deputy Chairman of the County Council and published in the year 1896 and that it did not represent his views.

The CITY REMEMBRANCER pointed out that at the present time special arrangements were made by people in the City of London with the New River Company with regard to the amount which they should pay. If the water rents paid in the City of London were increased to equal those charged by the West Middlesex Company the citizens would pay much more for water than they did at present. With the exception of the West Middlesex Company the companies outside the City charged in most cases their full statutory prices for water supplied. If the water rents were reduced in the case of the other companies to the rate now charged by the West Middlesex Company the amount paid by the water consumers would be about £250,000 a year less than it is at present and the City Remembrancer wished to know if the County Council took over the water-supply how would they make good this deficiency?

The witness suggested a special rate.

The CITY REMEMBRANCER did not think this would be an advantage to the City.

Mr. GOMME again suggested that they would get better water, but the CITY REMEMBRANCER had no complaint to make of that supplied to the City by the New River Company.

The CITY REMEMBRANCER asked the witness whether he had seen the Meter Bill promoted by the Corporation in 1884. The witness objected on principle to the supply of water by meter and thought by that means the poor would have to pay more; but the City Remembrancer pointed out that in this Bill that contingency was specially provided against, and the witness said that he was not acquainted with the provisions of the Bill. The CHAIRMAN could not understand why it was right and proper that water for trade purposes should be supplied by meter and why it was wrong and improper that domestic supplies should be charged for on the same principle.

Mr. GOMME, in reply, said that if water were supplied by meter less would be used for domestic purposes, which would be a disadvantage from a sanitary point of view.

With regard to the amount of capital represented by the water companies the witness pointed out that the official auditor had no right to determine whether the things represented by that capital were or were not obsolete.

With regard to the amount paid in the City of London for water the CITY REMEMBRANCER pointed out that in case of a new tenancy it was now usual for the tenant to arrange with the New River Company as to the amount which should be paid. In the case of a place like a bank which had a high rateable value less was charged by the company than in the case of an eating-house. He asked if the County Council were allowed to have control of the water-supply of London whether this arrangement would be carried on as it is at present. The witness said he thought the County Council would "take it into consideration," which, the CHAIRMAN said, meant nothing, while he pointed out that the witness had previously complained of the special arrangements which had been made in the west-end of London with the water companies by the owners of certain large properties.

The CITY REMEMBRANCER said it would be of great use if the witness would prepare a list of the statutory regulations which now existed as to the control of water and if he would give any suggestions he could with regard to additions which might be usefully made to the powers of control which at present existed.

The witness agreed to do this, but Mr. BALFOUR BROWNE, on behalf of the London County Council, pointed out that such suggestions must be looked upon as those of Mr. Gomme and not of the County Council.

The CHAIRMAN said he had noticed previously that when the matter of control of the water-supply was mentioned the representatives of the County Council "averted their faces," that they were opposed to control, and had no advice to give on it. Mr. Gomme had been the first witness who was prepared to render any assistance in the matter.

The next meeting will be held on Monday, Feb. 28th.

SOME BLOTS IN OUR SYSTEM OF SANITARY ADMINISTRATION.[1]

AFTER alluding to the recent epidemics of typhoid fever at Maidstone, King's Lynn, and Clifton Dr. Parkes remarked that it should not be lost sight of that the evil wrought by these epidemics is not always limited to the places of origin. Infection is certain to be imported into unaffected areas and the seeds sown for the subsequent development, should local circumstances permit, of an outbreak of a serious character. There was still far too much infectious disease in the country—not only typhoid fever, but also small-pox, scarlet fever, diphtheria, measles, and whooping-cough. In dealing with Asiatic cholera alone had the country taken a great stride forward. Though the infection of this dreaded disease was introduced from the Continent in 1892, 1893, and 1894 at several places into this country, and even got some foothold at Grimsby in 1893, there was nothing in the nature of a general epidemic. In 1892 and again in 1894 there was no extension whatever from ship-borne cases into the country generally. In 1893 there were in all only 287 cases and 135 deaths, including the Grimsby cases. These good results in dealing with successive invasions of Asiatic cholera must be largely attributed to the fact that the necessary measures are not left entirely in the hands of local sanitary authorities. The Medical Department of the Local Government Board exercises a large measure of direction and control in concerting measures for the repression of Asiatic cholera and there is great wisdom in entrusting such large powers to a department of Government which is officered by experts and unaffected by local interests.

With regard to typhoid fever epidemics two points had been very clearly brought out by the Maidstone inquiry. The first was that there was great need for an authoritative exposition of the law on the subject of the legal liability of water companies and water authorities to supply pure and uncontaminated water to their consumers, the second being the urgent necessity for investing the officers of sanitary authorities with powers of inspection of the sources of supply and the works of storage, purification, and distribution of water supplied to the districts under their control. Country farms also supplying milk to urban districts should be open to inspection by the sanitary officers of those districts without the formality and delay caused by the necessity of obtaining a magistrate's order as required by existing Acts of Parliament. The medical officer of health should have power to order the discontinuance of a milk-supply which he had reason to regard as likely to cause infectious disease, the existing procedure by resolution of the sanitary authority being far too dilatory to properly protect the public health in emergencies of this nature.

Dr. Parkes then alluded to the failure of the Government to take any steps to prevent injury to the public health by the consumption of oysters from grossly sewage-polluted layings, although the report of the Local Government Board on the subject in 1895 had revealed a condition of things which surely demanded a prompt remedy. The lecturer deprecated also the inexcusable habit of successive Governments of hanging up all questions of improved sanitary administration by referring them to Royal Commissions, whose belated reports and recommendations appeared to carry little conviction to the minds of those in authority. This was especially true of tuberculosis and vaccination. Continental nations had now almost perfected their systems of meat inspection and of universal vaccination with glycerinated calf lymph, whilst this country was just beginning to awake to the necessity of following continental example. In conclusion Dr. Parkes referred to the power possessed by the Local Government Board under the Public Health Act, 1875, to compel defaulting local sanitary authorities to carry out the provisions of the Act and to the little use the Board had made of these powers. Hitherto the policy of the Board had been that of persuasion rather than of compulsion, but the public was now probably prepared for a rather stronger conception of its duty by the Government department entrusted with the supervision of the public health of the country.

THE ARMY MEDICAL DEPARTMENT REPORT FOR 1896.

FIRST NOTICE.

THE Army Medical Report for 1896, consisting of 321 pages, has just been issued. The covering letter to the report from the Director-General to the Secretary of State for War is dated Dec. 14th, 1897. There is no appendix consisting of contributions from members of the Medical Staff and others dealing with cases of professional and clinical interest and questions of hygiene in the present volume of the report. From the excellent introductory summary we glean that the average strength of European troops serving at home and abroad in 1896 was

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[1] Abstract of an Introductory Address to a Course of Lectures and Demonstrations at the Sanitary Institute, by Louis Parkes, M.D. Lond., D.P.H., Medical Officer of Health of Chelsea.

203,145 warrant officers, non-commissioned officers, and men. Of this force there were 191,513 admissions into hospital and 1676 deaths. The ratios represented by those numbers are: for admissions to hospital 942·7 and the deaths 8·14 per 1000, the latter being calculated on a strength of 205,800, which includes detached men. There were also 53 European soldiers serving in West Africa, amongst whom there were 265 admissions into hospital and three deaths. The ratios of both sickness and mortality for the troops serving in the United Kingdom were lower than in 1895 and considerably below the average ratios for the preceding ten years. Enteric fever showed a decided decline in its admission and death rates as compared with those for the previous year and the average ratios for the past ten years. The station most affected in this respect was Dublin. The general health of the troops in the colonies was on the whole satisfactory. At Malta continued fevers were more prevalent than in 1895 and in Ceylon and China malarial fevers were the cause of a large amount of sickness, but much of this was attributed to the arrival of troops from malarial districts in India A considerable increase in the admission-rate for venereal diseases in the West Indies is recorded and, as in the previous year, venereal disease shows excessive prevalence in China and the Straits Settlements. In India there was a decline in the admission-rate, but the ratio of constant inefficiency was fractionally higher than in the previous year. There was more sickness from enteric fever, other continued fevers, and cholera. Malarial fevers, whilst less prevalent than in 1895, accounted for almost one-fifth of the total number of admissions. With regard to venereal disease, there was a notable increase in the sickness from secondary syphilis, but a decline in the other forms of venereal disease. The total admissions for venereal diseases accounted for more than one-third of the admissions into hospitals. The general health of the troops in Egypt was good and the improvement noted in the reports for the two previous years still continued. Enteric fever and venereal diseases were, however, the cause of more sickness than in 1895, the increase in the former being mainly due to disease contracted "Up Nile" during the Dongola Expedition.

According to the statistical table giving the ratios per 1000 of strength of European troops in 1896 it would appear that the total mortality among the troops serving at home and abroad was 8·14. In the United Kingdom it was 3·58, in Canada 3·32, at Gibraltar 4 10, and in South Africa and St. Helena 4 76 per 1000 respectively, whereas in Egypt and Cyprus the mortality rate was 13 28 and in India 15·29. The tables from which these figures regarding the ratios of mortality per 1000 are taken also give the admission, invaliding, constantly non-effective sick-rates, together with the average sick-time per head and the average duration of each case of sickness. These have, of course, all to be taken into account as well as the mortality-rate. The tables furnished on the second and third pages of the report not only summarise the most important of these results of sickness in the various commands in which the troops were stationed during 1896, but they enable the reader to compare these with the results obtained during the preceding ten-year period. But we must defer any further consideration of the report for the present. In what we have written the wording of the report itself has been closely followed, for it would be difficult to set forth the facts more succinctly than its compilers have done.

REPORT OF BRIGADE-SURGEON-LIEUTENANT-COLONEL T. S. WEIR, THE MUNICIPAL HEALTH OFFICER OF BOMBAY, FOR 1896-97.

As we have said, the literature regarding the plague in India is already very extensive and it has not yet reached a finality, for the epidemic instead of having come to an end has unfortunately increased of late. The report of the health officer of Bombay naturally deals very fully, among the other and more common diseases, with plague. It is a voluminous and at the same time—for the terms are not by any means always convertible—able report. A detailed description is given of what is known about the origin and spread of the epidemic in Bombay and its causes, real and alleged.

Among the phenomena preceding the epidemic were (1) an abnormal rainfall both in that it was 15 in. above the average and was distributed over only some six weeks instead of four months; (2) an abnormally high level of sewage in part due to the main sewage outfall being blocked by a storm; (3) floods and as a sequence damp grain stored in or under buildings used for habitations; and (4) an abnormally high level of ground-water. In July, 1896, there was a sudden outbreak of foot and mouth disease and at the beginning of September four very suspicious deaths were notified but none had been attended by a medical man. At the end of September the first case of bubonic plague was publicly notified by Dr. Viegas. The first case reported in an European occurred on Nov. 12th, 1896. Three cases appear to have been imported direct from Suez. Brigade-Surgeon-Lieutenant-Colonel Weir gives the most graphic pictures of the terrible scenes encountered—of how dying and sick people were left locked up in rooms and deserted by everyone and of how the dead lay in the streets. He also points out the strange desire to wander away that so many patients had, it was noticed in all classes and often preceded high fever and delirium. This symptom if it occurred in the great plague of London is not mentioned by Boghurst, although in other matters his account might be that of the Bombay epidemic. A great mortality occurred among rats and very often the attacks among rats preceded those among human beings, so they served a useful purpose, for it was found that if the houses or places where dead rats were found were disinfected either only few or sometimes no cases occurred among human beings afterwards. Dr. Weir goes on to give a most interesting epitome of the subject of plague as treated by various writers, both ancient and modern, but curiously enough he only refers to Defoe in reference to the London epidemic of 1665 and omits the name of Boghurst, who was an eye witness. The difficulties which the authorities had in dealing with the people as to preventive measures were enormous, for they could not be made to understand how dangerous the disease was or why it should not be stayed as readily as cholera was. The most monstrous stories were spread abroad and, says Dr. Weir, "to such a pass had we come that picking up a few sick pigeons .... nearly led to a riot."

As to measures taken to prevent the spread of the plague the following interesting account is given. On Oct. 30th, 1896, the Commissioner issued an order which provided that any person suffering from bubonic fever should be liable to be removed to hospital upon a properly signed certificate whether such person were provided with proper accommodation or lodging or not. This order created a great deal of ill feeling and many of the population declared that they would leave the city forthwith. They did not or would not understand that the disease was contagious and the hospitals were declared to be places for providing material for experiments and torture. In fact, this portion of the report reads as if it were written of Leicester or Gloucester or as if it embodied the views of the Society for the Protection of Hospital Patients. So, to avoid a general exodus which could not have been prevented—and this was a very real source of danger and one only averted by the greatest care and tact—the Commissioner issued another notice to the effect that no cases would be removed to hospital where proper segregation could be carried out at home. A plague committee was also formed, including members of all classes and religions, which drew up and issued a set of plain and simple rules for ventilating houses, admitting light, and urging people to inform the Municipality of all suspicious cases. The committee also erected segregation camps and urged the populace to use them, but they would not. Houses were disinfected by being thoroughly flushed with some disinfectant, generally one of the cresyl compounds, and afterwards limewashed throughout. As if the work and anxiety were not enough to try both mind and body, "charlatans from all parts of the world seemed to hover round like birds of prey"; one remedy strongly recommended was a pill made of pigeons' dung.

Dr. Weir goes on to mention the work of the various scientific missions. Both Dr. Bitter and Professor Gaffky came to the conclusion that the plague bacillus in the simple bubonic form of plague was never to be found in the excreta of patients. Wilm, however, in his report upon the Hong-Kong epidemic, considered that infection could be conveyed by excreta. Mr. Hankin never found the microbe in grain whether clean or dirty; in his experiments as to the resisting power of the microbe he found it very sensitive to the action of weak organic acids, a prophylactic largely used by our forefathers, and also to oxydising agents. As to the results of M. Haffkine's inoculation they are as follows. There were in all from Jan. 10th to March 5th, 1897, 2156 persons inoculated. Excluding three persons who were attacked with plague on the day of inoculation and therefore infected previously there were only four attacks and no deaths among the inoculated. If no protection had been afforded the number of deaths should have been on the calculation of the average plague mortality figures from fourteen to sixteen. Dr. Weir gives a table showing the extent of overcrowding and the enormous size of the houses in Mandvi, and on looking at this one can only wonder that the incidence of the plague was not far worse than it was. For instance, one house had seventy rooms and a total population of 350; another house had 116 rooms and 740 people in them. But yet this district had a mortality rate of only 8 25 per 1000 despite the density of population, and this favourable result is doubtless due to the energetic measures taken for cleansing houses and infected sites.

We have not space to enter as we should like to do into all the details of this able report. It must suffice to say that it will be indispensable to the students of plague in the future, that every conceivable subject with a bearing on the epidemic is dealt with, and that modestly hidden among its pages are accounts of deeds of heroism and of uncomplaining attention to duty among all classes, both British and Asiatic, and among both men and women. Everyone, from the senior medical officer down to the grave-diggers, seems to have been animated with a desire to do his best.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6430 births and 4384 deaths were registered during the week ending Feb. 19th. The annual rate of mortality in these towns, which had increased in the three preceding weeks from 18 7 to 20 7 per 1000, declined last week to 20·4. In London the rate was 21·5 per 1000, while it averaged 19·6 in the thirty-two provincial towns. The lowest rates in these towns were 14 5 in Blackburn, 14 9 in Sunderland, 15·2 in Burnley, and 15·5 in Oldham; and the highest rates were 23·4 in Liverpool, 24 5 in Bristol, 25 0 in Swansea, and 29 0 in Wolverhampton. The 4384 deaths included 464 which were referred to the principal symotic diseases. against 453 and 497 in the two preceding weeks; of these, 189 resulted from measles, 108 from whooping-cough, 71 from diphtheria, 34 from "fever" (principally enteric), 33 from diarrhœa, and 29 from scarlet fever. No death from any of these diseases was recorded last week in Norwich; in the other towns they caused the lowest death-rates in Plymouth, Preston, Bradford, and Sunderland, and the highest rates in Bristol, Swansea, Leicester, and Salford. The greatest mortality from measles occurred in London, Brighton, Gateshead, Leicester, Bristol, and Swansea; from whooping-cough in Birmingham, Salford, and Portsmouth; and from "fever" in Derby. The mortality from scarlet fever showed no marked excess in any of the large towns. The 71 deaths from diphtheria included 33 in London, 7 in Cardiff, 6 in Liverpool, 4 in Wolverhampton, and 3 each in West Ham, Bristol, and Salford. No fatal case of small-pox was registered during last week either in London or in any of the large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2781, against 3061, 2961, and 2871 on the three preceding Saturdays; 233 new cases were admitted during the week, against 241, 209, and 232 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 471 and 468 in the two preceding weeks, further declined to 437 last week, and were 41 below the corrected average. The causes of 60, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Salford, Bradford, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks from 17·4 to 20·1 per 1000, declined again to 20·4 during the week ending Feb. 19th, and corresponded with the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 14·3 in Leith and 17 4 in Aberdeen to 24·1 in Paisley and 26 4 in Greenock. The 614 deaths in these towns included 25 which were referred to whooping-cough, 22 to diarrhœa, 15 to measles, 12 to scarlet fever, 9 to "fever," and 7 to diphtheria. In all, 90 deaths resulted from these principal symotic diseases, against 66 and 72 in the two preceding weeks. These 90 deaths were equal to an annual rate of 3·0 per 1000, which was 0 8 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 21 in each of the two preceding weeks, rose to 25 last week, of which 13 occurred in Glasgow, 5 in Paisley, and 4 in Edinburgh. The 15 deaths from measles showed a further increase upon those recorded in recent weekly numbers, and included 13 in Glasgow. The fatal cases of scarlet fever, which had been 6 in each of the two preceding weeks, rose to 12 last week, of which 5 occurred in Glasgow, 3 in Dundee, and 2 in Edinburgh. The 9 deaths referred to different forms of "fever" showed a further increase upon the numbers recorded in recent weeks and included 5 in Glasgow. Of the 7 fatal cases of diphtheria 2 were registered in Edinburgh, 2 in Aberdeen, and 2 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 117 and 126 in the two preceding weeks, declined to 91 last week, and were less than half the number in the corresponding period of last year. The causes of 29, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the three preceding weeks from 28·9 to 34·9 per 1000, declined again to 28·5 during the week ending Feb. 19th. During the past seven weeks of the current quarter the death-rate in the city has averaged 31 6 per 1000, the rate during the same period being 22·1 in London and 18·8 in Edinburgh. The 191 deaths registered in Dublin during the week under notice showed a decline of 43 from the number in the preceding week, and included 11 which were referred to the principal symotic diseases, against 14 and 17 in the two preceding weeks; of these, 4 resulted from "fever," 2 from whooping-cough, 2 from scarlet fever, 2 from diarrhœa, 1 from diphtheria, but not one either from measles or small-pox. These 11 deaths were equal to an annual rate of 1·6 per 1000, the symotic death-rate during the same period being 2·4 in London and 2·3 in Edinburgh. The deaths referred to different forms of "fever," which had been 7 in each of the two preceding weeks, declined to 4 last week. The 2 fatal cases of whooping-cough corresponded with the number recorded in the preceding week. The deaths from scarlet fever, which had been 2 and 3 in the two preceding weeks, declined again to 2 last week. The 191 deaths in Dublin last week included 28 of infants under one year of age, and 58 of persons aged upwards of sixty years; the deaths of infants showed a further decline from recent weekly numbers, while those of elderly persons showed a slight further increase. Five inquest cases and 5 deaths from violence were registered; and 62, or nearly a third, of the deaths occurred in public institutions. The causes of 11, or nearly 6 per cent., of the deaths in the city last week were not certified.

ROYAL EAR HOSPITAL, SOHO, W.—The Earl of Dartmouth, who presided on Feb. 15th at the eighty-first annual meeting of the Royal Ear Hospital, said that in view of the increase in the number of patients it was necessary to acquire more commodious premises. His lordship stated that the committee had acquired a suitable site in Dean-street, Shaftesbury-avenue, and that plans were in course of preparation for a building specially adapted for the treatment of aural complaints and fitted with the most approved appliances

THE SERVICES.

Naval Medical Service.

Staff-Surgeon George Warner Bell has been promoted to the rank of Fleet-Surgeon. The following Surgeons have been promoted to the rank of Staff-Surgeon:—Frederick Walter Stericker, William Wenmoth Pryn, Graham Egerton Kennedy, Jerome Barry, Alfred John Pickthorn, John Andrews, Henry John Hadden, Vidal Gunson Thorpe, and Edward Henry Meaden.

Army Medical Staff.

The under-mentioned Surgeon-Majors to be Surgeon-Lieutenant-Colonels:—William Keays, Robert T. Beamish, Walter A. Parker, James Anderson, Jules I. Routh, Henry Grier, Hugh L. Donovan, Nicholas Leader, James Tidbury, Allan A. Lyle, Henry A. H. Charlton, and Percy G. R. Young. The undermentioned Surgeon-Lieutenant-Colonels retire on retired pay:—Walter A. Parker, Hugh L. Donovan, Allan A. Lyle, and Henry A. H. Charlton. Brigade-Surgeon-Lieutenant-Colonel Mackinnon, D.S.O., has assumed recruiting duties at St. George's Barracks, *vice* Surgeon-Major Parker, who is appointed to the Medical Charge of the 49th Regimental District at Reading.

India and the Indian Medical Services.

Surgeon-Captain Davidson, on transfer from Multan, is placed on special duty in the Jullundur District, vice Surgeon-Major Nicholson. The services of Surgeon-Major Clarke (Bengal) are placed permanently at the disposal of the Government of the Punjab.

Volunteer Corps.

Artillery: 1st Ayrshire and Galloway: Thomas Harper, M.B., to be Surgeon-Lieutenant. *Rifle:* 4th Volunteer Battalion the King's (Liverpool Regiment): Brigade-Surgeon-Lieutenant-Colonel T. M. Wills resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the battalion on his retirement, vacating at the same time his appointment as Senior Medical Officer to the Mersey Volunteer Infantry Brigade. 1st Volunteer Battalion the Lincolnshire Regiment: Surgeon-Captain F. J. Walker, M.D., to be Surgeon-Major. 3rd (Cambridgeshire) Volunteer Battalion the Suffolk Regiment: The under-mentioned gentlemen to be Surgeon-Lieutenants:—Alfredo Antunes Kanthack, M.D., and Ernest Lloyd Jones, M.D. 3rd Volunteer Battalion the Cheshire Regiment: Surgeon-Lieutenant Edward John Sidebotham resigns his commission and is appointed Captain. 4th Volunteer Battalion the South Wales Borderers: Henry Charles Groves to be Surgeon-Lieutenant. 3rd Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant-Colonel J. L. Leckie resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the battalion on his retirement. 1st Bucks: Charles John Deyns to be Surgeon-Lieutenant.

Volunteer Medical Staff Corps.

The London Companies: Surgeon-Lieutenant J. R. Whait, M.B., to be Surgeon-Captain.

Medical Statistics of the Dutch Navy in 1895.

The following items are extracted from the latest annual report issued by the Sanitary Department of the Dutch Navy:—1. War vessels stationed in home waters: strength 4467 men. Admissions to hospital, 988 per 1000; deaths from disease, 2 4 per 1000; violent deaths (suicide and accident), 0·7 per 1000; chief causes of mortality, pulmonary tuberculosis and pneumonia. 2. Force living on shore: strength 624 men. Admissions to hospital, 1400 per 1000; deaths from disease, 6 4 per 1000; violent deaths, 3 2 per 1000; chief cause of mortality, pulmonary tuberculosis. 3. War vessels on special service: strength 715 men. Admissions to hospital, 1670 per 1000; deaths from disease, 2 8 per 1000; violent deaths, 1 3 per 1000. 4. War vessels stationed in the East Indies: strength (Europeans) 2744 men. Admissions to hospital, 1690 per 1000; deaths from disease, 5 8 per 1000; violent deaths, 1 8 per 1000; chief causes of mortality, pernicious fever, remittent fever, enteric fever, hepatitis, and beri-beri. Number of men invalided to Holland 111·5 per 1000, the cause in 23 5 per cent. of the cases being beri-beri and in 16·6 per cent. malaria. Natives: strength, 1117 men. Admissions to hospital, 1430 per 1000; deaths from disease, 47·5 per 1000, 66·0 per cent. of the native mortality being due to beri-beri and 12·5 per cent. to cardiac paralysis and debility. In 14·2 per cent. of the deaths the cause was unascertained. Loss by invaliding, 180·1 per 1000, mainly through beri-beri. 5. War vessels stationed in the West Indies: strength 228 men. Admissions to hospital, 2890 per 1000; deaths from disease, 21·9 per 1000. Three deaths out of five, being 60 per cent. of the total mortality, took place at Curaçao from yellow fever. Among the men on home service venereal affections were responsible for nearly 170 admissions per 1000 of strength, while on the East Indian station the ratio of disability from this cause was 365 per 1000 for Europeans and 282 per 1000 for natives.

The Volunteer Officers' Decoration.

The Queen has conferred the Volunteer Officers' Decoration upon the under-mentioned officers of the Volunteer Force:—*North-Eastern District: Rifle:* 2nd Volunteer Battalion the East Yorkshire Regiment: Surgeon-Lieutenant-Colonel William Stephenson. 1st Volunteer Battalion the King's Own (Yorkshire Light Infantry): Surgeon-Captain Robert Blair, M.D. Edin. *North-Western District: Artillery:* 4th Lancashire Volunteer Artillery: Surgeon-Lieutenant-Colonel Thomas Frederic Young, M.D. Durh. *Rifle:* 4th Volunteer Battalion the King's (Liverpool Regiment): Surgeon-Lieutenant-Colonel William John Fleetwood, M.D. St. And. 2nd Volunteer Battalion the King's (Shropshire Light Infantry): Surgeon-Major Robert de la Poer Beresford, M.D. Glasg. *Western District: Rifle:* 3rd Volunteer Battalion the Welsh Regiment: Surgeon-Lieutenant-Colonel John Lindsay Leckie. *Home District: Rifle:* 21st Middlesex (The Finsbury) Volunteer Rifle Corps: Surgeon-Lieutenant-Colonel John Adams. *Scottish District: Rifle:* 5th (Perthshire Highland) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Lieutenant-Colonel John Mackay, M.B. Aberd.

Deaths in the Services.

Surgeon-Captain Arthur James Lattey, A.M.S., at Calcutta on Jan. 3rd, aged twenty-eight years. The deceased entered the Army Medical Staff as Surgeon-Lieutenant on July 29th, 1893, and was promoted to the rank of Surgeon-Captain in July, 1896.

Hon. Deputy Surgeon-General Alexander Maclean, A.M.S. (retired), at Thurso, at the age of sixty-six years. He received an appointment as Assistant Surgeon in 1854, and on the outbreak of the Crimean War he accompanied the Highland Brigade to the East, being attached to the 42nd Royal Highlanders (the Black Watch), and was at the battle of Balaclava and throughout the seige and fall of Sebastopol (medal with two clasps and Turkish medal). During the Indian Mutiny he was present at many of the engagements fought by Lord Clyde.

The Indian Frontier.

We stated last week that notwithstanding the fact that the advantages so far gained by the frontier campaign had not apparently been commensurate with the cost and loss of life, it was nevertheless a mistake to suppose that the power of the Afridis had not been very materially weakened if it had not been altogether broken. The latest news is of a more hopeful character. Sir William Lockhart has been visiting the Khyber pass. The Malikdin Khels have paid their fines of rupees and rifles and it is regarded as highly probable that the other tribesmen will follow their example rather than face the spring campaign with which they have been threatened.

Enteric Fever among the Troops in the Khyber.

It is astonishing how enteric fever follows in the footsteps, as it were, of European troops in India. We learn from the *Pioneer Mail* of the 4th inst. that this disease has broken out at Jamrud and Landi Kotal in the Khyber Pass. The water-supply at Jamrud is said to be unsatisfactory owing to the vicinity of native villages.

Wounded from India.

The recently arrived transport *Dunera* from Bombay brought forty invalids to Netley in addition to a large number of time-expired men and other soldiers.

Over fifty cases of scarlet fever and measles have been removed from Her Majesty's Training Ship *Impregnable* at Devonport.

Correspondence.

"Audi alteram partem."

"THE MIDWIVES REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—I have read your leading article on the Midwives Bill with surprise and keen regret. Your statement as to the necessity for legislation puts the matter so clearly and so definitely that it is with something of a shock that one finds at the end of it all a declaration of hostility. The Bill must indeed be a bad one if it is so entirely beyond the reach of amendment as to merit no treatment short of absolute rejection. It is of course easy to say, Better no Act than a bad one. Is it not, however, for those who disagree with its provisions to put their views clearly before Parliament and to leave the question to its decision rather than to incur the responsibility of causing further delay in a matter in which delay means the sacrifice of many lives and exposure to much unnecessary suffering? I appeal to you, Sirs, now that there has occurred the first real chance of legislation, to assist in making that measure as perfect as possible and not to handicap it by inciting the profession to active opposition. If allowed to pass the second reading, it can be amended to any extent in the later stages. It will be a standing disgrace to us as a profession if, with our present chances, we do not secure the passing of this or some similar Bill during the present session of Parliament.

I will not enter into a lengthy criticism of the reasons why you object to our Bill, but I desire to point out that the rules under which it is proposed to place the practice of midwives have to be approved by the General Council of Medical Education. Such a body could not permit a midwife to undertake work for which it has itself imposed a different standard of knowledge. If it did so it would soon cease to exist. This, I venture to state, at once disposes of your contention that a midwife may under our Bill usurp the functions of the medical profession by undertaking what is strictly its work. Surely this provision must be considered to be something more than "a hint" as to the line which is to be drawn between a midwife's and a medical practitioner's duties, and therefore it should prove a sufficient safeguard against such usurpation.

I am, Sirs, yours faithfully,

ROWLAND HUMPHREYS.

Hon. Sec. Midwives Bill Committee.

Buckingham-street, Strand, W.C., Feb. 19th, 1898.

To the Editors of THE LANCET.

SIRS,—The promoters of the Midwives Registration Bill have no reason to complain of the tone of the temperate and, indeed, encouraging article in THE LANCET of Feb. 19th, which, in its frank recognition of the fact (reported to the House of Commons by Select Committees in 1892 and 1893) that the present system, or rather want of system, is one that requires a remedy, shows a distinct advance both in public and professional opinion. But while welcoming that friendly criticism which the recognised organ of the medical profession is most justly entitled to bestow upon the Bill, and believing that the profession is sincerely desirous of coöperating with us in making it a good Bill, a workable one, and one which will prevent the deaths and mitigate the sufferings of the existence of which every medical man has experience, I should like very briefly to refer to a point which we admit to be a most important one and which, we think, we have dealt with in the Bill in a manner which should be at least satisfactory to the profession, but upon which apparently your main objection to it is founded. What will be under the Bill the limits of the registered midwife's sphere of action?

In the first place it will be as well to bear in mind that under present conditions the sphere of action of the unregistered midwife is only limited by the vigilance of the coroner and by a more or less remote possibility of a prosecution for manslaughter—a condition of things which could hardly be altered for the worse, so far at least as the patient is concerned. But the Bill proposes a statutory limitation by Clause 3 (4) which runs thus: "The certificate of registration under this Act shall not confer upon any woman any right or title to be registered under the Medical Acts in respect of such certificate or to assume any name, title, or designation implying that she is by law recognised as a licentiate or practitioner in medicine or surgery or that she is qualified to grant any medical certificate or any certificate of the cause of death." And, further, the rules which under a later clause in the Bill are to be framed by the Midwives' Board for "regulating, supervising, and restricting within due limits the practice of midwives" are to be approved by the General Medical Council, who surely may be trusted to act alike in the interests of the profession and the public and who will approach the consideration of the subject with an amount of technical knowledge and practical experience which Parliament cannot possibly lay claim to.

No one who has any knowledge of Parliamentary proceedings, especially in committee, would desire to see details of this character settled by Parliament, and settled in such a manner that only an amending Act could repair mistakes or make good omissions, when the rules dealing with them might be framed in the first instance by a board the majority of which would be registered medical practitioners appointed, not by "councils of corporations and public bodies," whether in coöperation with the Privy Council or not, but by the Royal College of Physicians of London, the Royal College of Surgeons of England, the Society of Apothecaries, and the Incorporated Midwives Institute, rules which would be approved and settled by the General Medical Council, which represents 'the vote of the medical profession" as far as any human institution can.

I know not, Sirs, what other public body can be named which is less likely to be "at fault over practical points when attempting to decide upon the precise relations that should exist between general practitioners and persons who are to work under them," but I can assure you that if you can suggest any the promoters of the Bill will be thankful for your assistance and guidance.

But I trust that I have made this point clear and that your readers will agree with me that the General Medical Council is more likely to devise a satisfactory definition of the sphere of the registered midwife's duties than the House of Commons sitting in committee; and as this letter is already longer than I had wished or anticipated I will only refer to one other point—the admission to the register of existing midwives, on which it is sufficient at present to say that under the Bill their admission will also be regulated by rules to be approved by the General Medical Council, after they have been passed by the proposed Midwives' Board.

It seems to me, Sirs, that the main point at issue between us is whether the working plans of a measure the necessity of which is admitted should be elaborated by a board mainly composed of medical men appointed by the leading medical societies and approved by the General Medical Council with a power of revision from time to time where experience shows that revision is desirable, or whether they should be settled once for all in the rough and tumble of a Parliamentary committee on a private member's Bill, and medical men must have much more faith in the wisdom and business capacity of Parliament than I have if they entertain any doubt as to which is the more excellent way, or which is the manner in which the public welfare is most likely to be attained.

I am, Sirs, yours faithfully,

House of Commons, Feb. 24th, 1898. J. H. JOHNSTONE.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND MEDICAL AID ASSOCIATIONS.

To the Editors of THE LANCET.

SIRS,—Will you allow me to draw the attention of your readers to the following enigmatical proceedings of the Council of the Royal College of Surgeons of England on the subject of medical aid associations?

At the annual general meeting in November, 1897, I moved the following resolution, which was carried *nem. con.*:—

> That this meeting, in view of the widespread public and professional evils induced by "medical aid associations" and other companies trading in medical attendance, calls upon the Council to make a clear pronouncement for the information of Fellows and Members that the acting as paid servants of any persons who tout and canvass for patients, or who allow the well-to-do classes to take advantage of rates of payment arranged to meet the necessities of the poor, is "disgraceful in a professional respect" and deserving of censure.

In December the Council, in pursuance of its usual practice of negativing everything desired by the Members, passed the following:—

> That the mover and seconder of the third resolution be informed that the Council are not prepared to make a general pronouncement respecting the connexion of Fellows and Members of the College with medical aid associations, but are willing to consider evidence which may be submitted to them respecting the connexion of any individual Fellow or Member with an association which canvasses for patients to the injury of private practitioners and allows the well-to-do classes to take advantage of rates of payment arranged to meet the necessities of the poor.

On Jan. 13th, 1898, I was informed by letter that this resolution had not been confirmed and was still under the consideration of the Council. On Feb. 10th the Council determined not to confirm the resolution adopted on Dec. 9th, 1897, but adopted the following in its place:—

> That the mover of the second and third resolutions carried at the annual meeting of Fellows and Members be informed that on June 10th, 1897, the Council passed a resolution to the effect that they were willing to consider any evidence which might be submitted to them respecting canvassing for patients directly or indirectly by any individual Fellow or Member of the College, with a view of determining whether or not such Fellow or Member has been guilty of a breach of the by-laws. To this resolution the Council adhere, but in their opinion, whilst so many different and dissimilar institutions are included under the denomination of "medical aid associations," many of them, such as the friendly societies, being legalised institutions, the Council cannot make any general pronouncement respecting the connexion of medical men with these associations.

Now, Sirs, what any plain man would like to discover is the difference between the resolution which the Council refused to confirm in January and that which it passed in February. The only distinction which I can see is that in the latter the Council gives an extremely feeble and fatuous reason why it will not make the pronouncement asked for. The Council apparently imagines that friendly societies or other "legalised institutions" are at liberty to advertise, tout, or canvass for members with impunity to their medical officers. Does it not know that some of the worst offenders are the amalgamated friendly societies in various parts of the country and such "legalised institutions" as the London and Manchester and the Victoria and Liverpool Insurance Companies? This is just another example of the ignorance shown by the Council concerning the interests of those whom it repeatedly asserts that it represents. It was asked, as one of the chief ethical authorities of the profession, to condemn the practices of advertising and canvassing now being largely carried on by employers of medical men; it endeavours to evade this obvious duty because some of these employers happen to be legalised institutions. It could make a "general pronouncement" in 1883 condemning the connexion of Fellows and Members with "trading institutions for the treatment of disease," such as the Harness Belt Company, because the Members—whom it represents—expressed no anxiety about the matter, but it cannot in 1897 publicly condemn a far worse evil because Fellows and Members in all parts of the country have asked it to do so. One of the members of the Council has said that "anything more disgraceful than this commercial compact with medical aid associations it would be difficult to imagine." Until the Council makes the pronouncement so frequently asked for I shall repeat what I said at the annual meeting—that it has tacitly but deliberately sanctioned this disgrace to our profession.

I am, Sirs, yours faithfully,
W. G. DICKINSON.
Feb. 22nd, 1898.

HOSPITAL REFORM.

To the Editors of THE LANCET.

SIRS,—I beg to send you a copy of the recommendations as amended by the committee of the Hospital Reform Association.

RECOMMENDATIONS.

1. That in the casualty department of the general hospitals only cases of urgent importance should be attended to.
2. That in the out-patient department patients bringing notes from medical men should have *cæteris paribus* a prior claim to treatment. That a resident physician should be appointed whose duty it shall be to see all out-patients in the first instance and select those that require immediate treatment and decide which do not require hospital treatment. That after patients have received "first aid" their circumstances shall be inquired into by a competent officer. That the honorary medical officers shall not be required to treat more than twenty new cases at one sitting.
3. That the circumstances of all in-patients, with the exception of cases of accident, &c., should be carefully inquired into before admission.
4. That in the case of well-to-do people who are admitted to hospitals in consequence of accidents, &c., the hospitals should have the power at their discretion of recovering adequate fees for attendance.
5. In the case of small provincial hospitals that the plan adopted at the Oldham and Dorchester Infirmaries be recommended for trial.
6. That both in the large general hospitals and in the smaller ones out patients coming from outside districts should be requested to bring notes from medical men before being treated.
7. In the case of special hospitals (*a*) that payments by patients should cease; (*b*) that the eligibility for free treatment should largely depend on the recommendation of private practitioners; and (*c*) that some provision should be made outside the hospitals for people who are in a position to pay a reduced fee but are not in a position to pay the ordinary fee of specialists.

I only have to add that the association will gladly welcome any criticism that members of the profession may think proper to make. It is quite evident that hospital managers will have to take some practical steps to reduce the amounts now expended in the working of the casualty and out-patient departments, and it is to be sincerely hoped that they will not be induced to adopt the objectionable system of payments by patients as a remedy. The charging of a fee of a few pence for medicines and appliances will be certain to increase the amount of abuse and will also inevitably tend towards increasing the number of cheap dispensaries.

I am, Sirs, yours faithfully,
Cardiff, Feb. 19th, 1898. T. GARRETT HORDER.

"INTRODUCTION TO THE STUDY OF ORGANIC CHEMISTRY."

To the Editors of THE LANCET.

SIRS,—In the notice of my book, "Introduction to the Study of Organic Chemistry" in THE LANCET of Feb. 12th your reviewer asks: "Would five lines on the preparation of the important substance ethylene dibromide enable a first M.B. student to prepare the compound?" As a matter of fact the preparation in question is fully described in the text (p. 103) and the five lines referred to (p. 422) are merely notes dealing with details of quantity and manipulation not essential to the understanding of the subject. It is specifically stated at the commencement of these laboratory notes (p. 411) that they are to be *taken in conjunction with the text* and not independently. May I ask you in fairness to insert this correction in an early issue of THE LANCET? Thanking you for your otherwise complimentary notice,

I am, Sirs, yours faithfully,
JOHN WADE.
Medical School, Guy's Hospital, S.E., Feb. 15th, 1898.

"DR. CLIFFORD ALLBUTT'S 'SYSTEM OF MEDICINE.'"

To the Editors of THE LANCET.

SIRS,—I have brought the letters in THE LANCET of Feb. 5th and 19th concerning a reissue of the articles on Tropical Disease in my "System of Medicine" as a separate volume before Messrs. Macmillan. They regard the proposal as one which may well occupy their attention early next year. During this year our attention must be wholly directed to the completion of the work. The fifth volume would have been in the hands of the profession at the beginning of this year had it not been for the grievous delay of one contributor who has kept the fifth volume at a standstill for some months at too late a stage for his place to be supplied.

I am, Sirs, yours faithfully,
T. CLIFFORD ALLBUTT.
St. Radegund's, Cambridge, Feb. 18th, 1898.

"HYSTERICAL ISCHURIA: VICARIOUS ELIMINATION OF UREA."

To the Editors of THE LANCET.

SIRS,—The annotation in THE LANCET of Feb. 19th on the vicarious excretion of urea reminds me of a case under the care of the late Mr. J. Marshall in University College Hospital when I was house surgeon there in 1864. I regret that I cannot give more than an outline of the case, as I gave the notes I then made to Mr. Marshall and of course these are not now available. The case was one of amputation of the lower extremity, either the thigh or leg, I am not quite sure which. After the operation the patient had suppression of urine three times, each occasion being marked by the vomiting of large quantities of clear fluid.

This stopped as soon as the secretion was re-established. The fluid was not actually analysed, but the addition of nitric acid produced a copious deposit of large transparent crystals. I am, Sirs, yours faithfully,

Burton-on-Trent, Feb. 19th, 1898. PHILIP B. MASON.

A RARE TRANSPOSITION.

To the Editors of THE LANCET.

SIRS,—On opening the thorax in a post-mortem examination last week I found the heart was situated on the right side. There was no other viscus out of the normal position nor any sign of disease to account for this extremely rare condition. I have met with records of transposition of both heart and liver, but never before of the heart only.

I am, Sirs, yours faithfully,

Leeds, Feb. 22nd, 1898. W. H. BROWN.

AN EXPLANATION REQUIRED.

To the Editors of THE LANCET.

SIRS,—It would be extremely interesting to many of your readers if some intelligible explanation of the differential treatment of volunteer medical officers from volunteer *combatant* officers were forthcoming. On the day of the Jubilee at certain parts of the procession volunteers were stationed to line the route. Upon the same occasion numbers of volunteer medical officers were invited by the army medical authorities to give their professional services that day; they had to be at their posts at 8 A.M. and were then inspected by army medical officers and had to remain until after the procession had passed. Their names were subsequently sent in by the P.M.O. of the Home District to the military authorities with a recommendation that the Jubilee medal should be conferred on such medical officers. And now the mystery occurs. The combatant volunteer officers who lined the route have been decorated, but the volunteer medical officers who really did some work on that auspicious occasion have been refused the coveted honour. Why this slight? And upon what grounds has this medal been conferred on the officers of the St. John Ambulance Association and not on the officers of the volunteer medical service? Perhaps a little assistance from THE LANCET will cause the removal of the injustice.

I am, Sirs, yours faithfully,

Feb. 16th, 1898. V. M. S.

JERRY-BUILDING AT BELFAST.

(FROM OUR SPECIAL COMMISSIONER.)

(*Continued from p. 540.*)

CROSSING the river Lagan, I now visited some of the streets off the Newtownards-road, one of the districts which has suffered most from typhoid fever. Entering a house where there had been a case of typhoid fever, I was told that the drain had been stopped up for six weeks. In spite of complaints, nothing was done till after a man had been taken ill with the fever, and then only was the drain repaired. This house consisted of four rooms, two upstairs and two on the ground floor; the back ground floor room being utilised as a bedroom. The bed was close to the stopped-up drain. Here seven children and their parents, nine persons in all, lived together. In a similar house, opposite, where there had also been a case of typhoid fever, the back ground floor room was a small scullery which had been converted into a bedroom. In the small back yard there were an open ashpit and privy and a pigsty. The filth from the pigs and the privy had to be carried through the house to the street, and the back bedroom was so small that it would be difficult to pass through without soiling the bed with the manure, &c., as it was carried out. The window of the bedroom above and the scullery window opened immediately upon the pigsty and the privy, and as the yard was on a higher level than the floor of the house the subsoil waters would flow from the yard to the house. The arrangements of the house next door were disposed in the same manner, only the percolating of liquid manure through the wall into the house could be seen more distinctly.

Crossing back over the river, this time by the Albert Bridge, and visiting the district between this point and Ormeau-avenue, I came to a street where many costermongers live. The manner in which the vegetables sold by the costermongers are stored suggests how important it is that they should be very carefully boiled and shows what risks are attached to vegetables that are eaten raw—such as salads, celery, &c. Thus in one house I found that a sort of hutch had been constructed with boards in the small back yard close to a drain badly protected by a bell-trap and by the side of an uncovered ashpit and privy. The vegetables were kept in this hutch. The contents of the privy had to be carried through the house and the ground on which the vegetables were thrown must frequently be soiled with fæcal matter. In a house opposite the open ashpit and privy were full of black stinking water. On putting a stick in the uncovered ashpit to measure the depth of the water, which was about a foot, so foul an odour resulted that it was necessary to beat a hasty retreat. This accumulation of water was due to leakage through the wall of a stable on the other side of the yard. It was easy to see the foul water coming through the stable wall which formed the back wall of the yard. The yard itself was not paved; there were pools of stagnant water, and there was a bed on the ground floor of the back portion of this house and therefore close to all this filth. The houses on either side were in a similar condition. In another very miserable street, where the house yards are back to back, so that the privies and ashpits have to be emptied by carrying their contents through the dwelling-rooms, I noticed a number of barefooted children playing over an open sewer grid. The sewage could be seen flowing underneath and a very strong odour arose. Many complaints were made by the neighbours as to the nuisance caused by this sewer ventilator, and in the nearest house there was a woman suffering from typhoid fever at the time of my visit. Close at hand there is a court consisting of six houses. These dwellings have but one water-tap between them. The water comes from a cistern which forms the roof of a dirty water-closet standing in the yard. The cistern is only partially covered over and dead birds have been found in the water. Yet it would not cost much to have a tap direct from the main and let the water in the cistern serve only for flushing the closet.

That there is some hope of progress in Belfast may be gathered from the fact that one of the first acts of the newly elected town council has been to order the closure of Henrietta-court. This slum has been a standing grievance for many years. It consists of a short passage with two-roomed cottages on each side. The cottages are so small that the ladder-like stairs to reach the upper room are placed in the middle of the lower room. The back yards (if so diminutive a space can be called a yard) measure on one side of the court 6 ft. 7 in. by 5 ft. 10 in., and on the other side only 3 ft. by 11 ft. The privy and ashpit extend from the house wall to the back wall of the court and consist of an open trench with a seat over half of it. By way of improvement these seats were removed some time ago from the house wall to the yard wall, which of course made no sort of difference as the contents of the privy came against the house wall just as before. During a whole year these houses remained without any water-supply whatsoever. There is no room to effect any improvement and the only thing that can be done is to pull these cottages down and widen the court into a street, and I presume that this is what will now be done. Not far from this spot I went to a house in a row where there was a case of typhoid fever. There was an open space in front of this row, where a number of costermongers' carts were placed side by side. A pool of stagnant putrid water had accumulated in front of the patient's door. The yard behind this house was not paved and the drain was not trapped. This yard measured 10 ft. by 4 ft. 6 in., so that the untrapped drain let the sewer-air up close under the patient's bedroom window. In another court close by there are two houses, each having a back yard which measures 12 ft. by 10 ft. In the centre of these little yards there is a large untrapped brick drain. In front of the houses, in a sort of entry space that can scarcely be called a street, a defective bell-trap has been placed over the drain. This space is unpaved and covered with filth, though the scavengers are said to sweep it out twice a week; finally, within twelve feet of the windows there is a heap of rubbish and nightsoil.

Perhaps I have now said enough to show how widespread are the insanitary conditions that prevail in Belfast. How they can have arisen in so modern and prosperous a town must be a matter of surprise. The high death-rate could in many instances be traced to unhealthy dwellings, and such deaths might be utilised as a means of bringing the grievance home to the persons concerned. Within a week the superintendent medical officer of Belfast is told the district in which a death has occurred, but as these districts have some 30,000 inhabitants, rich and poor, and as even the name of the street is not mentioned, such scant information is of little or no use. To obtain at least some sort of information Dr. Whitaker, the superintendent medical officer, explained to me that he had to resort to a stratagem. The majority of the persons who die in Belfast are buried in the borough cemetery. To obtain authorisation for the burial their friends have to call at the town hall and here they often and voluntarily give information as to the cause of death. Dr. Whitaker sends one of his clerks to collect this information, and thus finds a clue to places where deaths occur and to their cause. Can anything more unsatisfactory than this be conceived?

Of course, especially in the poorer districts, the inhabitants are themselves in a measure to blame for the insanitary state of their homes. For instance, nearly all the houses have drains in their back yards. These drains fortunately do not pass under the houses, but travel from yard to yard till they reach a transversal street and then they join the public sewer. Why, it will be asked, should not water-closets be placed in connexion with these drains instead of the abominable system of privies and ashpits? The answer is that many of the inhabitants are not fit to use water-closets. The landlords have strong objections to water-closets. They maintain that these would be maliciously smashed whenever they had any difficulty with their tenants. Cases were cited where tenants have pushed old shirts down the closets so as to spite the landlords by blocking the drains. It is not so much the expense of putting in water-closets that the landlords fear as the difficulty of keeping them in order. Then there are also legal difficulties in defining what is a private drain and what is a public sewer which complicate matters. The habits of the people and the vagueness of the law are obstacles to the enforcement of the water-closet system. Again, if a drain in a back yard has a suitable syphon-trap people have been known to empty a whole tubful of water over the gully. Instead of emptying the water out gradually they will pour it all out at once and then, seeing that it cannot immediately pass away through the syphon, they will smash the trap to pieces so as to make the hole larger. Undoubtedly ignorance, carelessness, dirty habits and mischievous propensities render it very difficult to provide the poor with healthy homes. As a means of promoting cleanliness the town authorities are to be commended for having built several public baths, which, however, do not pay their working expenses because the people attribute so little importance to personal cleanliness. As an instance in point, a hospital house surgeon related to me that on one occasion the police having arrested a woman who was wounded brought her to the hospital. According to the rule she was ordered to take a bath before being admitted to the surgical ward. But the woman obstinately refused. She looked with horror on a bath as a form of modern torture. She preferred to be removed to the police cells than to enjoy the comparative freedom and comfort of the hospital if for this advantage it was necessary to take a bath. Therefore she submitted to incarceration in the common lock-up. But while thus fully recognising the difficulties which the people themselves create I fail to see in this a sufficient reason for refraining from pressing forward the much-needed sanitary improvements. The same difficulties existed elsewhere but were in due course overcome. At first there are resistance and trouble, but in time the advantages of good sanitation are better appreciated. Even to-day in London the same obstacles have to be overcome when dealing more especially with foreign populations, poor Italians and refugee Jews, who come from countries where sanitary conveniences are unknown.

Though there are all sorts of side issues and contributory causes, the high death-rate and the exceptionally insanitary condition of Belfast are in the main due to the condition of the house property, and thus it is that typhoid fever is endemic at Belfast and that the town suffers from so high a death-rate.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

THE LIFE OF THE POOR IN BOMBAY.

THE sanitary condition in which vast numbers of the people live is terrible in the extreme. The present epidemic has given opportunities for inspection of premises and of learning something of the inner life of the native poor such as has been given to only a few to know before. The fearfully crowded houses, the dark, unventilated rooms, the fumes of cooking and burning wood and drains which pervade every building, the hard work, and the miserable diet epitomise some of the chief causes of the imperfect physique and feebleness of constitution which characterise the great mass of the people. When one sees them in apparent health one ceases to wonder how quickly they succumb to disease. Large numbers of houses are strong, stone-built dwellings of many storeys high; comparatively few are of wood. But how small the rooms and in what narrow spaces every convenience for a family has to be provided for. It is almost heresy in India to complain of the use of cow dung because it is applied to such a variety of purposes. The smearing of floors and passages with it is adopted to provide a smooth surface, but when dry it gives off a highly objectionable dust and when wet becomes converted into an offensive putrescible mass. The way the women collect this dirt in the street, the manner in which it is messed about in the houses, the utter indifference about the chances of its polluting their food and drink, make the application of this material one of the first reforms which might well be initiated. The little cooking stoves are made of cow dung mixed with clay, some of the fuel used is cow dung dried into cakes, the bed is often the dried cow dung on the floor, and the brass and tin and copper utensils used in cooking are cleansed with the cow dung and earth which makes the ground on which the people tread.

There being no chimneys all the effluvia of cooking, of persons crowded together, of foul emanations from soiled clothes and dirty habits become mixed and remain almost undiluted in the rooms in which they continually live. The habitations, especially on the ground- and first-floors, are often pitch dark, windows of any kind are frequently absent, and the sole entrance comes from a dark and stinking passage. Vast numbers are of this description. The ground-floor passages have very often an imperfectly covered drain running through them and the privies are often placed in dark and totally unventilated corners.

As there is no water carriage for the excreta—the night-soil being collected in baskets placed beneath the native forms of closets—and as the habits of the natives are so filthy the condition of these places is almost beyond description. Some of them are flushed down with water occasionally, but all of them possess the smell of decomposing ordure. What the condition must have been before the city was provided with a regular water-supply can hardly be imagined, because the wells which remain, although now mostly disused, are in the centres of dwellings and filled with hardly anything better than diluted sewage. If one could judge from the frequent personal ablutions to be seen practised one might imagine that personal cleanliness compensated for all the other forms of filth, but the heads of grown-up people as well as those of the children are frequently seen crowded with vermin, itch is common on all parts of the body, an unpleasant unwashed sort of odour characterises most of the people and dirty secretion-soaked rags form the partial coverings which most of the poor wear. A very objectionable institution is the "nahani," a sort of sink on the floor in the corner of the room. Its use is ostensibly for washing purposes, but all sorts of filth get into it and it drains into an unventilated and often choked-up soil pipe which opens into the gully below. The gullies between the houses are open drains, sometimes to be found nearly dry with deposits of all sorts of filth and at others running with foul and stinking water to the surface drains on each side of the street.

As for the overcrowding, it would be considered excessive even in decent well-ventilated dwellings, but with houses constructed after the above fashion with 200, 300, 400, and even 500 and 600 persons under one roof, the conditions of life are terrible in the extreme. For from four, five, or six people to live in one small room is very common. Some of the larger rooms have several families. In one large room were counted thirteen different families with their separate cooking stoves and domestic conveniences. The large collection of dirty old clothes, unused pots and pans, boxes and other articles which form the furniture and effects of some of the people, materially reduces the cubic space for each individual, but the absence of any provision for ventilation in such a large proportion of the tenements is one of the most urgent needs for amelioration. Many of the people work very hard, the women perhaps harder than the men. Long hours of simple mechanical and monotonous work for 2, 3, or 4 annas a day result in a condition of almost constant exhaustion. The meagre diet of rice and flour, with butter of some sort, vegetables and fruit, perhaps explains the small muscular development and feeble physical powers of the majority of the people. Such is the condition under which hundreds of thousands pass their existence. With but little domestic affection apparently beyond that for their children, with a hard struggle for the bare necessaries of life, with the fatalistic spirit of their religion, it seems almost hopeless to improve their lot. Much, however, could be done to make them live under healthy conditions and then perhaps the mental and moral improvements would follow.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

District Nursing Society.

THE twenty-sixth annual meeting of this society was held on Feb. 17th, when it was stated that the work of the society had greatly increased during the past year. The committee contemplated the provision of nurses throughout the whole of the city. The grant of £2500 from the Jubilee Fund furnishes an instance of the interest felt in the work of the society. It is proposed to establish four districts, each containing from eight to ten nurses, approximately one to every 10,000 of the population. The report stated that during the year 1968 patients had been attended and 47,367 visits had been paid. The financial report showed a balance in hand of £94 18*s*. 10*d*. The Lord Mayor spoke of the useful work done by the society and warmly commended it to the public, pointing out the fact that less than 350 people had contributed to the expenses. The work done is sound and of great service. There is every reason for looking upon its extension as desirable and worthy of substantial support.

Special Hospitals.

Some criticism has been engendered by a proposal made at one of the special hospitals for widening the area of the work done. It has been suggested that a better social class of patients should be admitted to the out-patient department on the payment of 5*s*, half of which it is proposed should go to the medical man and half to the hospital funds. Already the registration fee paid at this hospital is 2*s*. 6*d*. and patients coming again are expected to pay 1*s* Of course this cannot be applicable to a number of the poorer patients, but as it is it brings in a considerable revenue to the institution. The new proposals are viewed with much disfavour by the medical staff, and the outside opinion among the profession is strongly opposed to what is regarded as an undue interference with the practitioners of the town and an unwarrantable extension of the functions of what is, or ought to be, looked upon as a charitable institution. The tendency to convert hospitals into provident dispensaries is subversive of charity in its proper sense and contrary both to the principles of administration and to the benevolent purposes for which they are founded. It is hoped that the scheme will not be pushed in view of the strong adverse feeling which it has evoked.

Mason University College.

The report for the year 1897 has just been issued. It states the important fact that the annual grant to the college has been increased from £1400 to £2700 per annum, subject to the condition that at least three-fourths of this increase of the Parliamentary grant shall be allocated solely for staff purposes. Accordingly an increase has been made in the stipends of those demonstrators and assistant lecturers at the present time in receipt of less than £125 per annum to the sum of £125. A professorship of mental and moral philosophy and political economy has been established at a sum of £325 per annum, plus a sum of one-fourth of the students' fees. Various increases have been made in the stipends of professors. £463 4*s*. has been received towards the fund for equipping the department of electrical engineering, and sums amounting to £1968 10*s*. have been given towards the department of civil and mechanical engineering. The bacteriological laboratory has been enlarged and refitted. The statement of accounts for the year shows that the total expenditure on general account was £17,066 and the income £14,647 7*s*. 8*d*. The deficiency includes the sum of £502 13*s*. 4*d*., a year's interest on the loan of £13,000, and other expenses, including alterations and additions to building, the bill of costs for the incorporation of the college, &c. Against these items there are two sources of special income, the increase in the Treasury grant and the donation of £900 from the executors of the late Mr. H. C. Fulford. The committee earnestly appeal for additional donations and subscriptions.

Excess of Salt in Ale.

An important prosecution under Section 6 of the Food and Drugs Act, 1875, was lately heard at a Birmingham police-court. On Dec. 26th an inspector of the Health Department went to a public-house and purchased a pint of ale and a pint of beer. The samples were submitted to the public analyst, who certified that the sample of ale contained at least eighty-five grains of salt per gallon. The average quantity, it was stated, should not exceed fifty grains per gallon. Out of 736 samples examined between 1873 and 1896 86 per cent. contained under fifty grains per gallon. The analyst, Dr. Hill, said that it excited thirst artificially and was thus injurious to health. There was no legal standard, but the Board of Inland Revenue did not consider it necessary for further inquiry if the salt did not exceed fifty grains per gallon. A fine of 40*s*. and costs was imposed. The ordinary custom of putting salt into ale indiscriminately without reference to quantity must therefore be abandoned and more strict regard be paid to the quantity used so as to keep within this reading of the law.

Feb. 22nd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Royal Southern Hospital.

THE annual report of the Royal Southern Hospital showed that the funds are in a fairly satisfactory condition inasmuch as the small debit balance of £232 7*s*. 9*d*. at the end of 1896 had been further reduced to £106 10*s*. 11*d*. at the end of 1897. The managers of the hospital are to be congratulated on their fortunate position as compared with the experiences of neighbouring charities in the matter of income. The number of cases treated in the hospital during the year amounted to 1951 in-patients and 10,094 out-patients. The daily average of beds occupied was 175. There were 188 deaths, of which 25 occurred within twenty-four hours after admission. Sixteen bodies were brought in dead which were not included in the above figures. During the year the horse ambulance was summoned to 407 cases, the total number of calls since the commencement of the service having been 4289. Mention was also made of the large number of cases of spinal curvature which had been treated at the hospital, upwards of seventy operations having been performed, the results so far being most encouraging. Mr. Henry G. Rawdon, the senior surgeon, has retired owing to lapse of time and has been appointed consulting surgeon. The candidates for the post vacant by Mr. Rawdon's retirement, so far as are at present known, are Mr. George P. Newbolt, surgeon to the Stanley Hospital, and Mr Carthew Davey, the surgical tutor at the Royal Southern Hospital. The election has been fixed to take place on March 9th and will be conducted on the unwieldy system which until recent years also existed at the Royal Infirmary and Northern Hospital, the electors consisting of life trustees, annual subscribers of two guineas, the honorary medical officers, and the churchwardens of the parish, making a total of about 900 electors.

Memorial to the late Mr. John Laird, of Birkenhead.

At a public meeting held in Birkenhead it was resolved to raise a sum of between £2000 and £3000 to establish a fund to be called the "John Laird Memorial Fund"; that a bust of the late Mr. John Laird be obtained and placed in the Town Hall, Birkenhead; and that the surplus of the fund be divided in such proportions as the Executive Committee may hereafter determine between the Birkenhead Borough Hospital and the Birkenhead and Wirral Children's Hospital, the money to be invested by those institutions respectively, the income thereof to be devoted to the sending to convalescent homes or other similar institutions of such patients as the respective committees on the advice of their medical officers may deem desirable.

The Southport Infirmary.

The annual meeting of the subscribers to this charity was held in the Mayor's Parlour, Southport, on the 12th inst. The mayor, in moving the adoption of the report and balance-sheet, said he was glad to see a considerable increase in the number of patients treated at their own homes. The committee have added special departments for the eye, ear, nose and throat, and they still require £500 to clear off the debt on the new infirmary. It was resolved to sell the old infirmary building for £2600.

Gift to the Liverpool Dental School.

An important meeting of the midland and northern districts of the British Dental Association was held at Warrington on the 19th inst. In the evening the large company, including students from the Liverpool Dental Hospital, were entertained by Mr. T. Fletcher, F.C.S., and Mr. J. Taylor, of Warrington. Mr. Fletcher in an address on "How to Succeed" said that for several years a series of prizes had stood in his name at the Manchester Dental School and that he was arranging for a similar series at the Liverpool school. No conditions would be attached to the prizes (which amounted to over £50 per annum) except that they should be applied to those branches where they would be considered by the dean and councils of the schools to be of especial encouragement.

Feb. 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Grant to Mercer's Hospital, Dublin.

THE annual meeting of the supporters of the Dublin Hospital Sunday Fund was held at the Molesworth Hall on Feb. 16th, the Bishop of Ossory filling the chair. The report of the Council contained with other matters a statement that at the meeting in February last an amendment, moved by Dr. Grimshaw, the Registrar-General, and seconded by Dr. Jacob, "that the sum allotted to Mercer's Hospital for the year 1897 be held by the committee of distribution of 1898 until they are satisfied as to the prospects of the future management of the hospital and, if not satisfied, to report to the Council," had been put from the chair and carried. Lord Justice Fitzgibbon moved an amendment to the report, which after some discussion was carried, and was to the effect that the report of the Council be adopted, with the exception of the portion relating to Mercer's Hospital, and that the subject of the grant to Mercer's Hospital be referred back to the Council for consideration.

The Hospital for Incurables, Donnybrook.

The Corporation of Dublin have recently threatened to withdraw their draft of £300 a year to this hospital on account of recent changes in its list of governors. At a meeting which was held in the hospital on Feb. 14th a resolution was proposed by Judge Kane that a committee chosen from the governors, of whom there were nearly a hundred present, be appointed to inquire into the mode of election of the acting committee of the institution. The resolution after some discussion was passed in a modified form by a large majority.

Royal College of Science, Dublin.

Mr. Henry Hanna, M A., B.Sc R.U.I., a distinguished student and scholar of Queen's College, Belfast, has been appointed Demonstrator of Biology, Geology, and Palæontology in the Royal College of Science, Dublin.

The Royal University of Ireland.

At a meeting of the Senate of the Royal University of Ireland held on Feb. 17th the following teachers in the Belfast Medical School were re-appointed examiners for the year 1898; Professor Byers, M.D. R.U.I., in Midwifery; Professor Whitla, M.D. R.U.I., in Materia Medica; and Dr. J. Lorrain Smith, M.D. Edin., in Pathology.

The Epidemic of Influenza in Ulster.

The epidemic of influenza is still very prevalent in different parts of Ulster, the pulmonary and gastro-intestinal types being more commonly met with, the change in the weather from mild and warm to cold and frosty with snow not having made any difference in the wide-spread nature of this very strange and protean disease.

Feb. 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Adjourned Discussion on Blistering.

THE discussion on this subject was resumed at the Academy of Medicine on Feb. 19th. M. Huchard said that his principal reason for being very chary of using blisters was the way in which they were apt to cause cystitis or nephritis in individuals predisposed to these affections. Therefore he never used blisters in the aged, the gouty, patients with arterio-sclerosis, or who suffered in any way with renal affections. Blisters are not only dangerous on account of the cantharides they contain, but also on account of the wounds they produce. In all infectious maladies, or those which bring about a great lowering of nutrition, pyrexias, tuberculosis, and the like, it is useless to bring about a new focus of microbial infection at the surface of the skin and so throw upon the kidneys the extra work of eliminating toxin produced by a secondary infection. M. Huchard objected to the use of blisters both in pneumonia and pleurisy, for even if they do no harm in such cases they are mere delusions. As for the revulsive and analgesic action of blisters these are facts, but there are other means and methods of obtaining these effects without danger to the patient. Such, for instance, are the common mustard-plaster, the application of hot water, the cautery, &c. There remains the very interesting question raised by M. Robin — namely, that of the increase in gaseous exchange under the influence of blisters. This increase is a fact, but it must always be remembered that the same effect is produced by any cutaneous excitation. The cold bath, for instance, brings about all the benefits which have been claimed for blisters in cases of pyrexia. It brings about an increase in the gaseous exchanges, facilitates the elimination of toxins, augments phagocytosis, and braces up the nervous system. If these ideas appear to be somewhat primitive M. Huchard reminded his audience that the moxa, the cautery, and the seton have been known for a long time and disappeared after a like discussion and owing to the advance in modern therapeutics which was based upon a doctrine really conformable to facts. Vesication, according to M. Huchard, must disappear in this era of Pasteur. M. Panas showed that blistering was far from being abandoned in ophthalmology. By creating an artificial pathological focus it brings about a violent revulsive action which is eminently useful in that it calls up leucocytes to the very place where they are needed. M. Cornil referred to the physiological action of cantharidin upon the tissues. Researches which he has made at various times upon the microscopical alterations brought about by experimental cantharidin poisoning enable him to say that considerable dangers exist in the employment of blisters, especially when the kidney is hardly up to its ordinary work, and this is a condition which one cannot diagnose beforehand. M. Robin considered that M. Huchard had wandered away from the original point of the discussion. He forgot to distinguish between general exchange and respiratory exchange and it is the latter which blisters increase so largely. If it is right to help the elimination of toxins in every possible way it must not be forgotten that blisters by their oxidising action on the tissues burn up these very toxins in the wounds and transform them into soluble products which are far less dangerous.

The Treatment of Hæmorrhage by Local Applications of Gelatinised Serum.

At the meeting of the Hospitals Medical Society, held on Feb. 11th, M. Siredey begged to be allowed to draw the attention of his colleagues to the excellent results obtained in the treatment of hæmorrhage by the use of local applications of gelatinised serum after the method of M. Paul Carnot. During the last four months M. Siredey has had occasion to treat nine severe cases of metrorrhagia, some in private and others at the hospital, and in every one a successful result was obtained. The hæmorrhage arose from fibroids, abortion, and retention of placental tissues or pieces of decidua, and most of the cases had not been relieved by the ordinary methods of treatment, such as hot douches, plugging, and the like. M. Siredey employed one of the two following methods. After washing out the vagina with hot water, previously boiled so as to remove any clots, he swabbed out the uterus with a pad soaked in the serum and gelatin and afterwards introduced into the uterus a narrow piece of sterilised gauze soaked in the serum. Without having to employ any tight plugging he was almost invariably able to arrest the hæmorrhage in this way. In one case which occurred in his private practice he happened to have no gauze at hand; he therefore prescribed an injection of two pints of the gelatinised serum, taking care to place the patient on her back with the buttocks raised by a pillow so that clotting should take place in the vaginal fornices in contact with the neck of the uterus. The same treatment, either injection of the serum or light plugging with gauze steeped in the same, gives excellent results in epistaxis. The preparation of the serum is very simple, the formula being: sodium chloride 7 grammes, water 1 litre, and gelatin 50 grammes. The whole is sterilised in an autoclave, taking care that the temperature does not go above 105° C., for in that case the gelatin will become modified as to its power of coagulation. If it is thought well there is no harm in adding perchloride of mercury in the proportion of 1 in 1000 or carbolic acid in the proportion of 1 in 100, but this is not necessary. The serum can be put up in flasks of various sizes and will keep good for a long time. M. Siredey has been successful in every case where he has employed this method and it has one great advantage over other methods in that it is quite harmless.

The Right of Midwives to use Forceps.

The Special Committee of the Chamber of Deputies has just been startled by a new petition from Madame Anna Bedrines, a midwife at Egreville, Seine-et-Loire, asking it to legalise the use of forceps by midwives. The committee, through its chairman, M. Isaac, has refused the prayer of the petition and for the following reasons. By Article 4 of the Act of Nov. 30th, 1892, midwives were formally forbidden to use instruments. The decree of July, 1893, recognised two classes of midwives and simply declared that they should undergo two years of study. These conditions are sufficiently stringent for the *rôle* midwives have to play and for the amount of aid to parturient women which is expected from them. But if they are allowed the use of instruments their status is altogether altered and if this experiment is to be tried they must increase both the length of time for which they study and make these same studies more profound. If these more stringent conditions came into force they would have an injurious effect upon the recruiting of the ranks of a class which is at present of great use as auxiliaries to medical men. Therefore such action would not be advantageous.

Feb. 22nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Influence of X Rays on Bacteria.

SOME interesting experiments on the influence of x rays on bacteria have been made by Dr. Rieder, *privat docent* at Munich University, and have been published by him in the *Münchener Medicinische Wochenschrift.* He used for this purpose different media such as agar, serum, and gelatin spread on glass plates placed under a piece of lead with a circular aperture in it, the whole being so arranged that a portion of the culture plates was freely exposed to the x rays which passed through the aperture, while the remaining part of the plates was protected by the lead, which is quite impervious to the rays. Ordinary light was excluded by covering the aperture in the lead with black paper. The culture media on the glass plates were inoculated with cholera bacilli, anthrax bacilli, diphtheria bacilli, bacterium coli, staphylococci, streptococci, and tubercle bacilli, and the whole was exposed for a period of from one to three hours to a very powerful Roentgen apparatus furnished by the Voltohm Company, of Munich, the vacuum tube being placed at a distance of 30 cm. (12 in.) from the glass plate. In this way Dr. Rieder succeeded in ascertaining that the bacteria under the opaque leaden screen developed freely, whilst under the circular hole where the x rays had free passage no colonies or only a few small ones appeared. The x rays also had the effect of stopping the development of cultures in process of growth. Unfortunately the experiments made with tubercle bacilli were inconclusive as Dr. Rieder had accidentally omitted to fix the black paper over the hole in the lead so that the influence of ordinary light was not totally excluded. The x rays proved to be much more powerful than sunbeams in stopping the development of bacteria cultures. Dr. Rieder is opposed to the opinion that the influence exerted by the x rays may be in reality an effect of heat, for the gelatin was not liquefied by the rays, and the fact that germs derived from the air subsequently developed on the gelatin plates in the ordinary way seemed to show that there was no chemical alteration of the media. He concludes from these preliminary experiments that the results obtained by him must be completed by observations on animals and eventually on the human subject. He says that it would not be necessary to destroy all the bacteria which occur in the body, but that it would be a great advance if we could stop the further development of pathogenic germs. The powerful bactericide action of the blood would then easily succeed in destroying the rest. The x rays must only aid the organism in its struggle against its enemies. The facts now published are obviously of great theoretical interest, but further observations are necessary to ascertain whether they are capable of practical application.

Methylene-blue in Malarial Fever.

Dr. Cardamatis, of Athens, inspired by the researches of Professor Ehrlich, of Berlin, and Professor Boinot, of Paris, has successfully used methylene-blue in the treatment of malarial fever. In his report communicated to the *Deutsche Medicinische Wochenschrift* he publishes 275 cases where the drug was administered. The daily dose was from ten to twelve grains ("Gran") for adults, eight grains for younger patients, six grains for children, and one or two grains for infants at the breast. In typical intermittent fever the drug is given ten hours before the beginning of the paroxysm; in remittent or continuous fever eight hours before the remission. When both methylene-blue and quinine failed a combination of the two drugs proved useful, but the effect was less marked when the methylene-blue was associated with arsenic. The combined treatment was necessary in only 30 of the 275 cases. In quotidian ague, when the patients had become free from fever, after five days' administration, the drug was given for six days. A pause of two days followed, after which it was again given for four days; after a second pause of eight days there was a final administration spread over two days. After twenty-two days a radical cure was obtained in this way. When the attacks appeared again after the fifth day treatment was continued for forty-eight days with several interruptions. In tertian and quartan ague the first stage of the treatment lasted twelve days and the remedy was given for sixty days with several carefully arranged intervals. The advantages of methylene-blue were especially obvious in those cases where quinine had proved useless or where there was intolerance of it. The drawbacks associated with methylene-blue are the staining of the tongue and the lips; a slight amount of cystitis was also sometimes observed, but these inconveniences are very slight in comparison with the radical cure obtained in nearly every case. Immunisation seemed to be produced by the treatment, for although the convalescents continued to reside in the malarial district very few of them indeed were subsequently attacked. With the exception of the cystitis already mentioned no toxic symptoms were ever observed. In 18 instances the fever disappeared after the first day, in 36 after the third, in 84 after the sixth, in 88 after the tenth, in 18 after the eleventh, and in 13 after the twelfth day. In 18 cases no cure was obtained. In 38 out of the 275 cases a relapse occurred after two months.

Remarkable Misadventure with Chloroform.

A sad event happened recently in the Catholic Hospital at Herne, in Westphalia. A man who had received a gunshot wound of the abdomen was brought to the hospital and was, of course, at once operated on. The operation was very difficult and chloroform administration had to be kept up for about four hours. Gas was the illuminant used in the operating room and it appeared that the gaslight decomposed the chloroform with evolution of powerful chlorinated vapours which overcame the two surgeons and the Sisters of Mercy. One of the sisters died on the second day and the lives of the others were in great danger.

Feb. 21st.

ROME.

(FROM OUR OWN CORRESPONDENT.)

"*Pneumonia Perniciosa.*"

HIGH initial fever, mostly with strong rigors subsiding after a few hours in well-pronounced diaphoresis only to reappear with new though less strong rigors, the temperature still remaining high; lateral pain referred to a point; expectoration of glutinous adhesive matter mingled with blood (*sangue vivo*), not rusty; extension, various and more or less abrupt, of the physical signs, tubular breathing, resonance slightly tympanitic, becoming all at once dull and bronchial; marked nervous depression and rapid enfeeblement of pulse; urine scanty, loaded with urates, strongly tinged with "uro-erythrina"; spleen sensibly enlarged and very frequent diarrhœa—such is the clinical account given by Dr. Gaetano Amoroso (*privat-docent* in medical pathology at Naples University) of what he provisionally calls "pneumonia perniciosa"—a disease which he saw for the first time a few months ago in company with Dr. Cardarelli, professor of clinical medicine in the same school, and of which he has quite recently seen four distinct cases, all of them in the Neapolitan circuit. In an open letter to Professor Cardarelli he follows up the above description with notes of treatment. Proceeding on the surmise that the "pneumonia" was indeed "pernicious," he began the treatment with very strong doses of quinine, notably with subcutaneous injections of the bichloride (half a gramme in each injection). The response appeared to warrant the surmise, the patients soon recovering first from the external signs of distress, then from the fever, and finally entering on speedy and steady convalescence. Dr. Amoroso has yet to confirm his surmise of the "pernicious" character of the pneumonia by bacteriological examination, and this he promises as soon as practicable. Meanwhile an able colleague (Dr. Michele de Capoa) joins issue with Dr. Amoroso, first, as to the "rarity" of the above cases, of which he (Dr. de Capoa) and other practitioners have seen several in their private *clientèle*. The prevailing influenza, he says, is so modifying the typical "pneumonia fibrinosa" that such hybrid or capricious forms as those described by Dr. Amoroso tend to become ever more common. Next, he objects to the creation of a new "clinical entity" under the name of "pneumonia perniciosa," for, he contends, the "localisation" in the lungs of the pneumonic infection, whether it comes from the bacillus of Pfeiffer or from the pneumococcus of Weichselbaum, may be more or less extended, more or less grave, according to the intensity of the infection contracted and according to the greater or less predisposition of the patient to such "localisations." In the third place, Dr. de Capoa maintains that Dr. Amoroso's cases have been observed before, the late lamented Professor Cantani, of Naples, having described a form of "abortive pneumonitis" which, commencing "tumultuariamente" (in a confused manner), with strong rigors, pain referred to a thoracic point, high fever, sanguineous (not rusty) expectoration, tubular breathing, &c., ran its course and terminated in cure within four days. Finally, he argues that the efficacy of the quinine salts in these cases is no positive argument for the rounding off or "individualising" of this variety of the pneumonic infection, the efficiency of these salts in infective maladies—and especially in influenza—being notorious, especially in those forms which, running a certain course, tend naturally towards cure. As the controversy stands the profession awaits Dr. Amoroso's bacteriological examination, noting at the same time the reasonableness of Dr. de Capoa's protest against multiplying "clinical entities," particularly in presence of a malady so protean as the prevailing influenza.

Feb. 18th.

Obituary.

THOMAS WILLIAM MUIR LONGMORE, M.R.C.S. ENG., L.R.C.P. LOND.

WE have to record the death of Mr. T. W. M. Longmore, the eldest son of the late Sir Thomas Longmore and Lady Longmore, of Woolston, Hants. After completing his general education at Westward Ho he entered the medical department of King's College at the commencement of the summer session of 1882 and in 1884–85 he obtained the Resident Warneford Scholarship. He also gained the Leathes Prize and the prize in Clinical Medicine. After finishing his curriculum at King's College he qualified in 1889 and was elected an Associate of the College. He then filled the offices of assistant house surgeon at the Shropshire County Hospital and at the Royal South Hants Infirmary. Mr. Longmore's medical career was greatly interfered with by a breakdown in his health and he never thoroughly recovered from a severe pneumonia and some pleuritic attacks from which he suffered whilst a student and which were followed by a chronic phthisis. This prevented him joining the army medical service as he had intended and compelled him to regularly spend his winters abroad. For many years he was in charge of one of Messrs. Cook's Nile steamers and lately was medical officer to the Luxor Hospital and resident physician at the Luxor Hotel. He was also for some months at Jerusalem in charge of the ophthalmic cases at the dispensary and this proved a most severe strain on his health and considerably affected him when apparently slowly recovering from his pulmonary trouble. He died at Luxor on Feb. 7th in his thirty-fourth year. Everyone who met "Tommy Longmore" was charmed with his courteous manner, his genial and gentle disposition, and will feel his death as a personal loss.

UNIVERSITY OF CAMBRIDGE.—Mr. J. G. Kerr, First-class Natural Sciences Tripos, 1894–6, who has already distinguished himself as an explorer and a naturalist in South America, has been elected a Junior Fellow of Christ's College.—Sir William Broadbent has been appointed by the Senate as an Elector to the Downing Professorship of Medicine.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held on Feb. 2nd at the Medical Institute, Birmingham, the President, Mr. J. W. Taylor, being in the chair.—Dr. Short showed a case of Transposition of the Heart, Liver, Spleen, and Stomach. The patient, a young man, aged twenty years, came under treatment in October, 1897, for subacute rheumatism when the abnormal position of the organs was discovered. The x rays were passed through the body and the position of the heart (on the right side) and the liver (on the left side) were plainly seen on the screen. A skiagraph was taken and will be shown at a future meeting. The position of the stomach on the right side was demonstrated by inflating it. The patient was not left-handed and had had no previous illness.—Mr. G. Heaton showed a patient in whom after a short illness a large Fæcal Concretion had been discharged from the Umbilicus. The patient before his illness and since his discharge has been in perfect health. There was no evidence or history of any tuberculous mischief. Mr. Heaton suggested that perhaps the concretion had become impacted in a Meckel's diverticulum, had set up ulceration, and then fortunately for the patient had been discharged through the umbilicus.—Mr. Christopher Martin showed a specimen of Cancer of the Body of the Uterus removed nine months ago by him by the operation of hysterectomy from a patient aged fifty-two years. There was a history of severe and continued hæmorrhage for nearly twelve months. On examination a large, hard, mobile fundus was felt and a diagnosis of myoma was made. It was then a question as to whether the appendages should be removed or vaginal hysterectomy performed. Fortunately for the patient Mr. Martin decided to perform hysterectomy. It was only after the removal of the organ that the malignant nature of the disease was evident. The patient made an excellent recovery and so far had no signs of recurrence.—Dr. J. W. Russell read a paper on Iodoform in the Treatment of Phthisis.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the necessary examinations and conformed to the by-laws and regulations, have been admitted Members of the College and have received their diplomas:—

Addison, Joseph Bartlett.
Akers, William Dutton.
Allfrey, Frederic Henry.
Ashe, Frank.
Austin, Neville Henry.
Barlow, Herbert Cecil.
Bendle, James Huxtable.
Beringer, Fitzjohn Alfred.
Blakiston, Frederick Cairns.
Bramsden, William Arthur.
Chater, Harold John.
Chennell. Ernest Philip.
Collens, Edward Howard.
Collum, Rowland William.
Collyer, Bertram Joseph.
Curme, Duncan Edward.
Darbyshire, Douglas Edward.
Davies, Thomas John.
Davies, William John Edwin.
Dee, Maurice Vincent.
De Gannes, Joseph Louis Fernand.
Denyer, Stanley Edward.
Dowding, Ernest Frederick Charles.
Dupigny, Joseph Elford.
Eastment, Alan Grant.
Ellery, Ernest Edward.
Elliott, Albert Ernest.
Fairbank, Christian Beverley.
Fairweather, William Ernest.
Flood, Frederick Gray.
Fuller, William Anderson.
Geach, Robert Neville.
Ghany, Mahomed Abdul.
Glover, John Abel.
Greg, Arthur Hyde.
Halliday, Stratford Dobree Tollemache.
Hamilton, John James Cecil.
Harness, Henri Nelson.
Harston, George Montagu.
Hatfield, Ronald.
Hayford, Ernest James.
Haylock, Sydney John.
Hewer, Edward Septimus Earnshaw.
Hollings. Guy Bertram.
Horton, William Alexander.
Humbly, William John.
Johnson, Rance Dreweatt.
Jones, George William Grey.
Joy, Norman Hubert.
Kendal, Nicholas Joseph.
Kilvert. John Ellis.
King, John William.
Knight, Charles Voughton.
Langley, John Inman.
Lee, Frederick William.
Lloyd, Edmund Eyre.
Lloyd, Langford Newman.
Lloyd, Richard Harte.
Lobb, Francis Frederick.
Lovegrove, Frederick Thomas Alexander.
McKinlay, John Robert.
MacLellan, William.
Millar, Alexander Fleming.
Milne, John Wallace.
Moore, Percy William.
Morgan, William Ellis.
Morris. Isaac Lleywelyn.
Mort, James Henry.
Mottram, Guy Nasmith.
Naesmyth, Donald Lutterell Kilve
Nanjapa, Codanda Apacha.
Nicholson, Charles Rowley.
Nolan, Maurice Joseph.
Osborne, Albert.
Owen, Lanyon Edward.
Parsons, Allan Chilcott.
Parsons. Walter Brock.
Peile, Harry Diamond.
Phillips, Herbert James.
Phipps, George Constantine.
Pierce, Robert Wynne Charles.
Powers, Richard Henry.
Prichard, Arthur Heaward.
Prior. Guy Percival Underdown.
Ransford, Sydenham Yeast Gifford.
Rivers, Walter Courtenay.
Robinson, Arthur Cecil.
Rose, Frank Herbert.
Rose, Samuel Frank.
Ross, Alexander Michael.
Ross, Edward Halford.
Shedden, Arnold Ward.
Skevington, Joseph Oliver.
Steele, George Herbert.
Stock, William Stuart Vernon.
Sweetlove, John Wallace.
Thwaites, Gilbert Bahn.
Tollputt, Arnold George.
Trevor, Arthur Herbert.
Way, Arthur Orsborn.
Weber, Edward Albert.
Wellby, Stanley.
Wernet, August Joseph.
Whitehead, Clarence Barns.
Whiteside, Henry Cadman.
Whitfield, Lorenzo.
Wijeyesakere, William.
Willis, Joseph Darrington.
Wood, James.

SOCIETY OF APOTHECARIES OF LONDON.—In February the following candidates passed in the subjects indicated:—

Surgery.—R. L. Anderson, Liverpool; H. Clough, Leeds; G. C. Hobbs (Section I.), St. Bartholomew's Hospital; B. Hogan, London Hospital; M. Jenkins, Guy's Hospital; J. A. Perdrau (Sections I. and II.), University College Hospital; and A. M. Weir, Royal Free Hospital.

Medicine.—R. L. Argles, St. Mary's Hospital; J. B. Cautley (Section II.), St. Bartholomew's Hospital; F. H. Fawcett, H. F. Forty, and A. R. Henchley, Middlesex Hospital; R. Holt, Royal College of Surgeons, Ireland; J. A. Perdrau (Sections I. and II.), University College Hospital; D. C. M. Shaw and H. Spinks, Manchester; F. A. St. John, St. Mary's Hospital; and L. Tong and H. J. Watts, Manchester.

Forensic Medicine.—R. L. Argles, St. Mary's Hospital; J. C. R. Curtis, University College Hospital; H. J. de Saram and F. H. Fawcett, Middlesex Hospital; E. Fryer, Guy's Hospital; A. R. Henchley, Middlesex Hospital; R. Holt, Royal College of Surgeons, Ireland; J. A. Perdrau, University College Hospital; H. Spinks, Manchester; F. A. St. John, St. Mary's Hospital; and L. Tong, Manchester.

Midwifery.—H. A. Ahrens, King's College Hospital; R. L. Argles, St. Mary's Hospital; J. S. Barnes, St. Thomas's Hospital; D. Davies, London Hospital; H. J. de Saram, F. H. Fawcett, and H. F. Forty, Middlesex Hospital; J. A. Perdrau, University College Hospital; G. M. F. Pereira, Calcutta and Royal Free Hospital; D. C. M. Shaw and L. Tong, Manchester; and W. A. H. R. Smith, King's College Hospital.

The diploma of the Society was granted to the following candidates: Messrs. R. L. Anderson, J. B. Cautley, J. C. R. Curtis, F. H. Fawcett, H. F. Forty, R. Holt, J. A. Perdrau, and L. Tong, and Miss A. M. Weir.

VACCINATION AT GLOUCESTER.—The returns presented to the Gloucester Board of Guardians on Feb. 8th relating to vaccination in the union during the first six months of 1897 showed that 571 children were unaccounted for out of 817 births. No action was taken in the matter.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—A meeting of this society was held on Jan. 28th, Mr. F. Marsh, vice-president, being in the chair. Mr. Atwood Thorne showed for the President a man, aged twenty-one years, who had been operated on for an extra-dural abscess. He had first presented himself at the Central London Throat Hospital complaining of giddiness, headache, and pain behind the right ear; there was also a history of discharge from the ear for many years. On being treated with a Leiter's coil the symptoms quickly disappeared and nothing further was done for the time being. Two months later he returned complaining of much pain in and behind the ear, giddiness, and a general feeling of depression. There was a large swelling behind and above the mastoid and a profuse purulent discharge from the ear. The swelling was at once incised. On the following day it had not completely disappeared and on cleaning the external meatus and pressing the swelling the pus was seen to exude from the tympanum and therefore to be of intracranial origin. The incision having been enlarged and the bone bared the pus was seen to be exuding from a small fistula in the squamous part of the temporal bone. This was enlarged to about the size of a penny, a bridge being left across to prevent hernia cerebri; granulations which were found on the dura mater were gently scraped away and the usual mastoid operation performed. The patient made an uninterrupted recovery and until lately has had no pain. During the last few days he has had some pain and granulations are seen to be present.—Mr. F. Marsh (Birmingham) read a paper on Five Cases of Cerebral Abscess due to Ear Disease.—Mr. Ballance read a paper on Some Lessons in the Diagnosis and Treatment of Intracranial Complications in Otitis Media gleaned from twelve fatal cases.—Dr. Milligan (Manchester) said he had only one opportunity of using anti-streptococcic serum in a case of septicæmia following chronic suppurative middle-ear disease and it had not proved to be of the slightest value. In Manchester they had had an unusual experience of cerebral abscess following influenza; in several cases the abscess had been located in the frontal lobe.—Mr. St. George Reid read the notes of a case of Traumatic Rupture of the Tympanic Membrane in a child, aged nine years, caused by a fall on the point of the chin. The child was playing on the banisters and fell over, striking the point of the chin. There was no loss of consciousness or any symptom of fractured base; slight oozing of blood was noticed from the external meatus and on examination a linear perforation was found in the posterior segment running in the direction of the fibres with raw edges from which the blood was oozing. There was slight temporary deafness but no other injury of the head whatever. He believed this to be the only case recorded of rupture of the membrane from this form of violence.—Mr. Atwood Thorne showed for the President a case of Lupus of the Nose and also a man, aged fifty years, with a Black Patch of Pigmentation on the Soft Palate, which the patient had first noticed four years previously and was uncertain whether it had increased or not. The degree of pigmentation had not altered. The patch was not raised, caused no trouble, and was only discovered in the routine examination of the mouth.—Mr. F. Marsh showed a case of Multiple Papillomata of the Larynx. The patient, a man, aged thirty-six years, had suffered for seven years from aphonia and latterly from aching pain in the throat after use of the voice which was now a hoarse whisper. A spray of pure rectified spirit had been used with some slight benefit and removal by thyrotomy was contemplated as the patient was not willing to submit to intra-laryngeal removal.—Mr. Wyatt Wingrave showed a man, aged forty-eight years, suffering from Ulceration (malignant) of the Right Tonsil extending to the faucial pillar and tongue. The patient had contracted syphilis several years previously. Microscopic examination showed well-marked stratified epithelioma.—Dr. Furniss Potter showed a case (previously exhibited at the Laryngological Society of London) of Malignant Disease Infiltrating the Left Side of the Larynx in a man aged sixty-four years.—Dr. Milligan said he would be disposed to perform a thyrotomy. In the event of the disease being found to be much greater than appeared on laryngoscopic examination he would advise partial excision of the larynx. It seemed to him to be a case in which operation was justified.

DENTAL FEES.—At Newton Abbott on Feb. 11th a dentist sued a farmer for £10 10*s*. for a set of teeth. The defendant went to plaintiff for a set of teeth and a model of his mouth was taken. When they were ready he was given notice, but so far as plaintiff knew defendant never attended to have them fitted. At the expiration of six months the teeth were sent to defendant by registered post and he kept them for two years. Judgment was given for the plaintiff for £10 10*s*. and costs.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—The fifth meeting of the session was held in the medical library of University College on Feb. 9th, Dr. J. E. Shaw being in the chair.—Dr. B. Baron showed a patient with Carcinoma of the Larynx.—Dr. Shaw showed a patient with Cerebellar Ataxia.—Mr. Barclay read a paper on Tuberculous Disease of the Foot (patients were shown).—Professor E. Fawcett showed numerous specimens which had recently been added to the school museum, including plaster-casts showing the position of the internal organs, models of the internal ear, a set of bones showing the centres of ossification in the humerus at various ages, and several coloured dissections of the brain.—Mr. J. L. Firth read notes on a case of Ovariotomy in which a large ovarian dermoid and three small omental dermoids were removed.—Dr. Aust Lawrence, Mr. Ewens, Mr. Morton, and Mr. Carwardine spoke on the paper.—Dr. F. H. Edgeworth read a paper on Hysterical Paroxysmal Œdema.—Dr. Michell Clarke made some remarks on the subject.

THE MEDICAL GUILD.—The annual dinner of this society was held at the Albion Hotel, Manchester, on Feb. 15th. There was a good attendance of members and their friends, including representatives of the Wigan Medical Guild and the Stockport Medical Society. In the course of the evening various speakers made references to the usefulness of the Guild and to the necessity which exists for the establishment of like societies in the more important towns of the kingdom. As a matter of fact, the Guild has successfully taken action in many cases of quackery, provident dispensaries, advertising by medical men, difficulties with midwives, medical aid societies, &c. The annual meeting was held on Jan. 28th, when the following officers were elected: President: Alderman F. H. Walmsley, J.P., M.R.C.S Eng. Vice presidents: Mr. H. Aldred, Dr. H. Ashby, Dr. C H. Braddon, Dr. S. Buckley, Mr. W. Crosby, Dr. J. Dreschfeld, Dr. A. M. Edge, Dr. C. E. Glascott, Dr. A. Godson, Dr. J. Hardie, Mr. F. Hepworth, Dr. T. Jones, Dr. D. Little, Dr. T. N. Orchard, Dr. D. Lloyd Roberts, Dr. H. Simpson, Mr. F. A. Southam, Dr. G. Steell, Mr. W. Whitehead, Dr. S. Woodcock, Mr. G. A. Wright, and Mr. J. H. Young. Chairman: Professor J. Dixon Mann, M.D. St. And., F.R C.P. Lond. Vice-chairman: Dr. R. H. Wolstenholme. Treasurer: Dr. C. G. L. Skinner. Secretary: Dr. Alexander Stewart, Eccles Old-road, Pendleton, Manchester.

DIPHTHERIA IN LONDON.—In the week ending Feb. 12th, the registered deaths from diphtheria in the county of London numbered 45, having risen from 33, 36, and 42 in the preceding three weeks, and exceeding the corrected decennial average for the corresponding week by 4. Of the 45 deaths, 25 were of children aged from one to five years, 18 others were of young persons aged under twenty years; and only 2 were of persons over that age. Hackney was credited with 6 deaths, Wandsworth with 5, Fulham with 4, and Camberwell sanitary area with 3 deaths. The close of the week found 1042 diphtheria patients in hospital, the fresh admissions during the week having been 135. In the Outer Ring the mortality from the disease was very heavy, 22 deaths having been registered, of which 8 were in Willesden, 3 in Plaistow, and 2 in Walthamstow. Last week the registered deaths in the county of London from diphtheria fell to 33, and were 5 below the corrected decennial average for the particular week. There were 6 deaths of persons resident in Islington, 5 in Poplar, and 3 each in St. Pancras, Newington, and Wandsworth sanitary areas. Saturday last found 1058 cases of diphtheria under isolation in London hospitals, the admissions during the week having been 147. In the Outer Ring the registered deaths from the disease numbered 18, a number which is considerably larger, relatively, than the total for London. The West Ham district was credited with 5 of the deaths and 3 belonged to Kingston.

CLEVEDON COTTAGE HOSPITAL.—The annual report of this hospital, which has recently been issued, shows that 135 patients were admitted in 1897—a larger number than in any previous year. The receipts amounted to £396 and after all expenses were met a favourable balance of £28 remained. The committee have decided to enlarge and improve the building and an anonymous donor has already given £300 towards this object.

THE LECTURERS OF THE ST. JOHN AMBULANCE ASSOCIATION.—We have received the following statement with a request for its publication: "The Committee of the Weston-super-Mare Local Centre of the St. John Ambulance Association, having considered the Regulations for the Home Hygiene Course, the scope of the Syllabus for Lecturers' Certificate and for Elementary Certificate, feel that these cannot be efficiently carried out by anyone who has not passed through the complete curriculum of a medical education and that moreover it will be lowering of the status of the St. John Ambulance Association that non-medical persons be now for the first time admitted to the lecturing staff, which has hitherto proved itself thoroughly adequate both as to numbers, efficiency, and expert knowledge. The committee, therefore, would strongly urge the Central Executive to reconsider the new and somewhat revolutionary rules regarding the lecturers so inconsistent with the following note in the pamphlet, T/1 C. 1895: 'No lecturers whatever can be recognised who are not duly qualified medical practitioners.'"

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 10th, Dr. H. Macnaughton Jones, President, being in the chair.—Mr. F. Bowreman Jessett showed specimens of Sarcoma of the Ovary, Fibromyoma of the Uterus, Uterine Myoma removed subsequently to oöphorectomy, and Extra-uterine Gestation.—The Inaugural Address was delivered by the President, Dr. Macnaughton Jones, under the title of "The Position of Gynæcology To-day." The meeting was followed by a conversazione at which over 100 Fellows and guests were present. An exhibition of microscopic specimens illustrating the Pathology of the Female Pelvic Organs presented many points of interest. Over fifty specimens were shown, kindly lent by Mr. J. Bland Sutton, Mr. J. H. Targett, Dr. T. W. Eden, and Dr. Macnaughton Jones, and arranged by Dr. A. E. Giles. In addition Messrs. Arnold and Sons showed a collection of Gynæcological Instruments and Messrs. Oppenheimer showed some Therapeutic Remedies. The evening was rendered still more enjoyable by a choice selection of music, both vocal and instrumental.

MEDICAL REFORM: A MEETING AT BRADFORD.—A meeting of members of the medical profession of Bradford and neighbourhood was held on Feb. 21st at Bradford on the invitation of the Bradford and District Medico-Ethical Society. The chair was occupied by Dr. Hime, President of the society. An address was delivered by Mr. R. B. Anderson, F.R.C.S. Eng., who attended as a deputation representing the Corporate and Reform Committee. Mr. Anderson referred to most of the principal topics which by the consensus of the profession are loudly calling for reform, but his address was largely devoted to the practical methods adopted and advocated by his committee for securing the necessary reforms. In particular he dwelt on the necessity of a larger representation of the profession as distinguished from corporations on the General Medical Council. Mr. Anderson quoted By-law 15 of the Royal College of Surgeons of England, which declares that the Council will at all times protect and defend the professional interests of Fellows and Members of the College. He further drew attention to the fact that by the terms of the Medical Act, 1886, the representatives of the medical corporations on the General Medical Council are to be elected "by the following bodies"—i.e., by the members constituting respectively the twenty bodies named in the Act—while there is not one word in the Act authorising the councils or boards, &c., of those "bodies" to arrogate to themselves the sole power of electing the representatives and taking that important privilege out of the hands of the constituents.—There was an interesting discussion afterwards and a resolution was carried unanimously expressing sympathy with the efforts of the Corporate and Medical Reform Committee to secure medical reform. Some of the members expressed the desire that affiliation with a view to joint action on the subject of reform might be effected between the Bradford and other provincial societies and the London committee.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

University of London Bill.

THE Bill of the Government to make further provision with reference to the University of London was introduced in the House of Lords by the Duke of Devonshire on Monday, Feb. 21st. Introduced thus early in the session there should be no difficulty in having the Bill considered and dealt with by both Houses of Parliament.

Defective and Epileptic Children.

The Departmental Committee on the Education of Defective and Epileptic Children made its report to the Committee of Council on Education in January last and Sir John Gorst, who speaks of it as an extremely interesting one, has given an assurance that the report will be laid before Parliament directly.

Food Products Adulteration.

In the Queen's Speech at the opening of the session it was said that a measure to prevent the adulteration of food and drugs would be laid before Parliament in case of time permitting for its consideration and to this qualification several members of the House of Commons specially interested in the question took exception. Accordingly, during the debate on the address Mr. Kearley, one of their number, brought forward an amendment pressing the urgent need for a measure to check the widespread adulteration of food products and expressing regret that no assurance had been given that such a measure would be proposed by the Government during the present session of Parliament. Mr. Chaplin, President of the Local Government Board, met this amendment with the statement that he and his colleagues are most anxious to see legislation and that he himself had been for some time busily engaged in the preparation of a Bill. At the same time he gave the House to understand that there will be no chance of passing a Bill which does all that the Select Committee recommended.

HOUSE OF COMMONS.

THURSDAY, FEB. 17TH.

Lead Poisoning.

Mr. Loder asked the Home Secretary whether he could state how many deaths attributable to lead poisoning occurred last year amongst boys under eighteen years of age and whether he proposed to take any steps to prevent boys of that age from being employed in lead factories.—Sir Matthew White Ridley replied: Thirty-seven cases of lead poisoning were reported last year as occurring in factories and workshops among boys under eighteen, two of which are known to have ended fatally. I am not prepared at present to make any statement as to the steps which will be taken in regard to the processes in which lead poisoning is most common, but the whole subject is engaging my earnest attention.

The Extirpation of Rabies.

Several questions on this subject were addressed to the President of the Board of Agriculture, and in reply Mr. Long said: The number of cases of rabies in dogs in Great Britain was 438 in 1896 and 151 last year when our operations began. The figures during the four quarters of the year 1897 have been 48, 42, 40, and 21, and during the first seven weeks of the current year only 5 cases are known to have occurred. The first of the series of muzzling orders which we have imposed took effect as from April 6th last, so that we have every reason to be satisfied with the progress we have made towards the eradication of rabies in this country. Under the muzzling orders now in force sporting dogs are exempted from being muzzled while being used for sporting purposes, but there is no exemption in favour of sheepdogs as such, nor would it be possible for such an exemption to be allowed consistently with the success of the operations which we have undertaken for the extirpation of rabies.

Army Medical Department.

Sir Howard Vincent asked the Under Secretary of State for War to state if there was still a dearth of suitable candidates for the Army Medical Department, and how many vacancies there were; if the standard of medical and surgical attainment had had to be lowered; and what steps the Secretary of State proposed to take in order to put the department on a better basis.—Mr. Brodrick replied: I regret to say there is still a dearth of candidates for the Army Medical Staff. There are at present thirty-eight vacancies and twenty-one probationers are available to fill them. The standard of medical and surgical qualifications has not been lowered. The steps which it is intended to take in order to put the department on a better basis will shortly be announced.

Polluted Water in Factories.

Mr. MacAleese asked the Home Secretary if he had prepared an Order under the Cotton Cloth Factories Act, 1897, and, if so, will the same include and extend to Belfast linen cloth and spinning factories that were using polluted water for steam generation and use amongst workers, and when he would submit the same to the House.—Sir Matthew White Ridley said, in reply: Yes, an Order has been made and laid before Parliament. It extends to all cotton cloth factories, but I have no power to extend it to linen factories, which are subject to special rules.

FRIDAY, FEB. 18TH.

Pauper Nursing in Ireland.

Mr. Daly asked the Chief Secretary to the Lord Lieutenant of Ireland whether he was aware that an order had been issued by the Local Government Board, directing that only paid nurses shall take charge of the sick poor in Irish workhouses in future, whether Boards of Guardians in Ireland were consulted before this order was issued, and whether he would direct that half the salaries of paid nurses in Irish workhouses be paid out of the Imperial Exchequer. Mr. Gerald Balfour replied that the substitution of paid trained nurses for pauper assistance while perhaps entailing some additional expense would undoubtedly result in increased efficiency in the management of the union hospitals and the treatment of the patients therein. For many years the Local Government Board had continually impressed upon boards of guardians the necessity of providing trained or experienced nurses in workhouse infirmaries and fever hospitals, and it was in consequence of the unwillingness of some boards of guardians to carry out the recommendations of the Local Government Board to appoint qualified persons as nurses that the order in question, which was practically to the same effect as the English order, had been issued. Boards of guardians were not consulted as to the issue of the order. The question of the payment of the salaries was at present under consideration and he was not prepared to make any further statement on the subject.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALFORD, H. T. M., L.R.C.P., M.R.C.S., has been appointed Junior Obstetric House Physician to St. Thomas's Hospital.

ASHE, C. S., M.B., Ch.B. Vict., has been appointed a Medical Officer to the Dispensary of the Manchester Children's Hospital.

BABINGTON, S. N., L.R.C.P., M.R.C.S., has been appointed Junior Ophthalmic House Surgeon to St. Thomas's Hospital.

BILLIALD, R. A., L.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Medical Officer for the Victoria Cottage Hospital, Kington.

BLAKISTON, A. A., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Shepton Mallet Union.

BRAINE-HARTNELL, GEORGE M. P., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Superintendent to the Worcester County and City Lunatic Asylum.

BUBB, WILLIAM, M.R.C.S., L.R.C.P. Lond., has been appointed Senior Medical Officer and Deputy Superintendent to the Worcester County and City Lunatic Asylum.

BUSH, J. PAUL, M.R.C.S., has been appointed Lecturer on Operative Surgery for the University College, Bristol.

BYERS, JOHN W., Professor, M.A., M.D., M.A.O. (*honoris causâ*) R.U.I., has been re-appointed Examiner in Obstetric Medicine in the Royal University of Ireland.

COBB, E. H., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

DEBENHAM, H. K., M.R.C.S., has been appointed a Consulting Medical Officer for the Victoria Cottage Hospital, Kington.

FLUX, GEORGE BELBEN, M.D. Brux., M.R.C.S., L.R.C.P., L.S.A., has been appointed Anæsthetist to the Great Northern Central Hospital, London.

GIBBON, A. H., L.R.C.P. Edin., L.R.C.S Edin., has been re-appointed Clinical Assistant in the Electrical Department to St. Thomas's Hospital.

GRANT, A. J., M.D. Brux., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Throat to St. Thomas's Hospital.

GREAVES, F. L. A., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

GREG, A. H., B.A. Camb., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

GREGORY, W. H., M D. Edin., has been appointed Medical Officer for the No. 4 Sanitary District, and Vaccination Officer for No. 2 Sanitary District of the Beverley Union, vice Henry Walker, resigned.

HALL, J. S., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

HAMILTON, R. K., L R.C.P. Lond, M.R.C.S., has been appointed Medical Officer for the Hasland Sanitary District of the Chesterfield Union.

HARDENBERG, E. F. H., M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Certifying Factory Surgeon for the Watford District.

HASLAM, H. C., M A., M.B., B.C. Camb., L.R.C.P., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

HEWITT, H. B., L.R.C.P., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

LEVASON, A. G, L.D S.R.C.S. Irel., has been re-appointed an Honorary Dental Surgeon to the Victoria Cottage Hospital, Kington.

LEVASON, P. G., L.D.S.R.C.S. Eng., has been re-appointed an Honorary Dental Surgeon to the Victoria Cottage Hospital, Kington.

MARRIAGE, H. J., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

MARTIN, F. R., B.A. Camb., L.R.C.P., M.R.C.S., has been re-appointed Clinical Assistant in the Special Department for Diseases of the Ear to St. Thomas's Hospital.

McCLEAN, J. F., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

MEARNS, W., M.D. Aberd., has been re-appointed an Honorary Medical Officer for the Gateshead Dispensary.

MICHELL, J. C., M.R.C.S., has been appointed Medical Officer of Health for the Lynton Urban Sanitary District, vice D. L. Hubbard, resigned.

MILLAR, A. F., L R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Throat to St. Thomas's Hospital.

MUIR, J. C., M.B. Camb., L.R.C.P. Lond., M R.C.S., has been appointed a Junior Resident Medical Officer to the Manchester Children's Hospital.

NEWCOMBE, F. W., M D. Durh., has been re-appointed an Honorary Medical Officer for the Gateshead Dispensary.

NICHOLLS, W. J., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Chipping Norton Union.

OSBORNE, A. A., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Skin to St. Thomas's Hospital.

PARSONS, A. C., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Skin to St. Thomas's Hospital.

POPE, H. B., M.D. Dubl., has been appointed an Honorary Medical Officer for the Victoria Cottage Hospital, Kington.

PULFORD, HERBERT, M.A., M.B., B.C. Cantab., has been appointed Second Assistant Medical Officer to the Worcester County and City Lunatic Asylum.

REYNOLDS, J. H., M.B., C.M. Edin., has been appointed a Junior House Surgeon to the Miller Hospital, Greenwich.

REYNOLDS, C. A., B.A., M.B., B.Ch. Oxon., has been appointed Clinical Assistant in the Special Department for Diseases of the Ear to St. Thomas's Hospital.

ROBINSON, A. C., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

ROWBOTHAM, A. J., M.R.C.S., has been re-appointed Medical Officer of Health for the Newton-on-Trent Sanitary District.

SANGUINETTI, H. H., B.A., M.B., B.Ch. Oxon., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

SCOTT, H. H., L.R.C.P., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

SHEA, H. F., M.B., B.S. Durh., L.R.C.P., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

SHIACH, S. A., M.B., C.M. Edin., has been appointed Medical Officer for the Llanishen Sanitary District of the Cardiff Union.

SLADER, G. W., L.R.C.S. Irel., has been re-appointed Medical Officer for the Blyton Sanitary District of Gainsborough Union.

SMITH, J. LORRAIN, M.A., M.D. Edin., has been re-appointed Examiner in Pathology at the Royal University of Ireland.

SMYTH, J. C., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Wells Rural District Council.

STAUNTON, FRED. W., M.B., B.Ch. Dubl., has been appointed a Medical Officer to the Waterford Gaol, vice W. L. Mackesy.

STEPHENSON, W., M.R.C.S., has been appointed Medical Officer of Health by the Beverley Rural District Council, vice H. Walker, resigned.

THOMSON, STCLAIR, M.D. Lond., F.R.C.S. Eng., has been appointed Surgeon to the Royal Ear Hospital, vice E. Cresswell Baber, resigned.

TURNER, S. D., L.R.C.P., M.R.C.S., has been appointed Senior Obstetric House Physician to St. Thomas's Hospital.

TYRRELL, F. A. C., B.A., M.B., B.C. Camb., L.R.C.P., M.R.C.S. has been appointed Senior Ophthalmic House Surgeon to the St. Thomas's Hospital.

WEBSTER, T., M.R.C.S., has been re-appointed a Medical Officer by the Bewdley Town Council.

WHITLA, W., Professor, M.A. (*honoris causâ*), M.D., R.W.I., has been re-appointed Examiner in Materia Medica at the Royal University of Ireland.

WYLLYS, HENRY J. M., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed House Surgeon to the Norfolk and Norwich Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BEDFORD COLLEGE, LONDON, FOR WOMEN, York-place, Baker-street, W.—Professorship in Zoology.

BELGRAVE HOSPITAL FOR CHILDREN, 77 and 79, Gloucester-street, London.—Surgeon to Out-patients. Also House Surgeon for six months. Board, lodging, and washing provided.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES, John Bright-street, Birmingham.—Clinical Assistant for three months.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY, Chesterfield.—Resident Junior House Surgeon and Dispenser. Salary £50 per annum, with board, apartments, and laundress.

COTON HILL REGISTERED HOSPITAL FOR MENTAL DISEASES.—Assistant Medical Officer. Salary £100 per annum, with two annual increases of £25 each to a maximum of £150, with board, lodging, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis-road, Shadwell, E.—House Surgeon for six months. Board, residence, &c., are provided, and an honorarium of 15 guineas, conditionally. Also Casualty Officer for six months. Salary at the rate of £100 per annum.

FINSBURY DISPENSARY, Brewer-street, Goswell-road, E.C.—Physician. An honorarium of £40 will be paid during the pleasure of the Committee.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Surgeon. Also House Surgeon. Salary £100 per annum, with board, residence, and washing. Also Assistant House Surgeon. Board, residence, and washing provided.

GUEST HOSPITAL, Dudley.—Assistant House Surgeon, for six months. Board, lodging, and washing in the hospital provided.

LEICESTER INFIRMARY.—Surgical Dresser, and also a Clinical Clerk, for six months each.

LIVERPOOL ROYAL INFIRMARY.—Honorary Gynæcological Surgeon.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer, for six months. Residence in the hospital, board, and washing provided, and an honorarium given conditionally.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer at Bowden, Cheshire, for twelve months. Salary £60 per annum, with board, apartments, and washing.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon, for six months. The House Physician and House Surgeon will each receive a salary at the rate of £40 a year. The Assistant House Physician and Assistant House Surgeon will each receive a salary at the rate of £20 a year.

NORFOLK AND NORWICH HOSPITAL.—House Physician, for two years, unmarried. Salary £60 per annum, with board, lodging, and washing.

NORTH LONDON HOSPITAL FOR CONSUMPTION, Hampstead, N.W.—Resident Medical Officer, for one year. Honorarium £40 per annum, with board, lodging, &c., in the hospital. Applications to the Acting Secretary, 41, Fitzroy-square, W.

PARISH OF ST. GILES, Camberwell.—Assistant Medical Officer for the Infirmary at Havil-street, Camberwell, and the Workhouse at Gordon-road, Peckham; also for relief duty at the Constance-road Workhouse of the Parish for one year only. Salary £50, with apartments, board, and washing. Applications to the Clerk to the Guardians, 29, Peckham-road, S.E.

ROCHFORD UNION.—District Medical Officer and Public Vaccinator for the Hadleigh District. Salary £45 per annum, with certain extra fees and subject to statutory requirements. Applications to the Clerk to the Guardians, Southend-on-Sea.

ROYAL HALIFAX INFIRMARY.—Honorary Ophthalmic Surgeon.

ROYAL HOSPITAL FOR SICK CHILDREN, Glasgow.—House Physician. Salary £50, with board and washing.

ROYAL INFIRMARY, Hull.—Senior House Surgeon, unmarried. Salary 100 guineas, with board and furnished apartments.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Honorary Surgeon.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Resident House Surgeon. Salary £80, and board, residence, and laundry provided. Also Assistant House Surgeon. Salary £30, and board, residence, and laundry provided.

SHEFFIELD UNION WORKHOUSE INFIRMARY.—Junior Assistant Medical Officer, for the Workhouse Infirmary, Fir Vale, Sheffield, for six months, unmarried. Residence in the Infirmary, furnished apartments, board, and washing provided, and an honorarium of £12 granted. Applications to the Clerk to the Guardians, Union Offices, West Bar, Sheffield.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon for six months.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £80 per annum, with board and residence in the hospital.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM, Powick, near Worcester.—Third Assistant Medical Officer, unmarried. Salary £100 per annum, rising to £120 in a year, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BARTLETT.—On Feb. 18th, at The Limes, Romsey, Hampshire, the wife of Ralph Clarke Bartlett, M.R.C.S., L.R.C.P., of a son.

BROADBENT.—On Feb 18th, at Seymour-street, Portman-square, the wife of John F. H. Broadbent, M.D., of a daughter.

FISHER.—On Feb. 4th, at Westbury-on-Severn, Glos., the wife of Reginald W. Fisher, M.R.C.S., L.R.C.P., of a daughter.

FOOT.—On Feb. 21st, at Church House, Pulborough, Sussex, the wife of Ernest Foot, M.R.C.S., of a daughter.

GAGE-BROWN.—On the 20th inst., at 85, Cadogan-place, S.W., the wife of Dr. C. H. Gage-Brown, of a son.

PAYNE.—On Feb. 20th, at Chichele-road, Cricklewood, London, N.W., the wife of E. Marten Payne, M.B. Aberd., of a daughter.

PESKETT.—On Feb. 14th, at Oxford-street, Nottingham, the wife of A. W. Chalmers Peskett, M.A., M.B., B.C. Cantab., of a son.

PRITCHARD.—On Feb. 21st, at St. Giles-street, Norwich, the wife of Eric Law Pritchard, M.D., of a daughter.

RAY.—On Feb. 18th, at Southery, Norfolk, the wife of Walter J. O. Ray, M.R.C.S., L.R.C.P., of a son.

SHELSWELL.—On Feb. 19th, at Mitcham, the wife of Oscar B. Shelswell, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

FINEGAN—MCGLYNN.—On Feb. 17th, at University Chapel, St. Stephen's-green, Dublin, Patrick Joseph Finegan, L.R.C.P., L.R.C.S. Irel., J.P., Abbey View, Carlingford, Co. Louth, to Mary J. McGlynn, only daughter of the late Edward McGlynn, of Letterkenny.

GORNALL—DAWSON.—On Feb. 17th, at St. Margaret's Church, Binsey, Oxford, John Guest Gornall, M.A., M.B. Cantab., of Latchford, Warrington, to Constance Maria Dawson, third daughter of the late Frederick Hill Dawson, of Cumnor, Oxfordshire.

HALL—COOPER.—On Feb. 22nd, at St. Margaret's, Rochester, Surgeon-Captain R. J. D. Hall, A.M.S., son of the late Major Hall, of the Bombay Army, to Daisy Isabel Annie, youngest daughter of Lieutenant-Colonel Cooper, late R.M.L.I., of Beaconsfield House, Rochester.

HUTLEY—PAGE.—On Feb. 18th, at St. Saviour's, South Hampstead, by Rev. John Hose, M.A., Charles William Hutley, of Askern, Yorks., eldest son of Charles Hutley, Esq., of Wigboro', Colchester, Essex, to Kate, daughter of the late B. Page, Esq., of Tolleshunt D'Arcy, Essex.

DEATHS.

STONEY.—On Feb. 20th, at Millom, Cumberland, suddenly, Jessie Mary (Mamie), the beloved and eldest daughter of Percy Butler and Mary Stoney, aged 25 years.

WAKEFIELD.—On Feb. 19th, at the Lower Green House, Painswick, Gloucestershire, William Wakefield, M.D.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (2nd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (3rd).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2 30 P.M.).

FRIDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (5th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (28th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. F Treves: Abdominal Section as a Medical Measure.

TUESDAY (1st). — ROENTGEN SOCIETY (Medical Society's Rooms, 11, Chandos-st., W.).—7.30 P.M. Council. 8 P.M. General Meeting. Paper:—Mr. J. H. Gardiner: Photographic Activity and Penetration of Roentgen Rays at different Vacua. And other papers by Mr. W. Noble and Mr. H. Edwards (Birmingham). Mr. Isenthal will show some New Apparatus.

PATHOLOGICAL SOCIETY OF LONDON. — 8.30 P.M. Mr. T. W. W. Stephens and Mr. W. Meyers: On Test-tube Reactions between Cobra Poison and its Antitoxin.—Mr. G. Heaton: (1) Circumscribed Traumatic Aneurysm of the Innominate Artery; (2) Congenital Sarcoma of the Liver.—Mr. C. P. White: A Case of Ulceration of the Small Intestine.—Mr. T. Carwardine: A Pendulous Hydatid Cyst of the Liver resembling an enlarged Gall Bladder.—Mr. C. B. Lockwood: A Retro-peritoneal Cyst supposed to have originated in the remains of the Wolffian Body.—Dr. W. Hunter: A Complete Case of Acromegaly with Casts and Formalin Preparations.—Dr. R. Crawfurd: A Heart with a Tumour of the Pulmonary Valves.—Dr. P. Weber: Speckled Kidneys due to an Irregular Fatty Degeneration, possibly caused by Plugging of Small Blood-vessels shortly before death.—Mr. S. G. Shattock: Mycetoma Papillomatosum. Card Specimens: Mr. C. F. Beadles: (1) Primary Carcinoma of Kidney; (2) Malignant Stricture of Sigmoid Flexure.

WEDNESDAY (2nd).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussion on the Treatment of Cardiac and Circulatory Affections by Baths, Exercises, and Climate (reopened by Mr. Sansome). Dr. W. Bain (Harrogate): The Action of some of the Natural Mineral Waters on the Flow of Bile—an Experimental Research.

THURSDAY (3rd).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, W.).—8.30 P.M. Clinical Evening.

FRIDAY (4th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—Clinical Evening. Cases will be shown by Dr. Potter, Dr. S. Taylor, and others.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.15 P.M. Clinical Cases and Specimens will be shown by Dr. Toogood, Dr. Scholefield, Dr. Tayler, Dr. Dockrell, Mr. E. Clarke, Mr. Joscelyne.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (28th).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. F. G. Parsons: The Muscles of Mammals, with special relation to Human Myology.

LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. G. Stoker: Chronic Glandular Disease of the Nose and Naso-pharynx.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Mr. A. Wynter Blyth: The Law Relating to the Supervision of Food Supply.

TUESDAY (1st). — WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4.30 P.M. Dr. T. D. Savill: On Cases of Facial Paralysis and Monoplegia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Victor Horsley: Surgery of the Nervous System.

CITY ORTHOPÆDIC HOSPITAL.—5 P.M. Mr. Noble Smith: The Use of Apparatus in Orthopædic Surgery.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Stupor; Katatonia; Dementia and Senile Insanity.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Atropic Conditions.

ROYAL INSTITUTION.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

WEDNESDAY (2nd).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. F. G. Parsons: The Muscles of Mammals, with special relation to Human Myology.

LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: House Drainage.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Arkle: Mitral Disease.

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4 30 P.M. Mr. F. S. Eve: Mastoid Abscess, its Complications and Treatment. (Post-Graduate Course.)

ST. MARY'S HOSPITAL MEDICAL SCHOOL (Paddington, W.).—3.15 P.M. Sir William Broadbent: On a Case of Pneumonia with Abortive Crisis and Premature Resolution, followed by Suppuration of Bronchial Glands.

THURSDAY (3rd).—CHARING-CROSS HOSPITAL.—4 P.M. Dr. Mott: Demonstration of Medical Cases. (Post-graduate Class.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Barlow.

LONDON POST-GRADUATE COURSE.—Central London Sick Asylum. Cleveland-st., W.—5.30 P.M., Mr. A. Pearce Gould: Clinical Lecture.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—Mr. A. Wynter Blyth: Sanitary Laws and Regulations Governing the Metropolis.

ROYAL INSTITUTION.—3 P.M. Prof. J. A. Fleming: Recent Researches in Magnetism and Diamagnetism.

FRIDAY (4th).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof F. G. Parsons: The Muscles of Mammals with special relation to Human Myology.

LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Anthrax and Malignant Œdema.

ROYAL INSTITUTION.—9 P.M. Prof. T. E. Thorpe: Some Recent Results of Physico-Chemical Inquiry.

EAST LONDON HOSPITAL FOR CHILDREN (Shadwell, E.).—4 P.M. Mr. R. W. Parker: On Hip Disease.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume, were given in THE LANCET of Jan. 1st.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

DR. SCHLATTER'S CASE OF EXCISION OF THE STOMACH.

To the Editors of The Lancet.

Sirs,—Can any of your readers inform me from their experience of analogous cases whether it is probable that the portion of small gut which now does service as stomach in the case of the Swiss woman will acquire the same histological character as the stomach?

I am, Sirs, yours faithfully,

Eastbourne, Feb. 22nd, 1898. O. H.

"THE CARE OF CHANCERY LUNATICS."

To the Editors of The Lancet.

Sirs,—In answer to the question asked by "Invicta" in The Lancet of Feb. 19th (p. 553) as to the means employed to obtain the care of Chancery lunatics, I may state that the "committee of the person" has the care of the person of the lunatic and may determine the lunatic's residence subject to the control of the Court. To obtain the care of one of these persons one requires interest with the "committee" or the Board of Visitors. Only one such person may be received into an unlicensed house, but the Lunacy Commissioners have the power of allowing a second patient to be taken "under special circumstances." I am, Sirs, yours faithfully,

Feb. 19th, 1898. L. H. L.

INDIARUBBER TYRES FOR CARRIAGE WHEELS.

The Cortland Wagon Company, of Henrietta-street, Covent-garden, W.C., have submitted to us a section of an improved patent solid rubber tyre suitable for use on vehicles on country roads which they think is specially worth the attention of the members of the medical profession. The solid rubber employed appears to be of a very good quality and to stand the necessary pressure upon its rounded part of contact with the road without unduly "spreading," so that cutting by the steel rim into which it is fixed need scarcely be apprehended. The tyre is held on by two steel wires which are electrically welded and are guaranteed not to come off. The Cortland Wagon Company offer to supply the profession free of charge with 100 sets of these tyres fixed to the first 100 of their carriages ordered between March 1st and June 1st.

"A MODEL COTTAGE HOSPITAL."

In response to "R.'s" letter which appeared in our columns last week we are asked to say that the matron of the Horwich Cottage Hospital belonging to the Lancashire and Yorkshire Railway will be very pleased to give any information respecting the construction and arrangements of "a complete and perfect cottage hospital," containing seven beds belonging to the London and Yorkshire Railway Company.

THE YARROW HOME FOR CONVALESCENT CHILDREN.

To the Editors of The Lancet.

Sirs,—You were kind enough to publish in The Lancet of March 27th, 1897, a description of the Yarrow Home for Convalescent Children at Broadstairs. I have the pleasure to report that since the opening of this institution a little over two years ago, no less a number than 1299 children have been benefited by a stay there. It will be remembered the home is fully endowed and no subscriptions are required, also that it is not intended for the very poor but for children who have been respectably brought up and whose parents cannot afford to send them to the seaside entirely at their own expense. During the summer months the applications for admission are far in excess of the capabilities of the home, but in winter it is only partly filled and the trustees are most anxious to maintain its utility equally throughout the year. There is little doubt that the falling off in applications during the winter may arise from the fact that the home is thought not to be a very desirable resort during the inclement part of the year, but such is not the case. The building is thoroughly warmed and ventilated, a healthy temperature being maintained throughout, and there are play corridors within and covered playgrounds without. The grounds are planted and well sheltered and there are but very few days in the year when children cannot enjoy the fresh air, even when the weather debars them from going to the sea-front.

I am, Sirs, yours faithfully,

T. Fredk. Myers,

73a, Queen Victoria-street, E.C. Secretary of the Yarrow Home.

"THE DEFINITION OF PUERPERAL FEVER."

To the Editors of The Lancet.

Sirs,—An appeal for a definition of puerperal fever comes once again. "Inquirer" wishes to know whether all cases of peritonitis occurring at childbirth should be reported as cases of puerperal fever under the Notification Act. Thirty or forty years ago almost every condition that arose during the puerperal state, if it showed an increased pulse-rate and manifested such symptoms of rise of temperature as the days of no thermometer allowed the practitioner, was called puerperal fever. In "Illustrations of Puerperal Diseases," by R. Uvedale West, vice-president of the Obstetrical Society, published in 1862, we find puerperal fevers grouped under headings as follows: "(*a*) Cerebral Excitement and Disorders of the Mind in the Puerperal State regarded as varieties of Puerperal Fever; (*b*) Further Examples of the Pyogenic Diathesis; (*c*) Diarrhœa as a Variety of Puerperal Fever; (*d*) Puerperal Fever regarded as a Sthenic Disease; (*e*) Puerperal Fever regarded as an Asthenic Disease; (*f*) Puerperal Fever regarded as a Contagious and Epidemic Disease; (*g*) The Influence of the Puerperal State on Pre-existing Disease." Pneumonia, milk-fever, or abscess of breast, "diarrhœa with griping fever," dysentery, intestinal fever, abscess of the thigh, phlebitis, ephemeral fever, pleurisy, rheumatic fever, are all referred to as various forms and manifestations of puerperal fever. At this same period comparatively little notice was taken of vaginal discharge. It was only noted as being increased or diminished. No treatment per vaginam seems to have been practised, not even plain douching. Since those days we have learnt that abscess of the breast gives a rise of temperature (as seen by a thermometer and not guessed at) which need not of necessity have the slightest association with any state of the uterus beyond a sympathetic one; and we know that it is possible for peritonitis and many other affections to exist before or during gestation and even after parturition through no fault of the uterus and without there being any occasion for notifying the case as one of puerperal fever. When we come to an age necessitating Notification Acts we ought to be perfect in our definitions of the diseases named under them. That puerperal fever has been named for notification but never definitely defined is a fact that has been brought before us with painful iteration. Dr. Rentoul not long ago accused Dr. Cullingworth of not knowing the meaning of the term after the latter had given a presidential address on mortality from puerperal fever. The Notification Act was brought into force for the purpose of preventing the spread of diseases that are contagious or infectious. This fact should help us to define puerperal fever which has been included under the Act. If your correspondent's case was a contagious or infectious one in the sense that typical puerperal septicæmia is, then it was one of puerperal fever. If the discharges were such as would give typical puerperal fever to another, through vaginal examinations, then the case ought to have been notified. Peritonitis pure and simple, having no relation to disease of the uterus, could not be included under puerperal fevers—could not come "within the meaning of the Act." I beg to offer the following definition of puerperal fever. Puerperal fever is a name used to express certain conditions peculiar to the lying-in period that are caused by septic intoxication, which intoxication is produced by outside or inside septic or infective matter getting into the circulation by way of the uterus or vagina, and the state of the parts is such that infective products may find their way to the exterior to produce the same conditions in others who are lying-in. Diphtheria and erysipelas are said to cause puerperal fever, but the kind is entirely different to that of ordinary puerperal septicæmia. They really cause diphtheria and erysipelas of the generative passages and they may or may not be complicated with septicæmia. The majority of puerperal fevers are doubtless caused by much the same organisms as would cause septicæmia through other channels, such as wounds in various parts of the body. The discharge from a patient suffering from puerperal septicæmia will render ordinary wounds septic and the discharge from unhealthy wounds will give puerperal fever. Foul smells from a faulty sanitary system may septicise a wound or post-parturient uterus and give septicæmia or puerperal septicæmia as the case may be.

I am, Sirs, yours faithfully,

Haydn Brown,

Author of "Economics and Antiseptics in Midwifery Practice."

Feb. 14th, 1898.

EARLY CONJUGAL INSTINCT.

To the Editors of The Lancet.

Sirs,—You express surprise in your issue of Feb. 12th, in your review of Mrs. Fowler's "Manual of Mental Science," &c., at the likeness of a boy of eight years of age being given as an example of the large development of the phrenological organ of "conjugality." Well, speaking for myself I can only say that at six years of age, though of course utterly devoid of all sexual feeling, I was most violently in love with a girl slightly my senior, and having to part with her after being with her caused me very painful feelings for a long time after, whilst the idea of having and possessing a mate to love and cherish and be part of myself was always one of the dominating thoughts of my boyhood; and a phrenologist whom I once visited when nearly twenty years of age marked philoprogenitiveness large and conjugality full. Therefore as I had possessed this amiable dream for years I do not suppose they had only then recently developed. I am, Sirs, yours faithfully,

Feb. 13th, 1898. Conjugality.

MALE AND FEMALE NURSES' ASSOCIATION.

Mr. W. E. Langton (Secretary of the Male and Female Nurses' Association, 69, Wigmore-street, W.) writes: It has come to the knowledge of my committee that statements have been made to medical men and others calculated to injure the work carried on by the Male and Female Nurses' Association at No. 69, Wigmore-street, Cavendish-square, W. It is obviously for the benefit of the medical profession at large that an association of this character should be protected from attacks of the above description and I feel sure that any of your readers to whom any of the statements complained of have been made will give such information to me as will enable my committee to take proper action against the offending parties. I need hardly say the association courts the fullest investigation.

PRINCIPAL AND ASSISTANT: THE NEED FOR A BOND.

To the Editors of THE LANCET.

SIRS,—As formerly an unqualified assistant I have been much interested in the correspondence relating thereto. This question may be regarded as settled for the present by law of the General Medical Council; that it is settled in equity I do not at all admit. The practical result is that medical practitioners cannot safely employ unqualified assistants. But the engagement of qualified assistants brings its own dangers and possibilities of injury to the general practitioner and it is in relation to this that I wish to ask you a question. Suppose a qualified assistant, after being with an employer a sufficient time to get a thorough introduction to the practice, left the said principal and set up for himself in opposition to the above-named employer, perhaps only a few hundred yards from his employer's place of business, and this either with or without his having signed the usual bond, then would this be infamous conduct as described by the General Medical Council, and, if not, why not? It appears to me that this is a question to be answered. The public have been protected from the unqualified assistant though not from the unqualified quack or prescribing chemist. Who is going to protect *us* from the qualified poacher? The case I have put suppositiously is unfortunately of every-day occurrence and has happened to myself. I am, Sirs, yours faithfully,

Feb. 23rd, 1898. GENERAL PRACTITIONER.

⁂ The terms of agreement between principal and assistant can surely prevent the occurrence. If the principal does not insist upon a bond nothing can help him. He is no more to be pitied if he is taken advantage of than if he lost his fortune by the burning of a house or property unprotected by insurance. We may think badly of the assistant who takes the advantage, but we cannot on business grounds sympathise with the improvident principal. If there is a bond with an adequate penalty for infrac.ion surely the remedy lies in the principal's hands —ED. L.

PERITYPHLITIS.

(By a Medical Man who has had it.)

OF human inflictions, and woes, and diseases,
From tuberculosis to innocent sneezes,
From strength-sapping typhoid to plain indigestion,
From tabes to toothache, there can be no question,
Though bad in their way, yet not one of them quite is
So utterly horrid as perityphlitis.

They've altered its name now, and so it thought right is
To know this infliction as appendicitis.
(It matters not two rows of pins what its name is;
Its horrid, depressing effect just the same is.)
All those who affirm that "Whatever is right is"
Can never have suffered from perityphlitis.

It comes not in stages; 'tis all one long stage on
(What's called by the doctors a "sudden invasion").
You feel like a worm all at once. I affirm you
Are limp as chewed string is or even chewed worm, too!
Your legs are like canes, and your walk quite a sight is,
When six weeks you've had of this perityphlitis.

What's worse than the pain, and the weakness, and fright is
The heartsick delays of this perityphlitis.
And when it is over the worst part perhaps is
The spending your days looking out for relapses.
My prayer then at noonday, and morning, and night is,
Oh, spare all my friends from this perityphlitis.

Feb. 21st, 1898. C. J.

VACCINATION EXTRAORDINARY.

SOME notion of what sound medicine has to struggle against in Southern Europe may be formed from a ghastly announcement that reaches us from Thessaly, where in the village of Kanditra, in the absence of the medical man, a priest undertook to vaccinate all requiring the operation as a prophylactic. The "papao" (or holy father), with a zeal which was not by any means according to knowledge, did not use the vaccine lymph of regular practice, but the actual virus of small-pox. In this way he actually injected the variolous pus directly into the bodies of healthy subjects (mostly peasants) to the number of forty, nearly all of whom have since died. The dismay of the medical man on his return may be imagined. Meanwhile the "papao" is awaiting his trial in the local prison.

OPTICAL APPARATUS.

WE have received from the well-known firm of manufacturing opticians, Messrs. Ross, Limited, of 111, New Bond-street, a very comprehensive and well drawn-up catalogue of the various instruments which this firm makes. The excellence of the lenses used in the cameras is attested to by the admirable reproductions on thick, toned paper in this catalogue. The Ross "photoscope" for snap-shot photographs—a combined marine, field, or opera-glass and camera—is well worth mentioning, as is also the "twin lens" camera. The list also includes microscopes constructed especially for bacteriological work.

Gentian.—The climate is mild. The city is surrounded by vineyard slopes 800 feet above the sea and all the atmospheric conditions are excellent. The cost of living and of education in Germany is always cheap compared with the cost in English cities and there are many high-class educational establishments in Stuttgart. Foreign diplomas are not legally recognised in Germany as entitling their holders to practise medicine and English medical men desiring to practise have to pass all the examinations of the German curriculum. The articles alluded to will be found in THE LANCET of Sept. 5th and Oct. 3rd, 1896, the information in them being supplemented by correspondence published in various issues of the same year and of 1897.

F.R.C.S.—Chelidonium majus or garden celandine has been used externally and internally in the treatment of malignant disease, but we are not aware that there is any ground for thinking the drug of much value. Dr. Dennisenko has, however, recorded his experiences in the Russian *Vratch*, which have a different signification. There is an article in the *Therapeutic Gazette* of April 15th, 1897, by Dr. Spivak, which our correspondent might consult. Messrs. Parke, Davis and Co., of 21, North Audley-street, prepare fluid extracts of chelidonium.

Walworth.—It is regrettable that the letter should have been written, but the writer was evidently under certain misapprehensions. Our correspondent is advised to write to him explaining exactly what happened as briefly and clearly as he has explained the matter to us. It would be a pity to allow the episode to become a ground for permanent quarrel.

Sigma.—(1) The M.D. Brux. is registrable if obtained prior to June 25th, 1886. (2) The source of a degree ought in our opinion and as a matter of taste to be added to the title, but there is no legal compulsion in the matter. (3) Yes.

Puzzled.—We do not see any harm in the announcement that a treatment recognised as useful in certain medical and surgical conditions is carried on by a medical man.

L.R.C.P. Edin., &c.—We consider that a medical man is not justified in administering gas for, or otherwise working with, an unqualified dentist.

Rufus.—There can be no possible objection to a properly qualified man practising with such limitations.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 24th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Feb. 18	29·81	N.E.	0·17	45	42	41	41	42	Raining
„ 19	29·94	N.	0·04	68	44	33	33	35	Fine
„ 20	29·37	W.	0·08	67	47	35	42	44	Raining
„ 21	29·17	E.	...	63	41	31	33	34	Overcast
„ 22	29·33	N.E.	...	56	44	33	33	36	Snowing
„ 23	29·73	N.E.	...	75	46	35	36	37	Cloudy
„ 24	30·07	N.E.	...	72	44	34	34	36	Cloudy

During the week marked copies of the following newspapers have been received: *Alfreton Journal, Colchester Mercury, Bury Guardian, Derby Daily Telegraph, Grantham Times, Wolverhampton Chronicle, Royal Cornwall Gazette, Herald of Wales, Isle of Wight Observer, St. Andrews Citizen, Ilfracombe Gazette, Times of India, Pioneer Mail, Derbyshire Times, Worcester Herald, Biggleswade Chronicle, Liverpool Daily Post, Leicester Post, Sussex Daily News, Berkshire Chronicle, Architect, Northampton Mercury, Newbury Weekly News, Builder, Blackburn Standard, Citizen, Norfolk Chronicle, Hereford Times, Leek Times, Salisbury Journal, Essex County Standard, Brighton Herald, Somerset County Herald, Lancashire Express, Eastern Daily News, Bridgwater Independent, Critic, Western Morning News, Bristol Mercury, South Wales Daily News, Le Temps, Grimsby News, Birmingham Gazette, Dundee Courier, Sheffield Independent, Leeds Mercury, Glasgow Herald, Scarborough Evening News, Manchester Guardian, Bedford Standard, Yorkshire Post, Oban Times, Worcester Chronicle, Cheltenham Mercury, Brighton Gazette, Sanitary Record, City Press, Mining Journal, Reading Mercury, Public Health Engineer, Local Government Chronicle, Hertfordshire Mercury, Berwick Journal, Sporting Chronicle, Sidm Free Press, Local Government Journal, Surrey Advertiser, Weekly Free Press and Aberdeen Herald, Sun, West Middlesex Herald, Stowmarket Courier, Kelso Mail, Scotsman, &c., &c.*

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ABSTRACT OF

The Erasmus Wilson Lectures

ON THE

PATHOLOGY AND TREATMENT OF THOSE DISEASES OF THE LIVER WHICH ARE AMENABLE TO DIRECT SURGICAL INTERFERENCE.

Delivered at the Royal College of Surgeons of England on Feb. 21st, 23rd, and 25th, 1898,

BY H. J. WARING, M.S. LOND., F.R.C.S. ENG.,

ASSISTANT SURGEON TO THE METROPOLITAN HOSPITAL; SENIOR DEMONSTRATOR OF ANATOMY AND DEMONSTRATOR OF OPERATIVE SURGERY, ST. BARTHOLOMEW'S HOSPITAL.

LECTURE I.

Delivered on Feb. 21st.

[MR. WARING opened his address with an account of the anatomical relations, vascular supply, and malformations of the liver, the latter being due either to the use of tight clothing or to the contraction of scar tissue. He continued:]

Those diseases of the liver which are amenable to direct surgical interference may be conveniently divided into six groups, four important ones and two of rare occurrence, the latter only very occasionally coming under observation. These six groups may be arranged as follows according to their surgical importance, viz.: 1. Suppurative inflammations of the liver which result in the development of one or more hepatic abscesses. 2. Cystic affections of the liver, parasitic and non-parasitic. 3. Traumatic affections of the liver, perforating and non-perforating. 4. Tumours of the liver, malignant and non-malignant. 5. Floating liver. 6. Congenital hernia of a portion of the liver or hepatomphalos.

1. SUPPURATIVE INFLAMMATIONS OF THE LIVER WHICH LEAD TO THE DEVELOPMENT OF ONE OR MORE HEPATIC ABSCESSES.

An inflammation of the liver which gives rise to the formation of an abscess may be due to a considerable variety of causes. The frequency of these causes varies according to the country in which the patient lives or has lived. I have collected the statistics of abscess of the liver in St. Bartholomew's Hospital during the years 1887-1897 and have added them to the table prepared by Dr. Norman Moore for the years 1867-1887. I have thought it advisable to make a collection of these cases from one of our largest hospitals in order to show the comparative frequency of the different forms as they occur in England. In Dr. Moore's table, comprising 32 fatal cases which were examined post mortem between the years 1867-1886, 15 were due to, or associated with, ulceration of the cæcum or colon, 3 were dependent upon ulceration or perforation of the vermiform appendix, 4 occurred in connexion with general pyæmia, 5 were apparently primary in the liver (no definite cause being discoverable), and 1 was due to each of the following causes—viz., enteric fever, gall-stones, abscess of the ovary, calculus of the kidney with suppuration, and a sinus in the leg; 21 of these were males and 11 females. I have collected all the cases from the year 1887 to 1897 and find 23 examples. Of these 13 were due to, or associated with, ulceration of the cæcum or colon (these include 10 which were apparently due to dysentery), 4 were apparently primary in the liver, 2 were secondary to ulceration and perforation of the vermiform appendix, 3 occurred as part of a general pyæmia, and 1 was due to ulcerative pericarditis. Of the cases in my list 20 were in males and 3 in females. From this collection of cases it is apparent that most of the cases of hepatic abscess which occur in England fall mainly into two groups—firstly, pyæmic abscesses, and secondly abscesses which are of the nature of tropical abscesses and usually of dysenteric origin. Most of the latter cases have occurred in people who have lived in tropical climates and have suffered from dysentery. This sequence of events, however, is not constant.

1. *Abscess of pyæmic origin.*—An abscess of the liver which is of pyæmic origin may have the septic material carried to the liver from the primary focus of disease by two channels—the portal vein and the hepatic artery. According to some writers the inferior vena cava may be the means of conveyance, but this is very improbable. First, as to the portal vein. Any focus of septic inflammation or suppuration within one of the anatomical structures from which the radicles of the portal vein arise may become the starting-point of a pyæmic hepatic abscess. The commonest seat of the septic process is either an ulceration of the cæcum or of the colon. The vermiform appendix is occasionally the starting-point. Septic inflammation of any of the pelvic viscera such as the uterus or the bladder may be the cause. It appears to be probable that a considerable proportion of the hepatic abscesses which follow dysenteric ulceration of the large intestine are due to the entrance of colonies of septic micro-organisms into the radicles of the portal vein from the floor of an ulcer. Next as to the hepatic artery. When septic emboli reach the liver along the hepatic artery they usually come from some distant focus of disease and not from any of the viscera within the portal area. Head injuries which have become the seat of suppurative inflammation and the different forms of septic osteomyelitis and periostitis are occasionally the starting point of this form of abscess. As to the inferior vena cava it has been thought by some observers, such as Majendie and Meckel, that a suppuration in the liver might be caused by the passage of septic emboli from the heart along the inferior vena cava and the hepatic veins. But there is no direct evidence in support of this theory and it can be dismissed as being very improbable. The micro-organisms which have been met with in pyæmic abscesses of the liver are somewhat numerous. The most common ones which have been described are staphylococcus pyogenes aureus, bacillus coli communis, and the ray fungus or actinomyces. Pyæmic abscesses of the liver apparently always contain micro-organisms.

2. *Tropical abscess.*—Tropical abscess of the liver is the name given to a variety of hepatic suppuration which occurs for the most part, although not entirely, in people who live or have lived in tropical or sub-tropical climates. The abscesses are either single or not more than two or three in number. The affection appears to exist as an endemic disease in many countries which lie within forty-five degrees of the Equator (north or south), whilst those cases which occur in more temperate climates are of a sporadic character. In Europe the disease occurs most frequently in those countries which lie on the northern coast of the Mediterranean. It has been stated that no cases have occurred in England except in people who have been in hot climates. This is undoubtedly incorrect, since cases have been met with in which all the characteristics of a tropical abscess have been present and the patient has never been out of England. In most of the tropical cases, but not in all, the occurrence of an attack of amœbic dysentery seems to be the exciting factor. This attack may occur a considerable time before the development of the abscess occurs. When the purulent contents of a tropical abscess are examined the amœba coli is usually absent, but if the walls of the abscess cavity and the adjacent liver tissue be investigated they will be found to contain numerous amœbæ. The contents of a tropical abscess in many instances are thick and of a reddish colour and are said to resemble anchovy sauce.

3. *Hepatic abscess due to a pathological condition of some part of the biliary ducts.*—Gall-stones are not unfrequently the cause of an abscess of the liver in non-tropical climates. When they are located within the gall-bladder, the cystic duct, or one of the intra-hepatic bile ducts they may by a process of constant irritation cause inflammation and ulceration of the adjacent part of the mucous membrane and if this pathological process extends to the neighbouring part of the liver it becomes the exciting cause in the development of a hepatic abscess.

4. *Hepatic abscess due to injury.*—Injuries of the liver which are followed by the formation of an abscess may be either perforating or non-perforating, the former being the more common. Perforating injuries may be wounds caused by stabs with sharp instruments or the projectiles of fire-arms. All cases of this kind are associated with the introduction of septic micro-organisms into the damaged portion of the liver. Concerning the rarity of abscesses of the liver which are due to non-perforating wounds Carl Langenbeck states that less than forty have been recorded in

No. 3888.

surgical literature. In my list of cases none were due to this cause.

5. *Hepatic abscess due to animal parasites.*—A number of abscesses of the liver have been met with which are due to pathological processes induced by the presence of animal parasites. The commonest parasite of this kind is the echinococcus. Ascarides may also migrate from the duodenum along the common bile-duct to the liver or the gall-bladder.

6. *By direct extension from adjacent organs.*—An inflammatory or suppurative process may extend from an adjacent organ, such as the base of the lung, and cause the development of an abscess of the liver. Several cases have been met with in which tuberculosis of the base of the lung has extended through the diaphragm and caused the formation of an abscess in the underlying portion of the liver.

7. *Hepatic abscess as the result of acute specific fevers.*—Several cases of abscess of the liver have been met with which have been the result of an attack of typhoid fever and scarlet fever has also been known to produce this condition.

From a surgical point of view it is important to differentiate between those abscesses of the liver which are either single or not more than two or three in number and the multiple pyæmic ones, since in the former group of cases direct surgical interference has a much greater chance of being successful than in the latter class of patients. The former class includes tropical abscess, both the so-called amœbic and the ordinary variety, some of the abscesses which are due to gall-stones and ascarides, those which follow an injury to the liver, and those which are caused by suppuration in a hydatid cyst. Abscesses due to other causes are in the majority of instances pyæmic in character and multiple.

[Mr. Waring here described the general symptoms and diagnosis of hepatic abscess and continued:]

Treatment.—In former times it was advised that the pus should be evacuated through the needle of an aspirator or through a cannula the trocar of which was withdrawn, but it was found in cases treated by this method that suppuration along the track of the needle or cannula was liable to occur and in many instances a leakage of pus into the adjacent part of the peritoneum or pleura followed. On this account it is advisable to consider puncture of an abscess of the liver with the needle of an aspirator or with a trocar and cannula merely as a diagnostic measure. In every case a free opening should be made into the cavity of the abscess so that the purulent contents can be completely evacuated. The abscess may be attacked either through an incision in the abdominal wall, or through an incision in the thoracic wall, or through an incision in the lumbar region. The abdominal and thoracic operations are the most frequently practised; it only occasionally happens that a case is suitable for the lumbar operation. Whenever possible the opening of the abscess should be made through the anterior abdominal wall. The hepatic area is first rendered aseptic by the usual method of washing with soap and hot water, turpentine, or ether, and then with a solution of perchloride of mercury (1 in 500 or 1000).

When the exact locality of the abscess has not been ascertained the needle of an exploring syringe is pushed through the tissues overlying the most prominent portion of the hepatic swelling until the cavity of the abscess is reached. The needle is then moved about in order to determine the position of the abscess cavity. When this has been done an incision is made over the middle part of the abscess but extending upwards more than downwards. In practice an incision three inches long will be made through the abdominal wall over the hepatic swelling and extending vertically downwards from the costal margin. The incision is deepened until the surface of the liver is exposed. In order to do this it is usually necessary to open the peritoneal cavity, but in a small percentage of patients it will be found that the inflammatory process has extended to the peritoneal covering of the liver and has caused the formation of adhesions between the visceral and parietal layers of the serous membrane. When the peritoneal cavity has been obliterated in this manner the incision is further deepened until the cavity of the abscess is reached, the overlying hepatic tissue being cut through in order to open up the collection of pus in the interior of the gland. This incision in the liver may be made either with an ordinary scalpel or with the knife of a Paquelin's cautery. In most cases it will be found convenient to follow the needle of the exploring syringe until the abscess is reached. The further stages in the treatment of an abscess are similar to those recommended in connexion with opening an abscess in which the overlying visceral and parietal layers of peritoneum are not adherent. When the peritoneal cavity in the region of the abscess has not been obliterated by the formation of adhesions the margins of the parietal wound are retracted in order to well expose the diseased part of the liver, the wound being lengthened for this purpose if necessary. The peritoneum around the exposed part of the liver is now packed carefully with aseptic marine sponges in order to prevent or avoid as far as possible contamination of the adjacent parts of the peritoneum with the contents of the abscess. The peritoneum having been well protected the hepatic tissue is incised until the cavity of the abscess has been opened. Immediately this has been done the finger of an assistant is introduced through the opening and the liver is hooked forwards so as to bring it well into contact with the anterior abdominal wall. The contents of the abscess are allowed to escape—a proceeding which may be facilitated by exerting pressure upon the anterior abdominal wall in a direction upwards and backwards. The interior of the abscess cavity is irrigated with an aseptic solution such as mercury perchloride (1 in 1000). Next, the surgeon examines with his forefinger the interior of the abscess in order to detect any other abscess which may be present in the adjacent portions of the liver. If one or more further abscesses are found the intervening hepatic tissue between the cavity of the main abscess and that of the secondary ones is broken down with the finger and the contents allowed to escape. The interior of the smaller abscesses is then irrigated as in the case of the larger one. When this has been carried out the interior of the entire abscess cavity is sponged dry by sponges on holders. Next, the cavity is packed with a long strip of iodoform gauze. The margins of the hepatic wound are united to those of the abdominal incision by the insertion of a series of interrupted sutures. Silk sutures are the best for this purpose; they should not be too fine and they are inserted at intervals of one-third or one-quarter of an inch for the entire length of each margin of the hepatic incision, the entire series being inserted before any are tied. In some patients in place of packing the interior of the abscess cavity with a long strip of iodoform gauze a sponge plug may be placed in the interior of the abscess during the insertion of the sutures and when the suturing has been completed this is removed and a large rubber drainage-tube passed down to the bottom of the abscess cavity, one end protruding from the external wound. When one of these methods of dealing with the abscess cavity has been adopted the wound is covered with large aseptic dressings which are carefully and securely fixed in position by the application of a many-tailed bandage.

After-treatment.—The after-treatment is directed towards the removal of all secretion from the abscess as soon as it is formed, the prevention of contamination of the peritoneal cavity, and the maintenance of the strength of the patient. The packing should be removed from the interior of the abscess at the end of thirty-six or forty-eight hours. The interior of the abscess cavity is irrigated with an antiseptic solution and then packed as before. This method of dressing should be repeated daily until the cavity has closed up. After the first few days a rubber drainage-tube may be used instead of packing. Föntan recommends after the abscess cavity has been emptied and during the irrigation of its interior that its walls should be scraped with a curette. This procedure does not appear to be worthy of adoption on account of the liability of the occurrence of severe hæmorrhage and the impossibility of rendering the abscess cavity quite aseptic when micro-organisms are present in the pus. Some surgeons have advocated the performance of this operation in two stages, several days being allowed to elapse between them. In the first stage the affected portion of the liver is exposed and in the second stage the abscess cavity is opened. This variety of operation may be practised with advantage in abscesses which are somewhat chronic; but in all cases of acute abscess in which the abscess cavity is probably increasing in size at the expense of the adjacent liver substance it is safer and preferable to perform the operation in one stage as recommended above.

Operation through the thoracic wall.—In many cases of abscess of the right lobe of the liver it is necessary to operate through an incision in the thoracic parietes on account of the high level at which the purulent collection is located and the difficulty in dealing with it through an incision in the anterior abdominal wall. This operation is generally called the "transpleural" or the "transthoracic" operation. It may, like the abdominal procedure, be carried out in either one stage or in two. If it is necessary to go through the pleural cavity on account of the parietal and visceral layers of the right pleural sac not having become adherent owing to the formation of inflammatory adhesions, the result of extension of inflammation from the liver, it may be advisable to allow two or three days to elapse between the exposure of the affected portion of the liver and the incision into its substance and evacuation of the pus. In the majority of patients, however, it will be found either that the base of the right pleura is the seat of a localised empyema or the cavity has been obliterated by adhesion of the two layers. The operation is performed thus: after the patient has been anæsthetised and turned somewhat on the left side in order to give free exposure of the part to be operated upon a site is selected on that part of the thoracic wall which overlies the most prominent portion of the hepatic swelling, and an incision from three to four inches long at first, but which may be lengthened if requisite, is made along the long axis of a rib. The soft tissues are divided and the external surface of the rib exposed and separated from its attachments with a periosteal elevator. A portion, usually about three inches, is then excised. The underlying costal pleura is cut through in the line of the first incision and through the middle of the space from which a part of the rib has been removed. If care be exercised in making this incision the intercostal arteries will not be injured. If the layers of the pleura have not become adherent air will rush in as the pleural cavity is opened and the lung will collapse. The diaphragm is now sought for in the bottom of the wound; usually it will at once protrude owing to the fact that it has been pushed upwards and outwards by the enlargement of the liver. The layer of pleura which covers the upper aspect of the diaphragm is now incised in the line of the original incision and dissected up for a short distance. The length of this incision should be about two inches. The margins of the wounds in the costal and diaphragmatic layers of the pleural sac are now brought together and fixed in apposition by a series of fine silk sutures inserted at very short intervals. In some cases a continuous suture can be inserted more quickly and will serve the same purpose. If the diaphragmatic pleura is very tightly stretched on account of the hepatic enlargement the abscess can be partially emptied by the needle of an aspirator. When the pleural cavity has been shut off in this manner an incision is made through the diaphragm as it is exposed at the bottom of the wound, the margins of this incision are dissected up for a short distance and then closely and securely fixed to the margins of the thoracic incision by the insertion of a series of silk sutures. Each suture passes through the diaphragm and the muscular and cutaneous layers of the thoracic wall. When all these sutures have been inserted and tied the pleural cavity ought to be completely shut off from any communication with the exterior of the region of the hepatic swelling. When it is considered advisable to perform this operation in two stages the wound is now packed with tampons of aseptic gauze and dressings applied. After from two to four days the next stage of the operation is carried out. When the two layers of the pleura are adherent or there is in addition an empyema of the basal portion of the right pleural sac or the abscess is an acute one the operation should always be completed in one sitting. When the surface of the liver has been exposed thus the needle of an aspirator is pushed through the hepatic substance until the abscess cavity is reached. The liver tissue is then divided with a knife along the needle and a free opening made into the abscess cavity, after which the cavity is packed with tampons of aseptic gauze and absorbent dressings are then applied and fixed in position by a bandage.

Operation through the lumbar region.—When the lower and posterior portion of the right lobe of the liver is the seat of the abscess and enlargement of the organ has taken place in a downward and backward direction it is usually advisable to evacuate the purulent collection through a lumbar incision. An incision three inches long is made along the lower border of the last rib commencing a short distance outside the outer border of the erector spinæ muscle. The various strata of the abdominal wall are divided until the swelling caused by the hepatic enlargement is exposed. The incision in these cases should be slightly more in front and higher than the ordinary incision for lumbar nephrectomy; the liver should be exposed above and slightly external to the right kidney. The kidney is usually pushed downwards by the hepatic enlargement. The peritoneum is not opened in this operation. When the enlargement of the liver has been laid bare an incision is made through the hepatic tissue until the purulent collection is reached. The further treatment is similar to that recommended in the abdominal and thoracic forms of operation.

[Mr. Waring then discussed the complications of hepatic abscess and the consequences of spontaneous rupture. He concluded his address as follows:]

Prognosis.—Of the 22 cases which have occurred in St. Bartholomew's Hospital during the years 1887-1897 16 were operated upon and 6 were not. Of those who were not submitted to operation all died. Of those operated upon 4 were aspirated, 5 were treated by thoracic operation, 5 by an abdominal operation, 1 by both abdominal and thoracic methods, and 1 by a lumbar operation. In 2 of the cases in which a thoracic operation was performed the patients recovered and in 3 death ensued; of those treated by an abdominal operation 4 recovered and 1 died; the 1 lumbar operation was successful; and the patient upon whom both abdominal and thoracic operations were performed died. From a consideration of these cases and also the various tables of results by other writers it appears to be conclusively shown that a greater percentage of patients recover among those who have been submitted to an abdominal or lumbar operation than among those who have been operated upon by the thoracic method.

Remarks

ON

6657 ADMINISTRATIONS OF ANÆSTHETICS CONDUCTED AT THE LONDON HOSPITAL DURING THE YEAR 1897.

In three Clinical Lectures delivered at the Hospital,

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LECTURE II.[1]

Delivered on Feb. 11th, 1898.

GENTLEMEN,—I wish to place before you to-day all the cases in which threatening symptoms, partly or wholly referable to the anæsthetic, were recorded. You will see by referring to the table before you that there were thirteen in all. In some of these the symptoms of danger arose during the administration, in others they occurred afterwards. It is always difficult, and sometimes impossible, to be absolutely certain what share the anæsthetic has had in the production of dangerous symptoms; but I have gone carefully through all the notes of the 6657 administrations and the table represents my conclusions.

In all of the cases tabulated there is, I think, no doubt that the anæsthetic had some influence in bringing about the symptoms to which I shall presently direct your attention; and in order to give you an idea of what I consider that influence to have been I have arranged the cases in different columns according to the factors which I believe to have been present. When any dangerous symptoms arise during or after the use of an anæsthetic for a surgical operation one or more of four factors may be responsible—viz., (1) the anæsthetic itself, (2) the state of the patient, (3) the posture of the patient, or (4) the surgical operation.

Let us first of all turn our attention to the cases of anxiety under ether. The first of these is of interest because the remedy of venesection was adopted, and quite successfully. The patient was a female, seventy years of age, and ether was given for the removal of the eye-ball. During the administration, which was conducted by means of a Clover's apparatus, and before the operation had commenced the patient's breathing became impaired. This is not uncommon just as patients are passing into profound insensibility; indeed, we may regard embarrassed breathing as more likely to arise during light than during deep anæsthesia. In this case the breathing stopped before the patient was thoroughly anæsthetised. Many might apply the expression "holding the breath" to the condition under consideration; but such an expression always seems to me to imply voluntary action, which in the case before us had been abolished. As the breathing did not recommence and as the patient was very cyanosed and the veins were greatly distended, the house surgeon performed venesection. About ten ounces of blood were withdrawn, and breathing immediately recommenced. No other restorative measure was used and no further difficulty arose. In the next case, which occurred in the out-patient department, the operation was for an anal abscess, and the report simply states that "the patient stopped breathing when just under the anæsthetic." Cyanosis was marked. Artificial respiration was performed and the breathing recommenced. The operation was then finished. This is similar to the first case under ether, except that artificial respiration was performed instead of venesection.

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[1] Lecture I. was published in THE LANCET of Feb. 19th, 1898.

Cases in which Serious Symptoms, partly or wholly referable to the Anæsthetic, were recorded.

Anæsthetic.	Factors.					
	A, During the administration.					B, After the administration.
	Anæsthetic.	1. State of patient. 2. Anæsthetic.	1. Operation. 2. Anæsthetic.	1. State of patient. 2. Operation. 3. Anæsthetic.	1. Posture. 2. Anæsthetic	Anæsthetic.
Ether (2910 cases)...	2	1	—	2	—	2
Nitrous oxide (1362 cases)	1	—	—	—	—	—
Chloroform (677 cases)	1	1	—	—	—	—
Ether, then chloroform (293 cases)...	—	—	1	—	—	—
Nitrous oxide, then ether (220 cases)...	—	1	—	—	—	—
A.C.E., then chloroform (31 cases) ...	—	—	—	—	1	—
Totals	4	3	1	2	1	2

It is very common just before anæsthesia is established for the breathing to become temporarily suspended. This is usually due, as an inspection of the neck will prove, to the anæsthetic vapour or the mucus which it produces setting up acts of swallowing, which are more tardily performed than when consciousness is intact. During normal deglutition the glottis closes momentarily; but during the passage into profound anæsthesia the act of deglutition is liable to be spread out, so to speak, over a considerable time during which no air enters or leaves the chest. In addition to this cause for the suspended breathing of light anæsthesia there is yet another—viz., general muscular spasm—which by reason of its affecting those muscles which are directly or indirectly concerned in maintaining respiration brings breathing to a standstill. In the vast majority of cases this impaired breathing, which comes on just before stertor, passes off spontaneously or, if it does not do so, it may be made to pass off by removing the inhaler, rubbing the lips briskly with a towel, and pushing the lower jaw forwards. In more obstinate cases in which the jaws are clenched and the neck muscles are rigidly contracted it may be necessary to separate the teeth and to pass the finger to the back of the pharynx, when breathing will recommence. It is important to bear in mind that unless such simple remedial measures are adopted for the relief of this form of arrested breathing, a very dangerous or even fatal degree of asphyxia will be liable to arise.

The next case is a very interesting and instructive one. The patient was a man, thirty-seven years of age. He was of rather spare build, but muscular; and he had drunk heavily. There was nothing in his appearance to suggest that he was in a bad state of health. His chest was stethoscopically examined, and I understood the clerk to say that nothing abnormal was discovered. The operation to be performed was internal urethrotomy. Ether was accordingly given under my supervision by means of a Clover's inhaler. As you are aware it is advisable in administering ether to well-built men of alcoholic habits to limit the air-supply to a greater extent than in anæsthetising other types of patients, otherwise inconvenient struggling and excitement will arise. Ether was therefore administered to this patient with the minimum allowance of atmospheric air. In ordinary patients of this age and appearance this plan answers admirably, deep anæsthesia of a satisfactory type ensuing in about four or five minutes. But in this particular case there was an unsuspected element present which very greatly altered the usual course of events. The operation, which was a very short one, was on the point of completion when I noticed that the patient presented an appearance which is very unusual after a short administration of ether. His eyelids were only half closed, the eyeballs were slightly upturned so that rather more of the sclerotics than usual appeared, and the colour of the face was pale and dusky. On putting my finger to the radial artery I found that the pulse was very small, very rapid, and irregular. The respiration was, however, regular and deep. On placing my hand over the cardiac area I felt a rapid, irregular, and tumultuously heaving impulse which extended into the epigastrium and beyond the mid-sternal line. On applying my stethoscope I made out a murmur which, however, it was impossible to diagnose owing to the noisy breathing and embarrassed cardiac action. The conjunctival reflex was now returning. Gradually the ashy colour lessened and signs of returning consciousness began to appear. No remedial measures whatever were necessary, and the patient was sent back to the ward without displaying any further symptoms. It was quite clear that some grave cardiac lesion was present, and that the patient had passed through a critical condition under ether. Dr. Hadley, who very kindly examined the chest some few days after the operation, reported: "Dilated hypertrophied heart, irregula in action, with mitral regurgitation and aortic obstruction. Compensation fair, but a history of failure of compensation ten weeks ago (in dropsy). There is none now and the only sign of failure of compensation left is the irregularity."

You will remember that I have on many previous occasions pointed out to you the necessity of stethoscopically examining the chest before selecting your anæsthetic and the method of its administration. Although this was done in the above case the report given by the clerk was unfortunately misunderstood and the patient was anæsthised by a wrong method as the subsequent symptoms testified. In cases of morbus cordis in which there is evidence of want of compensation all asphyxial methods should be carefully avoided. Nitrous oxide, nitrous oxide in conjunction with ether, and ether itself when administered by a close inhaler, are equally unsuitable. Limitation of oxygen, which is necessarily incidental to the administration of ether by a Clover's inhaler, throws extra work upon the right side of the heart even in healthy persons, but in such subjects the extra work can easily be accomplished and no signs of cardiac embarrassment will arise. But in patients with mitral regurgitation or obstruction "close" methods of etherisation must be avoided; otherwise, as this case very forcibly shows, a dangerous strain may be thrown upon the right cavities of the heart. The best anæsthetic for such cases is the A.C.E. mixture, or if for any special reason ether seems preferable it should be given by means of a felt cone or a Rendle's mask, in order to avoid all undesirable exclusion of air.

There are two other points worthy of note in this interesting case. The first is that the cyanosis, which had been well marked, as it usually is in alcoholic subjects during the initial stages of the administration, became replaced by a dusky pallor when the patient was thoroughly under the anæsthetic. The second is that the condition of the eyes gave early warning of approaching danger. Given that a patient's complexion is not abnormally pale before an anæsthetic is administered, limitation of air, such as that incidental to the use of nitrous oxide or ether by the customary method, produces what one might almost call healthy cyanosis; and so long as this cyanosis is not associated with pallor we may take it that the heart is efficiently driving along the imperfectly oxygenated blood. If a patient is naturally very anæmic this healthy cyanosis, if I may use the expression, is not so obvious. Now, if during this cyanotic state the heart begins to fail, the features will lose their bluish or purple colour and become livid or ashy. Such an event, which must always be regarded as indicating danger, is more common under chloroform than under ether, because of the greater tendency under the former anæsthetic for cardiac dilatation to arise. But if the heart of the patient under ether be in a crippled condition it may behave like the healthy heart under chloroform and show signs of failure when any undue strain is imposed upon it. With regard to the other noteworthy point—viz , the warning given by the appearance of the eyes—I may say that whenever the lids are only partly closed and the globes are turned slightly upwards so that more of the sclerotic than usual is visible, attention should be directed to the patient's general condition. These ocular phenomena are liable to display themselves in surgical shock from hæmorrhage or other causes, in asphyxial states, and also when the anæsthetic has been freely, and perhaps too freely administered. Widely open lids with the globes fixed in their normal horizontal axes may be met with in the most satisfactory types of anæsthesia. But flaccid, nearly closed lids, displaying subjacent sclerotics, are usually, though not invariably, indicative of an unsatisfactory condition, and it has been my experience that it is best to give rather less of the anæsthetic under such circumstances; and if the ocular condition depends upon too deep an anæsthesia this treatment will cause the lids to regain their tone and to become approximated. Conjunctival reflex is usually if not invariably absent when the ocular phenomenon to which I have specially alluded is present, but it gradually returns after the lids have regained their tone.

In the next case the patient was a male, thirty-six years of age. He was anæmic and emaciated. The case is one of the two ether cases of the fourth column—that is to say, it was one in which the state of the patient was the primary factor, the operation the secondary, and the anæsthetic the tertiary. The operation was resection of the intestine and lasted forty-five minutes. This procedure is not infrequently attended by a good deal of shock. Ether was employed and it was administered by means of a Clover's inhaler. There were considerable pallor and feebleness of pulse during the operation, and just before it was over the patient's condition was rather critical and he ceased breathing for a short time. In this case, as in the preceding, the eyelids were only partly closed. Nothing was done to restore the breathing, as it soon recommenced spontaneously. But as the patient's condition from the circulatory side was unsatisfactory an injection of brandy was given by the bowel. His condition gradually improved and no further cause for anxiety presented itself.

In the next case. which is of a similar character, the patient was a male, thirteen or fourteen years of age, and the operation was exploration of the upper end of the femur. At the end of an hour he became collapsed. It is not an uncommon thing for children whose general condition is not very satisfactory to show signs of collapse during prolonged operations of this kind, and although one cannot wholly exclude the influence of the prolonged etherisation, this influence is of far less importance. It is in such cases as this and the preceding one that the use of hot brandy-and-water enemata, injections of strychnine, and the intravenous introduction of saline fluids will be found of great use.

The next case is an important one. It is one in which broncho-pneumonia followed the administration of ether. For several years it has been alleged that whilst ether does not kill upon the operating table it does so afterwards, whereas chloroform when it kills does so at the time of its administration; and it has been a very difficult matter indeed to say how far ether is open to objection in this respect. One of the objects which I had in instituting the system of note-taking at this hospital was to put this point at rest. We wish to decide whether the expressions "ether-bronchitis" and "ether-pneumonia" have any right to become current. It will, I fear, take several years before the matter can be finally settled; but I have during this, the first year of our inquiry, taken special pains to find out and follow up those cases in which any bronchial or pulmonary after-effects have arisen, and I hope as time goes on to collect more data. For the present we must not form too hasty a judgment, but must wait till, by the comparison of recorded cases, we can come to some definite conclusions. In the case now under consideration there is no doubt that bronchitis came on immediately after the administration of ether, but whether the anæsthetic was wholly responsible or partly responsible, or whether the bronchitis was a simple coincidence dependent upon other causes, it is exceedingly difficult to say. The balance of evidence is strongly in favour of its having arisen as the immediate result of the administration of ether. The patient was a female, forty-one years of age. She came up from the country and her general condition was good. Her heart sounds were not abnormal and she had never suffered from cough. The operation was nephrectomy for calculous disease of the kidney and lasted forty-five minutes. Although the ether was preceded by nitrous oxide, the case is rightly considered with other ether cases because the preliminary anæsthetic could have had no influence whatever in the production of the after-effects. The ether was administered by an Ormsby's inhaler and the patient was not kept too profoundly anæsthetised. It was, in fact, found that a perfectly tranquil state, free from all rigidity, could be maintained with less than the usual quantity of ether. The conjunctival reflex was slightly present once or twice; there was no cough or straining throughout; and recovery took place in the ordinary way and rather more quickly than usual. The same evening it was noticed that the breathing was audibly moist, and in the course of a couple of days distinct bronchitis developed itself and ran on to broncho-pneumonia. I examined the patient three weeks after the operation and found that there were loud, large rhonchi and moist sounds over both chests, front and back, and distinct dulness at the left base with tubular breathing. The temperature had been irregularly febrile. She was soon transferred to the medical wards, where she eventually died, not from the broncho-pneumonia but from pyæmia apparently consequent upon the original calculous disease of the kidney. At the post-mortem examination the lungs were found to have undergone fibroid changes as the result of the broncho-pneumonia, but it was clear that the patient had died from other causes which do not of course concern us in our present inquiry. In thinking over the facts of the case the following question seems to present itself. Supposing that ether had been changed for chloroform in accordance with the principles to which I referred in the former lecture, would bronchitis have supervened? For the present we cannot, I think, venture to answer this question with any degree of certainty.

There is one other case which should be considered with the preceding one, inasmuch as the dangerous symptoms came on after the administration of ether. It was a case of some anxiety. The patient was a male and ether was administered for putting up a fracture of the femur. So far as the administration of the anæsthetic went, there was very little to note beyond that a great deal of mucus was secreted. When the anæsthetic was discontinued—the inhalation having lasted three-quarters of an hour—the patient seemed as though he were about to vomit. As you know, this is of very common occurrence; but in the case under consideration the patient's jaws became clenched and a good deal of cyanosis ensued owing to the obstructed breathing incidental to commencing vomiting. The jaws were opened with some difficulty, the tongue forceps applied, and the finger passed to the back of the throat. None of these procedures, however, started respiration. The house surgeon therefore very properly performed tracheotomy and directly this had been done a great deal of mucus escaped from the tube. In this case there is no doubt that the asphyxiated condition was connected with the recovery from the anæsthetic. When patients, and especially when certain types of patients are emerging from anæsthesia they may easily become self-asphyxiated. I have already referred to this liability during the induction of anæsthesia and the remarks which I have made are applicable to the stage of returning consciousness. In this particular case the secretion of a large amount of mucus doubtless contributed in no small measure to the obstructed breathing. You will find it an excellent plan in all cases in which such a course is possible to turn your patient well upon the side immediately the anæsthetic is discontinued. By this procedure mucus will tend to flow out of the mouth, the tongue will gravitate into the cheek, and stertor will cease. Patients recover from anæsthesia far better in this position than in any other. Under the circumstances here narrated this lateral posture was impracticable as the patient had to be kept upon his back. The case, however, teaches us how very necessary it is to carefully watch patients whilst they are emerging from deep anæsthesia and also how important it is that tracheotomy instruments should always be at hand when an anæsthetic is being given.

We next come to the case in which threatening symptoms occurred under nitrous oxide gas. The patient was one year and three months old, and it was proposed to open an abscess of the neck under nitrous oxide, but under the influence of this gas breathing stopped, and the notes state that there was a good deal of laryngeal spasm. This is not uncommon in giving nitrous oxide gas to very young children, for such patients are very easily affected by the absence of oxygen, their muscular systems being thrown into a condition of spasm which may interfere with respiration. In the present instance the patient soon recovered, but I thought it well to mention the case because it shows that you should always be careful in administering gas to small children.

The next case occurred under chloroform and the anæsthetic was the chief if not the sole factor. The patient was a male infant aged five months, and circumcision was to be performed. During the administration of chloroform the pupils dilated and the breathing stopped. Inversion, artificial respiration, and flicking with a wet towel soon restored the patient. Small children are said to take chloroform particularly well, and this is no doubt true, but when once they have been brought under its influence they are very easily overdosed. It is often difficult to obtain anæsthesia because the vapour readily causes the sensitive glottis to close, so that some time elapses before sufficient chloroform enters the lungs; but when once that stage is passed the anæsthetic will be absorbed freely so that very small quantities are needed.

In the next case the symptoms were primarily due to the state of the patient and secondarily to the anæsthetic—chloroform. The patient was a female child and the operation was tracheotomy for œdema of the glottis. A few breaths of chloroform were given and the child ceased breathing and became asphyxiated, the heart beating violently all the time. When the tube was put in and artificial respiration was performed the breathing recommenced. It will be perfectly obvious to you that in giving anæsthetics to patients with obstructive dyspnœa the greatest caution is requisite. The greater the cyanosis the greater the need for caution. In some of these cases the breathing is only kept up by voluntary respiratory action, and natural sleep, save for brief intervals, is impossible. When such a state is present and anæsthesia is induced the patient has to fall back, so to speak, upon his ordinary muscles of respiration which will probably be quite inadequate for maintaining efficient breathing. If, for example, the patient has a large goitre pressing upon the trachea so that there is cyanosis, and more especially if general bronchitis is present, the use of any anæsthetic even in the smallest quantities may at once stop breathing, and it may be impossible, from the flattened state of the trachea, to get a tube into place. This is the kind of case that you may one day be called upon to anæsthetise; and you must under such circumstances seriously consider whether the risk should be run. If the obstruction is such that it would not interfere with the insertion of a tracheotomy tube, the case may be regarded from a totally different point of view, no matter how great the obstruction may be.

The next case is one in which ether was used in the first instance and chloroform subsequently. The patient was a male, aged twenty-two years, in a fair condition, and the operation was nephrotomy. Ether was given by a Clover's inhaler and subsequently chloroform was administered by a Skinner's mask. Under the ether coughing, struggling, and impaired breathing arose, so a change to chloroform was effected. When the operation commenced the pulse was very fair, but during traction and manipulation of the kidney the pulse became feeble and disappeared altogether at the wrist for two or three minutes. This case is very similar to one of those already referred to except that the shock was more marked and for the time very alarming. When the solar plexus is interfered with this reflex cardiac inhibition is by no means uncommon. I am not aware, however, that it has ever been proved to have been fatal. I have known the syncope to become so profound as to arrest breathing for some little while, but the patient recovered. In this particular case the breathing was not interfered with to any extent but the pulse disappeared, as already stated, for two or three minutes. At the end of this time the patient vomited and the pulse gradually returned, but it remained irregular for some time after. In such cases as these, in which the operation must be regarded as primarily responsible, the anæsthetic has very little influence. It is at the present time quite uncertain whether this condition of surgical shock is more likely to occur under ether than under chloroform. I have seen it a good many times under both. It is always advisable in renal operations to be on the alert for such symptoms, to watch the patient very narrowly, and to see that his breathing is freely performed, and that an undesirable quantity of the anæsthetic is not given. I have found by experience that this reflex shock is just as likely to occur during a deep as during a comparatively light anæsthesia.

In the case of anxiety under nitrous oxide and ether the operation about to be performed was for post-nasal growths and enlarged tonsils, and under the influence of these mixed anæsthetics the patient became cyanosed and respiration ceased. Artificial respiration was performed and the operation was finished under the A.C.E. mixture. Whenever a patient has to be anæsthetised for the removal of enlarged tonsils and adenoid growths it is well to bear in mind that conditions are present which are liable to introduce an asphyxial element into the administration. In two at least of the nitrous oxide fatalities which have been recorded enlarged tonsils were present. When the enlargement is very considerable, so that the tonsils almost meet in the mid-line, and even natural breathing is difficult, nitrous oxide should not be given unless mixed with oxygen. In minor cases, however, there is no objection to this anæsthetic *per se*, or as a preliminary to ether, provided that care be taken not to push it too freely. It will be found that the patient will become more or less asphyxiated before he is really anæsthetised, and at this moment the inhaler must be removed, otherwise complete arrest of breathing may take place. The use of nitrous oxide followed by ether has many advantages, but the method requires considerable practice in such cases as I have just indicated.

The sequence of nitrous oxide, ether, and chloroform, to which I more than once referred in the preceding lecture, is specially suitable for operations within and about the mouth, nose, and throat, especially in children and very nervous or hysterical persons. The first-named anæsthetic rapidly destroys consciousness and prevents crying, struggling, or inconvenient hysterical outbursts, all of which are liable to arise with other methods. The second (ether) is valuable, not only because it stimulates the circulation so that it is able to withstand any strain that may be thrown upon it by intercurrent asphyxial states, but because by its use it is possible to "charge up" the patient, so to speak, with sufficient anæsthetic to prevent him regaining semi-consciousness during the insertion of a gag or preliminary examination of the parts to be operated upon. The third anæsthetic (chloroform) is of service because of its convenience and because of the ease with which the comparatively light form of anæsthesia which is advisable in these cases can be maintained.

I should like here to say something about the use of chloroform during nose and throat operations in the sitting posture. Since I have adopted the plan of first placing patients well under the influence of ether I have given chloroform in the sitting posture for a very large number of nose and throat operations, and without ever having witnessed any evidences of circulatory failure. In many of the cases considerable hæmorrhage has occurred and yet the circulation has been well maintained. I am strongly of opinion that provided the patient has first been placed under ether, that every care is taken to avoid intercurrent asphyxia from faulty posture of the head or the accumulation of blood in the fauces, and that only a moderately deep anæsthesia is maintained, chloroform may be safely used in this posture. From the point of view of the operator the sitting posture is very convenient, for the patient assumes the position in which the surgeon is accustomed to examine him in his consulting-room, and the normal relations of the parts remain undisturbed. Moreover, it is such an extremely easy matter to tilt the patient's whole body forwards from time to time for the escape of blood should hæmorrhage be free. So far as the convenience of the anæsthetist is concerned there can be no doubt that for mouth, nose, and throat cases the lateral, or even the perfectly horizontal posture is preferable to the sitting posture; but given that the surgeon prefers the last named there is no objection whatever to its being adopted and to chloroform being given provided that the points to which I have alluded are carefully borne in mind. The two worst postures for operations of this class are the semi-recumbent (the body sloping backwards at about an angle of 45°) and the dorsal with the head completely extended over the end of the table. Time, however, forbids me to enter more fully into this matter.

The last case I have to consider to-day is one in which posture was the primary cause of the serious symptoms. The patient was a child five years of age, and the operation was for a growth upon the scalp. The patient had to be placed in such a position that his chin pressed against the sternum. Under such circumstances breathing is likely to be interfered with because the tongue is forced back against the pharynx. It therefore happened that respiration ceased and artificial respiration had to be performed. The patient very quickly recovered. As a general rule one may say that the head should be kept as far as possible in a line with the body, no matter whether the patient be lying horizontally or upon his side or whether he be sitting in a chair. Rotation of the head to one or other side does not interfere with breathing provided that no flexion or extension take place; indeed, when patients are lying horizontally this rotation to one side should, whenever possible, be enforced; but flexion of the head upon the sternum or extension upon the spine is liable to bring about difficulties in the administration which may, as in the case before us, require the application of remedial measures.

ON THE HISTORY AND PREVALENCE OF LEPRA IN AUSTRALIA.[1]

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THE following paper contains a summary of the more important parts of "A Contribution to the History of Leprosy in Australia," which was written in 1894, and published by the National Leprosy Fund in the middle of 1897; to that work reference must be made for the detailed evidence on which the statements presently recapitulated rest.

Australia had been often sighted by navigators before Captain Cook landed and took possession on behalf of the English Government in 1770; but the first foreign settlement in the country was effected by an expedition which numbered about 1030 souls at Botany Bay, near Sydney, in 1788. The whole continent had, it is believed, been free from intrusion in every part down to that date with the following possible exceptions: in 1837–39 Sir George Grey, Governor of South Australia, discovered some rock-drawings which were judged to be of other than aboriginal execution at a point near the north-western coast line; and on the north coast, Flinders, issuing from the Gulf of Carpentaria, encountered a fleet of Malay prahus engaged in tripang fishing and was told by its leader that he was the first Malay to reach that coast about twenty years before, or about 1783–84. For many years at all events the aboriginals at this part remained at enmity with their Malay visitors, who returned year by year, and, according to the available accounts, did not penetrate further than the beaches, where they usually had to fight for the wood and water they went to secure. At discovery by the whites the country was found parcelled out among many different small tribes and it is considered that the state of the people must have been what it was found to be in 1788 for several hundred years before. No information as to the absolute numbers of the nomad autochthonous population at any part of the country is available for older years and no trustworthy information is available for later times. Sydney was the original seat of Government for the continent and for many years was consequently the repository for all archives touching Australia and Tasmania, Tasmania being usually reckoned a part of Australia, from which it began to be separated by the rather narrow Bass Strait only during tertiary times. The collection of books touching this country in the public library at Sydney numbers about 5000. Gentlemen officially concerned in tabulating and preparing the old official archives for the press are of opinion that there is no mention of leprosy down to the year 1836 at all events or of any disease under which lepra might be supposed to lie hid; on the other hand, information as to all diseases down to that date and for long afterwards is extremely meagre. The works of several explorers of note which deal with wide tracts of country on different parts of the continent, and which were written from about 1830 onwards, contain no reference to anything resembling lepra among the autochthons with a single exception; and in that case there is nothing to show that the word "leprosy" was not used in its banal sense, the writer, who was not a medical man, probably intending merely to emphasise the disgusting character of some skin disease. Several explorers of note have informed me that they have never met with any disease among the aboriginals which they supposed might be leprosy; nor, after looking at many photographs of lepers, did they hesitate to adhere to that statement. Among these gentlemen was the late Baron Sir Ferdinand von Mueller, K.C.M.G., M.D., F.R.S., &c., who spoke chiefly of the south-western part of the continent about the year 1847 and of a part of the Northern Territory about 1855. It may be taken, in my opinion, that there is no record of lepra among the primæval autochthons in any part of the continent.

Comprehension of the progress of white settlement will be facilitated if it be remembered that Australia has an area of just three million square miles, that the earliest Government at Sydney was the Government of Australia, that distant parts were settled by sea as became possible and were gradually erected into separate Crown Colonies, and that all these Crown Colonies, always including Tasmania, were at different dates granted the right of self-government and thereby became autonomous States. The net result has been that Australia is divided into the following territories, which became self-governing at the dates mentioned: Tasmania, 1854; Western Australia, 1890; South Australia (with which is the Northern Territory), 1856; Victoria, 1851; New South Wales, 1851; and Queensland, 1859. For the first sixty to sixty-five years the population was practically entirely English. In 1851 the discovery of gold led to the immediate influx of large numbers of people who came from almost every country and from almost every recognised leprosy area in the world to New South Wales and Victoria. These natives of recognised leprosy areas were in small proportion to the rest of the population, if the Chinese (of whom further mention will be made below) be excepted, and [illegible] occurrence of lepra among them has been recorded. [illegible] total population of Australia at the dates at which the various territories were granted responsible government was not so much as half a million; at the present day it is about four millions. The conditions of life in this country are extremely favourable to health. The earliest settlers no doubt endured similar hardships to those necessarily suffered by explorers in later years, for they were themselves in the position of explorers; but without going into detail it is indisputable that the condition of the population as a whole and in every territory has been and still is one of ease. Food, which continued to be of precisely the same kinds as they had been accustomed to in England, was always wholesome and sufficient even when it was not plentiful. There is no malaria in any of those parts of Australia which thus far have become populous, the exception being the very sparsely inhabited north. Lastly, the climate, speaking generally, is as good as can be imagined, and while the temperature necessarily varies greatly between parallels of S. latitude so widely separated as are the 44th and the 11th, it is in every inhabited part such as encourages outdoor habits of life. Nothing at all is traceable in the circumstances of life in Australia such as possibly might have importance in relation to occurrences of lepra. In 1851 this healthy, small, and widely-scattered population was composed in the main of Europeans and chiefly of English. The aboriginals retired before them and died apparently almost in proportion to the degree in which they were forced into close contact with the whites. They never were either of importance as enemies or of use as servants. Besides the aboriginals there was, of course, among the whites even at that date a quite small proportion of persons belonging to the miscellaneous nationalities of which representatives are to be found in every port. There is some statistical evidence that they were at some points numerous enough to be separately counted at the censuses and yet they were in quite inappreciable proportion to the total population. But in the year named the discovery of gold caused an influx of large numbers of Chinese. Towards the end of that decade there were no less than 42,000 of them in Victoria and in 1861 there were 12,000 in New South Wales; in 1881 the numbers in both of these, the richest and most populous territories of Australia, became about equal and were about 10,000. Chinese appeared also, though in far less number, in all the other territories; but it is not possible to ascertain when they first appeared and at what rate they increased (at least, during earlier years), for they were seldom distinguished in the census abstracts. Thus in 1863 both they and members of other coloured races were scarcely known in Tasmania; they were present in noticeable number in 1875; they were first distinguished at the census of 1881 and then numbered 844, and in 1891 had increased to 943. In Western Australia they were first distinguished in 1881 (145), and there were 917 in 1891, but there is no doubt they were present before the first-mentioned date. In South Australia Chinese were a curiosity in 1860; they were distinguished at the two latest censuses and then numbered 321 and 288. In Queensland there were some Chinese as early as 1853; "natives of China and Japan" were enumerated (538) in 1861 and increased to 10,000 in 1876 (but they were nearly all Chinese); the Chinese were separately enumerated in 1881 (11,000) and numbered 8522 in 1891. Chinese appeared in the Northern Territory in or shortly after 1872; there were 2722 in 1881 and 3447 in 1891. Now in all those territories the danger from imported lepra to the white inhabitants lay with the Chinese, and (with the exception of Queensland) with Chinese alone. In Queensland, which is a sugar-growing country, large numbers of Kanakas have been introduced from various lepra-infested groups of islands in the South Seas to work on the plantations; they began to arrive in 1863; they increased from 1543 in 1868 to more than 11,000 in 1881, thereafter decreasing to between 8000 and 9000 in 1891. There have never been other than casual—almost, it may be said, individual—Kanakas either in New South Wales or Victoria and none at all elsewhere. As regards possible importation of lepra, then, it is quite certain that the people of Queensland ran risks both from Kanakas and Chinese, but those of New South Wales and Victoria (and the remaining territories) from Chinese alone. The occupations followed by the Chinese always included cooking, market gardening, peddling, &c., as well as mining. In earliest years they were almost always employed in the first-mentioned businesses and in stores; during the middle period the largest proportion of the total were occupied in placer gold-digging; in latter years the proportion of miners among them fell and probably the larger portion present followed one or other of the trades. They have always been perfectly free within the country and lived and travelled where they liked. They live largely by themselves, at gardens and in particular quarters of towns and cities, but they mix freely with the whites. The cooks alone, as a rule, are employed in the houses of the whites and then at hotels and boarding-houses. The relations of the Kanakas to the whites are slightly different (in Queensland). They were imported under a contract to work for so many years at the end of which they were to be returned to their islands if they chose; but if they preferred to remain they could either re-engage themselves to work as "free boys" at the plantations or else could set up in some semi-labouring business. Whichever they did the free boys were at liberty to travel about the country and were not infrequently employed as house servants. In all the territories the Chinese, and in Queensland the Kanakas as well, were pretty equally diffused among the whites all over each territory and were in free occasional or business contact with them.

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[1] Abstract of a paper presented to the Lepra Conference, Berlin, 1897.

From this review of the general conditions of life it is necessary to turn to the recorded occurrences of lepra. Before doing this it should be noticed that an epidemiological study of the present kind can be made only if two conditions are first fulfilled; one is that the information at command shall be complete enough to furnish a true outline (at least) of the course followed by the disease among the people which is the subject of study; the other that there shall be reasonably good evidence that the persons reported to have suffered in former years from the disease under examination really presented cases of that disease. In the present instance it is my opinion that the first condition has been fulfilled; the second has probably been sufficiently well fulfilled, but with this exception, that while it is plain enough (from published accounts, photographs, and in one case proficiency in the observer within my own knowledge of him, &c.) that the cases of lepra alleged to have occurred were cases of lepra in reality, it is, on the other hand, almost certain that many additional cases have either escaped recognition altogether or else were never put on record. Here, also, it seems proper to point out that while the diagnosis of lepra only occasionally presents difficulties which cannot be resolved by an attentive student who has enjoyed sufficient opportunities of making himself familiar with the varied clinical aspects under which the disease shows itself, yet it is notorious that persons who in other respects are highly competent, but who have not had the opportunities referred to, very often, indeed, overlook or misapprehend examples of the disease the identification of which presents in reality no difficulty at all and even deny or dispute that they are cases of lepra when that explanation of them is suggested. It is most important to remember this and it should be specially borne in mind when the negative statements of travellers, both medical and lay, are under consideration. The assertion of a known proficient that he met with no cases during his exploratory travels is good as far as it goes at all events; a similar statement from one of whose proficiency there is no evidence is worth nothing at all.

As regards lepra among the Australians it is necessary to divide them into primæval autochthons unaffected by immigration and those affected by immigration, who may be called aboriginals for the sake of distinction. Concerning the primæval autochthons there is nothing but negative evidence; lepra has never been observed among them. Nevertheless the Australian is susceptible of lepra and it has been seen among aboriginals. In 1892 an aboriginal full-blood male leper was recorded at Maryborough, Queensland (South Latitude 25°, East Longitude 154°); he roamed over the country in the neighbourhood of the town named with the remnants of his tribe. There are sugar plantations there and for many years there have been Kanakas at work upon them; no other aboriginal leper was discovered there; there is positive information that one Kanaka leper (only) has been seen there. It must be said here that the information available regarding every part of Queensland is extremely meagre. The nature of the illness suffered by the Kanaka was not recognised by the man who reported it, but was easily identified by the photographs he appended to his account of the case, and it is quite certain (from the number of Kanakas who have been employed there during a long term of years) that many cases must have occurred which have remained unrecognised. In 1894 an aboriginal suffering from leprosy was received at the lazaret at Port Darwin (about South Latitude 13°, East Longitude 132°) his disease being then first diagnosed; I discovered after some search that he was known (by a layman) to have been ill since 1879. After further inquiry I satisfied myself that the Government Resident on the MacArthur River, N.T. (about South Latitude 16°, East Longitude 137°), which debouches on the west side of the Gulf of Carpentaria, had observed cases of leprosy among aboriginals in that neighbourhood during years immediately following 1888; two cases were mentioned, those of a man and a woman (the latter being the only case of a female aboriginal leper thus far brought to light), but it was not stated that those were all which had been seen. From the letters of still other lay correspondents it became apparent that lepra had been observed among aboriginals inhabiting the country watered by the Alligator rivers, N.T. (about South Latitude 13° to 15° and East Longitude 132° to 134°); probably their number was considerable. Early in 1896 a male aboriginal was taken into Port Darwin from the Alligator country and his case was identified by the Government medical officer in charge there as being one of lepra nervorum; thus the lay accounts—in themselves scarcely mistakeable—were to some extent corroborated by medical opinion. Noteworthy points in this connexion are the very late date at which the first case of lepra in an aboriginal was noted—namely, in 1892; and while it seems likely that lepra must have existed among the aboriginals at several points of the Northern Territory (which, by the way, has an area of nearly half a million square miles) for a good many years, yet it would be presuming a little too far to take it that it occurred among them while one or other tribe of them might be regarded as in their primæval state. On the other hand, if imported to them, it must have been by one of two races, either by the Malays, a contingency which under all the known circumstances seems to me at least remote, or by the Chinese at some date later than 1872. Here the vast extent of the area over which the infected tribes extend must be remembered; and that while these tribes were not in contact with any town the Chinese, on the other hand, spread only over those comparatively small areas on which employment or gold could be found in conditions (of neighbourhood to whites) which would make their prolonged stay profitable. Were it granted that they might have been infected by the Chinese still it is difficult to see how the opportunity for communication came about. Lastly, there is nothing of an evidential nature to warrant connexion of their infection rather with the Chinese in recent years than with the Malays in older times or *vice versâ*.

The question whether lepra was indigenous to any part of Australia is so important that it has seemed necessary to go into some detail in speaking of occurrences of the disease among the aboriginals. But it remains unanswered for the present in my opinion; yet as the foregoing information is at this date entirely new it is possible that more light may be thrown upon it as time goes on and attention is more steadily directed to it. This branch of the subject, then, must now be left aside and the incidence of lepra on the whites and on foreign immigrants must be examined.

I go on to speak of other parts of Australia, and of leprosy among native-born whites, immigrant whites, and coloured aliens. No cases have ever been observed in Tasmania or in South Australia. Only two, both in Chinese, have been observed in Western Australia. There have been many recorded cases both in whites and coloured aliens (Chinese and Kanakas) in Queensland; but the list is beyond doubt remarkably short of the fact as regards the latter. It is probably deficient there as regards the whites, too, to what extent cannot be guessed, and that it is deficient is but an inference from the known facts, though a very strong one. There remain, therefore, New South Wales and Victoria, for which territories the information, though doubtless incomplete, is yet in all probability sufficiently full for practical purposes. The epidemiology of lepra in these two territories presents a problem of great interest. Although I shall probably not have occasion in this account to refer again to Queensland it is, nevertheless, sufficiently interesting to be noted that the first case of leprosy in Australia of which there is evidence was encountered there, the late Dr. Bancroft having discovered the history of the illness of an aged Chinese in old case-books of Brisbane Hospital. Though the nature of the case was not recognised at the time (1855) the description was to his mind (and after reading the original MS. is to my own) sufficiently clear. The first case of lepra in a white native of which there is record was observed and identified by myself, the patient still surviving[2] and presenting an example of healed lepra nervorum with consecutive neurotrophic changes; the date of attack was 1856.

The epidemiology of the disease in New South Wales may be summarised as follows. Between 1856, when the first case in a white occurred, and 1882 no less than fifteen cases in whites are known to have been met with, the dates of attack being ascribed to eleven of the years in that series of twenty-seven years; and during that term only one West Indian, who was observed under confinement in a lunatic asylum to be suffering from lepra nervorum, and one Chinese, a patient in a general hospital, also affected with lepra nervorum, were noted in 1859 and 1861 respectively among immigrants from leprosy areas. During the years from 1882 to the present date many cases in coloured immigrants and in whites were recorded, so that during those twenty-seven years a good many cases were observed in whites and in coloured immigrants only two cases. In Victoria the course of events was exactly contrary. From 1858 (and apparently from two or three years earlier) the presence of Chinese lepers was known and officially recorded; their number nevertheless remains doubtful. It is certain there were several in 1858; thirteen were recorded at a date subsequent to 1863, thirty-one were enumerated in 1866, and from the records it is apparent that there were always several Chinese lepers scattered over the territory down to 1889. Between 1863 and 1867 a white leper was noted, but he had lived ten years in India, and it was clearly stated he had acquired his disease there. No other white case was observed until 1884 (attacked in 1879) and this patient was a native of New South Wales who had lived from 1859 to 1867 in Sydney, where he was born, and then in New Zealand (an old leprosy area) until 1874, when he arrived in Victoria. A third case was observed in a white in 1891; he had been born in India and until his arrival in Victoria in 1885 had been a sailor trading in the east; he was attacked in 1889. So that while many cases in Chinese have been observed and recorded in Victoria between 1858 and the present date, there never has been noted any case in a native Victorian nor any in whites but such as were (as to two of them), or may have been (as to the third) imported after acquiring the disease. Secondly, it is to be observed that during nearly all the years dealt with lepers were on both these territories entirely free and unrestrained, whether they were white or coloured. In New South Wales some provision was made for the isolation of a few coloured lepers who had become helpless and destitute and who were therefore isolated voluntarily in a sense in 1883; during the following years one or two others were isolated under indirect pressure as well as some more who came in as being helpless; but it was not until 1890 that by Act of Parliament the forcible detention of those already in captivity was made legal and the reporting and detention of all cases which might be detected for the future were made compulsory both on medical men and on the public. And in this respect of isolation the course taken in Victoria was almost the same. Somewhat before 1888 there were two or three helpless lepers isolated voluntarily and in that year it was made legal to remove to a lazaret and to detain there any newly-discovered leper. But this could be done only if two medical men certified and reported; that is, if two physicians chose to take that course then the central authority might (again if they chose) forcibly remove the leper so reported; but no compulsion to report or to isolate lepers was laid on anyone. It was not until 1893 that notification and isolation of all cases of lepra were made compulsory in Victoria.

I repeat, then, that it is clear beyond all doubt that there were many foreign lepers in Victoria from 1858 onwards and that they were entirely uncontrolled, but no native white leper was ever recorded or detected according to the result of very extensive inquiries made not merely in official quarters but of individual medical men still surviving and practising from the earliest date mentioned. On the other hand, it is equally clear that from about the same time there were a good many white lepers in New South Wales long before any important number of cases among Chinese or other immigrants had been observed; and more than this, the disease died down—almost died out—in Victoria before notification became compulsory; so that on the whole it may well be said that if lepra can be diffused by lepers then it seems as though there were something about Victoria which prevented the imported infection from "taking" there. Thus the most that can be suggested by way of adverse comment on these statements is that cases probably did occur among Chinese, &c., in New South Wales during the long series of years before 1883, although they were not observed, recognised, or noted, the fact appearing in any case to be that the infection did take in New South Wales, but refused to take in Victoria on the white inhabitants.

There are a few other points which must be noted here; they are, first, that there has never been any such prevalence of leprosy among the Chinese in either territory as might fairly be expected of a communicable disease occurring among a people who habitually live at extremely close quarters with each other and who, according to my observation, show no particular fear of that disease; and, secondly, that most of the native-born white lepers in New South Wales have not merely never associated with coloured people of any race, but have certainly never been in conscious contact with any leper. The number of Chinese in Victoria was vastly in excess of the number in New South Wales down to 1881; the total population of the two territories, which march together, was at every date practically equal, but the area of Victoria being 88,000 square miles and that of New South Wales being above 310,000 square miles considerations attaching to density would seem to be in favour of spread in Victoria; there is a difference of five degrees in the mean annual temperature. Lastly, there are no other differences (political or social) between the two. I point out that the remarkable features of the case thus briefly described exist only in as far as the evidence from which they have been drawn is adequate to establish them as facts, and that for that evidence, which is necessarily lengthy, reference must be made to the writing which was mentioned at first and which concludes with the two following expressions of opinion: "1. Although lepers were imported to Victoria steadily during a long term of years and in considerable number and although they always remained entirely unrestricted in their movements among the whites no Victorian native white who had never left the colony has ever been attacked. Moreover, the disease died away in Victoria quite independently of restrictive measures against the liberty of lepers, which in fact were first taken only in March, 1893. 2. Although coloured aliens of many different races, all of which have furnished cases of leprosy in Australia, have been imported during many years and in large numbers to all the better populated part of the country which extends along the coast-line from about the 146th degree of East Longitude, easterly and then northerly towards Cape York (Victoria, New South Wales, Queensland), and although native whites who had never left their colony have been attacked at various places in New South Wales and Queensland, there is no evidence and no good reason for surmising that any such native white has been attacked who lived south of the 35th parallel of South Latitude (part of New South Wales and Victoria)."

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[2] See Annual Report on Leprosy, Board of Health, N.S.W., 1895, Case L.

Sydney, New South Wales.

THE OPEN-AIR TREATMENT OF PHTHISIS IN ENGLAND.

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THAT many cases of phthisis are susceptible of cure and that a still larger number can be restored to comparative health are facts which cannot be too strongly insisted on. Convincing evidence as to the truth of these statements is forthcoming. "Pathological anatomy," says Carswell, "has perhaps never afforded more conclusive evidence in proof of the curability of a disease than it has in that of tubercular phthisis." According to different observers from 4 per cent.[1] to 9 per cent.[2] of persons dying from other causes manifest post-mortem evidence of arrested tuberculous mischief in the lungs and such spontaneous cure was found in 38 per cent.[3] of a number of necropsies which included some cases of ultimate death from phthisis. Moreover, most physicians can recall instances of undoubted phthisis in which recovery has been observed to occur with maintenance of health for an indefinite period. Though some of these cases have falsified their attendants' expectations and cannot be ascribed to the adoption of any particular therapeutic measures, yet a far larger number owe their improvement to rational treatment directed against their malady. "There is nothing more baneful than the idea that phthisis is incurable. It shuts out all honest attempts to do everything possible and to make every sacrifice to promote arrest and cure."[4] The diminished mortality from phthisis during recent years affords encouragement to those concerned in the prevention and cure of the disease. Dr. Ransome[5] shows that the death-rate of phthisis has steadily declined from 38 per 10,000 living in 1838 to 14 per 10,000 living in 1894. He draws a parallel in this respect between phthisis and leprosy.

Not only do statistics prove that the annual number of deaths from phthisis is decreasing, but in the opinion of many old practitioners the type of the disease has undergone a change. They consider that the common form of the disease is nowadays less unfavourable than it was some years ago. Another very important factor in the lessened mortality from phthisis is our better means of detecting the disease in its early and curable stages. The examination of the sputum for tubercle bacilli in those cases where the physical signs are absent or of doubtful significance has proved of inestimable service. It will also be acknowledged that our treatment of the disease has improved though not at the same rate as our general knowledge of its nature. Nevertheless, phthisis still ranks as our chief national scourge and in 1892,[6] which year gave the lowest mortality from phthisis then recorded, it carried off 43,323 persons in England, accounting for about one-twelfth of all deaths. Of the whole living population 14 or 15 per cent[7] are said to be affected with phthisis. It must also be stated that Dr. Niven[8] and others think that the reduction in the number of deaths from phthisis is not altogether free from fallacy and is partly due to "better diagnosis and change in nomenclature." At all events there is no subject of greater importance than that of the treatment and prevention of phthisis and it has attracted a host of scientific workers in every civilised country. Whatever the precise reduction in the mortality from phthisis in England may amount to it is generally allowed to have been chiefly brought about by the improvement of the conditions under which the people now live—pure air, greater cleanliness, and better food. These are the lines on which the "open-air" treatment of phthisis proceeds.

The importance of fresh air to the sufferer from phthisis was to some extent recognised by very ancient writers. Aretæus says: "Living by the sea will be beneficial." Hippocrates, Celsus, Galen, and others also utilised climate in their treatment of the disease. My fellow citizen, Sir Thomas Browne, pertinently remarks[9]: "Some think there were few consumptions in the old world, when men lived much upon milk, and that the ancient inhabitants of this island were less troubled with coughs when they went naked and slept in woods and caves than men now in close chambers and feather beds." About the same time Sydenham wrote: "Nor does bark cure ague with greater certainty than riding does consumption." Smyth in 1787 advocated the "utility of the swing in pulmonary consumption." But, as Dr. Tucker Wise points out, one of the first to really grasp the fundamental principle as we now consider it of the treatment of phthisis was Dr. Bodington,[10] of Warwickshire. This practitioner wrote: "To live and breathe freely the open air without being deterred by the wind or weather is one important and essential remedy in arresting its progress." His remarkable essay also contains the following statements: "The cold is never too severe for the consumptive patient in this climate," and "Sharp, frosty days in the winter season are most favourable." Sir James Clark[11] especially dwells on the value of pure air in the prevention of phthisis and mentions an instance of an outbreak of scrofula being stopped by proper ventilation. Dr. Henry MacCormac[12] makes a vigorous claim to the discovery of the cause of phthisis. "Wherever the air habitually respired has been respired in whole or in part before, tubercular deposits are found, and whenever the air habitually respired has not been respired in whole or in part before, then tubercular deposits are impossible and consumption and scrofula unknown." Tubercle in the lung is explained to be "the metamorphic carbonaceous waste" whose proper congress with uncontaminated oxygen has been barred. An immense number of cases are related in which the one common condition was confined air, and Dr. MacCormac especially inveighs against sleeping chambers whose windows are hermetically sealed. Though his writings deal rather with the prevention than the cure of phthisis one remarkable recovery is described. "A youth, a collapsed shred of skin and bone, apparently coughing, spitting, sweating the last poor remnant of his life away. I made his father wrap him up in blankets and carry him out of doors twice or thrice daily; his sleeping chamber I had wind-swept; a perfect recovery was made."[13] Dr. J. H. Bennet held that phthisis was a disease of debility and should be combated by means of hygiene, climate, and tonic medicines. He directs the phthisical patients "to be in the open air as much as possible." The teachings, however, of Sir James Clark, Dr. MacCormac, Dr. Bennet, and others failed to convince the public (and even the bulk of the profession) of the fallacy of studiously guarding phthisical patients from a liberal supply of fresh air.

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[1] Heitler: Wiener Klinik, 1879.

[2] Fowler: Arrested Pulmonary Tuberculosis.

[3] Harris: Brit. Med. Jour., Dec. 21st, 1889.

[4] Dr. Weber: Croonian Lectures, 1885.

[5] THE LANCET, July 11th, 1896.

[6] Registrar-General's report.

[7] Harris and Beale: Treatment of Pulmonary Consumption.

[8] Brit. Med. Jour., April 3rd, 1897.

[9] Letter to a Friend.

[10] Essay on the Treatment and Cure of Pulmonary Consumption, 1840.

[11] Influence of Climate, 1846.

[12] Consumption, 1865.

[13] Treatment of Pulmonary Consumption, 1866.

Within recent years climate has come to occupy the foremost position in the treatment of phthisis and the weight of opinion leans especially in favour of the elevated resorts. At the same time almost equally favourable results have been produced by most diverse climates and one can but conclude that the only essential requisites of a climate for phthisis are that its air be pure and bracing and that it allows the patient to spend the greater part of his day out of doors. Lastly, we come to the method systematised by Brehmer in 1860 practised by him at Goerbersdorf, by Dettweiler at Falkenstein, and by followers at some twenty similar institutions on the Continent. Brehmer maintained that a more important point than climate was the use made of it and in the so-called "open-air," "Heilanstalten," or "Sanatorium" treatment sole reliance is placed in general hygiene. This includes perpetual existence in the open air, diet, hydro-therapy, and a strict medical supervision of the patient's daily life. This plan, then, which I have attempted to carry out in England, makes open air the essential point and not a mere adjunct to other principles. Descriptions of this method, as carried out in the German sanatoria, have lately been given by Dr. Walters[14] and by Dr. Hess[15] and I would also refer those requiring fuller information to the works of Léon-Petit, Knopf, and Jaruntowsky (translated by Dr. Clifford Beale). Stated briefly the inmates of these institutions pass from seven to twelve hours every day in the open air in all weathers. They recline in long chairs, well covered with rugs and furs and protected from wind by various forms of shelters. The same excess of fresh air is supplied during the nights and all bedroom windows are kept continually wide open. In the matter of exercise considerable divergence of opinion exists in the various sanatoria. Brehmer was a great believer in exercise and at Goerbersdorf graduated walks and ascents are made use of by the patients. Dettweiler, on the other hand, keeps the inmates of Falkenstein perpetually at rest and the prolonged adoption of the recumbent position is thought almost as important as open air. Great stress is laid on the feeding of the patients and milk of course forms an essential item. The open-air life usually suffices to restore the jaded appetite, but the force of discipline and the study of the individual's taste are also relied on. Baths and douches of different temperatures are used every day and are followed by vigorous friction or massage. This treatment of the skin not only invigorates the patient, but plays some part in producing the desired "hardening." Lastly must be mentioned an essential point in the conduct of these establishments—the discipline and medical supervision that are exercised. The results achieved by the sanatoria have apparently but little to do with the climates of their localities. Brehmer, it is true, thought that climate was of some consequence and demanded that the sanatorium be situated in an elevated region and in one where phthisis is uncommon. Other authorities, however, deny that climate plays anything more than a secondary part and hold that so long as the open-air treatment is rigorously carried out the locality is not of much importance. If climatic conditions are favourable make use of them they say; if unfavourable meet them with suitable contrivances. Perhaps the most popular of these institutions is that at Falkenstein and there the climate is by no means particularly favourable, for mist, rain, and extreme cold are frequently experienced. Dr. Hess[16] writes: "Falkenstein does not owe its success to its climate ...... nor is it to its height, for at lower lying institutions and those at a higher level, where the same principles are in vogue, as good results are achieved." The bearing of the above considerations on the practicability of applying this treatment in England is obvious. Coming now to the results obtained by the sanatorium treatment, statistics from Goerbersdorf are published which extend over eleven years and include 5032 patients whose cases have been followed up. Of this number 551, or 11 per cent., were "cured" and 788, or 15·6 per cent., were "nearly cured." The Falkenstein figures are more recently given and show a slightly better result, for from 14 to 15 per cent. are said to be "absolutely cured" and nearly as many "comparatively recovered," while a very large number are benefited more or less, and this notwithstanding the fact that the treatment is by no means limited to very early cases. After a lapse of from three to nine years three-fourths of the "cures" remained well; 142 days was the average time spent in the sanatorium by these patients.

It is undeniable that the profession generally in England have been slow to appreciate the merits of this method of dealing with phthisis. Quite recently, however, considerable interest in it appears to have been roused and especial mention may be made of the prominence of the subject in the discussions of the British Balneological and Climatological Society. Attention has been repeatedly directed to the urgent necessity of providing sanatoria for the open-air treatment of phthisis in our own country. Dr. Hermann Weber's Croonian Lectures of 1885 contained a vigorous appeal for the more serious use of the "air-treatment" here. He expresses the opinion that "fear of the inclemency of the weather is far too great amongst the public as well as the profession" and that patients should be directed to spend the greater part of most days in the open air, arrangements being made to shelter them from wind and rain. There is a tendency, he says, to confine phthisical patients too much to bed and to allow them too little fresh air. A "fruitful source of phthisis is the tendency to catarrh of the respiratory mucous membrane. It is not to be treated by confinement to hot rooms ...... but by hardening and accustoming the delicate person, clothed in flannel, to constant exposure to the air in almost all weathers." Dr. Weber especially pleads for the institution of a number of small hospitals in England with balconies where a bed could be placed and with verandahs and revolving shelters; these should be under the supervision of a resident medical man who would enforce and regulate the treatment. Dr. C. T. Williams[17] "believed that results as good, if not better, than those afforded by many foreign places to which consumptives were sent might be obtained by the more thorough employment of the open-air treatment in English resorts." He appealed for assistance in carrying out the practice in our own winter resorts and complained of the tendency invalids had to remain indoors with closed windows during the winter, being deterred too much by a shower of rain or an east wind from enjoying the fresh air. Dr. Squire maintained that "the open-air treatment of consumption could be satisfactorily carried out in this country." Among modern text-books on phthisis that by Dr. Ransome and that by Dr. V. D. Harris and Dr. C. Beale give a full account of the open-air treatment of the disease and advocate its wider application in this country.

During several visits to the health resorts of the Swiss Alps and of the Riviera I learnt that the local physicians were becoming more and more of opinion that sole reliance should be placed on keeping phthisical patients perpetually in the open air and that they claimed no specific effect whatever for the climatic conditions of their various localities beyond such factors as the pure and bracing qualities of the air, its dryness, and the amount of sunshine. A visit to Davos, with the spectacle of its phthisical patients spending the whole day and some hours of the night reclining on their balconies, with the thermometer many degrees below freezing point, and the fact that they make most satisfactory progress under these rigorous conditions, serve to assure one that the mere cold of our winters constitutes no objection to the adoption of the treatment in England. For many years now the profession has been convinced that most phthisical patients do better in a cool and bracing climate than in a warm and relaxing one. How far the other factors of our English climate, especially the number of rainy and sunless days, would prove disadvantageous I determined to cautiously test. I must here state that this determination was the outcome of conversations with Dr. Michael Foster, of San Remo, and with Dr. Huggard, of Davos, and I take this opportunity of gratefully acknowledging my indebtedness to them. To Dr. Foster I am under a further obligation for much help and criticism bestowed during the progress of the work he helped to initiate. The experiment has been made at Cromer, where a convalescent home has been erected for the use of the patients of the Norfolk and Norwich Hospital. Here since the spring of 1895 I have had six phthisical patients at a time carrying out the open-air treatment. To save repetition I will describe at once shortly the daily routine followed by all these patients. The home stands in three acres of ground, on the outskirts of the town of Cromer, about 250 feet above, and a quarter of a mile from, the sea. There are a verandah and a summer-house conveniently situated with regard to the prevalent winds and I have had erected in the grounds a shelter with two moveable side walls, which consist of panels of wood and glass. These are placed in position each morning after the direction of the wind has been observed. The patients adjourn to one or other of the shelters at 8.30 every morning and pass the rest of the day there in long chairs. When the other work of the home permits their meals are brought to them outside. As a rule they come indoors at sunset, but on particularly dry nights both in winter and summer they have remained out of doors till 10. Besides warm overcoats they are enveloped, in cold weather, in one or more rugs and great use is made of sacks thickly lined with wadding, into which they put their legs and to which when required a hot-water bottle is added. If the patient feels the cold he is instructed to use an additional wrap and if that is insufficient he is brought inside. Moderate evening fever (below 102° F.) has been considered no contra-indication to following the treatment in its entirety. Not only have I seen no harm follow exposure to the open air while the temperature was raised, but I think that reduction of evening fever is one of the effects to be most confidently anticipated from this hyper-aeration. Though I have not had such cases at Cromer, those in the last stages who are too weak to leave their beds should have the same sort of treatment on a balcony or by an open window. I anxiously watched my earlier patients lest they should develop pleurisy, pneumonia, or some other complication attributable to cold, but am now assured that they run no special risk of these. For catarrhs of the nasal and bronchial passages they were not kept wholly indoors, but were made to avoid the slightest damp. Several patients discovered for themselves how far less prone to colds they soon became under this life. The treatment is commenced more or less tentatively with each patient; during the first week or two they only sit out on good days and it is ascertained that they easily keep warm. No difficulty has been experienced in the gradual acquirement of the hardness necessary to withstand colds and catarrhs. The night is passed in a large room with widely opened windows. As far as one sign goes I think the observation of the patient's circulation forms the best guide to his management. The question of perpetual repose or of exercise has in the first place been decided by the strength of the pulse. After carefully watching patients under conditions of moderate exercise and of absolute rest I have satisfied myself that the latter should be enforced for those who have any perceptible weakness of the pulse. I am inclined to think that one of the chief disadvantages of attempting the open-air treatment in the patient's own home is the difficulty of enforcing this perpetual rest. The great cause of cardiac weakness in phthisis is the degeneration of heart muscle brought about by prolonged fever, even if this only obtains during some hours of each day. Open-air lessens this fever, as we shall see, and thus checks further cardiac degeneration, and also by its tonic effects on the system repairs slowly the damage already done. This is, I believe, materially assisted by complete rest and I have watched improvement of the pulse occurring steadily during

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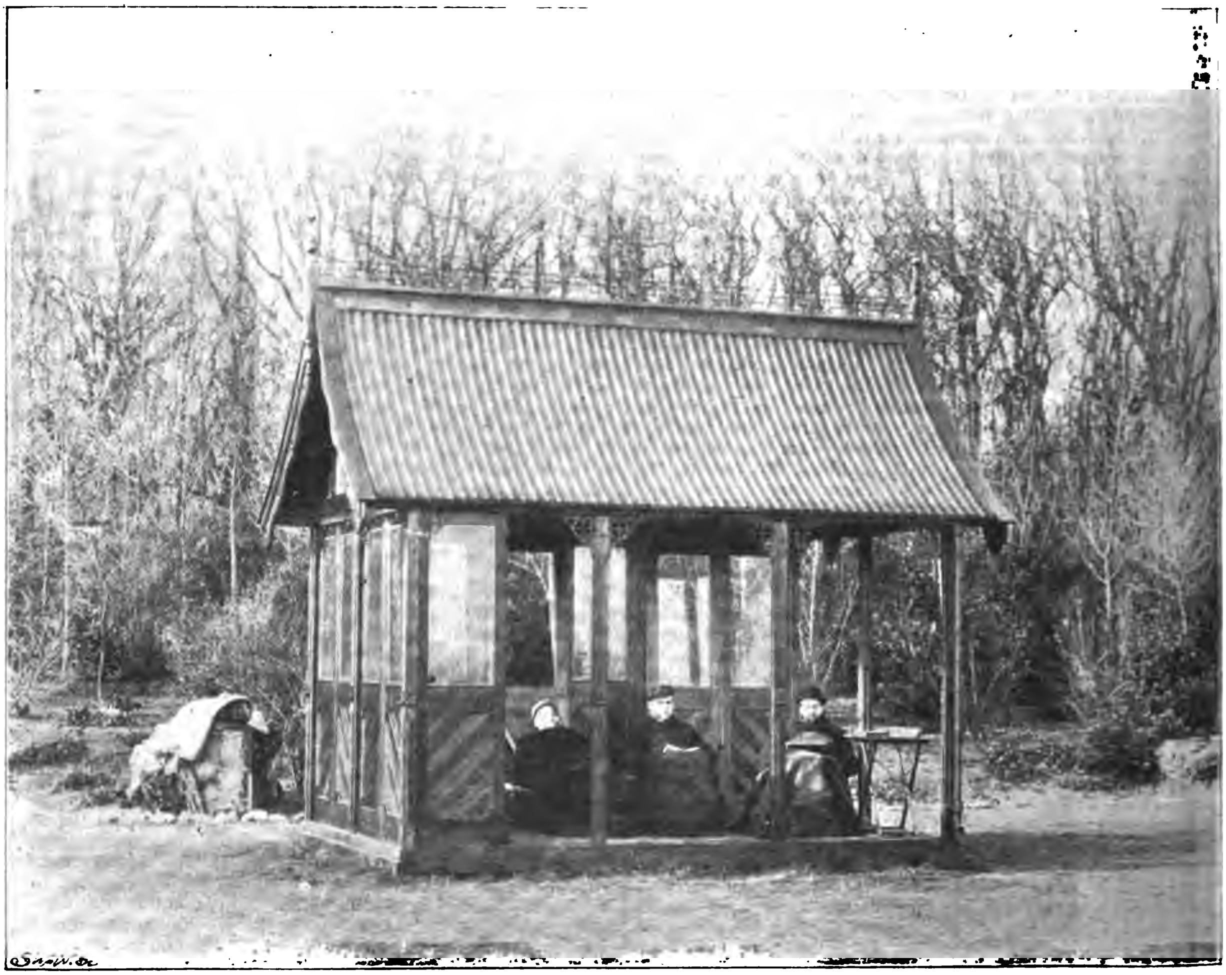
[14] The Lancet, Aug. 14th, 1897.

[15] Practitioner, November, 1897.

[16] Practitioner, Nov., 1897.

[17] Transactions of the British Balneological and Climatological Society, 1896.

ILLUSTRATION OF SHELTER.



many months of this treatment. Not only has the pulse strengthened on the abandonment of any exercise, but the digestion and general vigour have also improved. With this condition of weakened heart these patients commonly manifest cold and blue extremities; they require careful watching and the use of additional wraps, foot-warmers, or doses of brandy. Digitalis has also been used with advantage in these cases. No routine use of drugs has been made, but all symptoms and intercurrent ailments have been treated as immediately and appropriately as possible. An ordinary linctus has been given for excessive cough and to help sleep; when necessary, rhubarb, gentian, or soda, &c., have been administered to help digestion, and cascara or other aperients have been used for constipation, which this treatment somewhat tends to induce. I need hardly say that the strictest injunctions were given as to the disposal of the sputum; the patients were provided with proper spittoons in which all expectoration was received and kept moist. The general dietary of the home had to be adapted for the phthisical patients. It consisted of bread-and-butter and cocoa for breakfast, with bacon in addition twice a week; a glass of milk at 11; meat, vegetables, and pudding for dinner, with milk or stout; bread-and-butter and cocoa for tea; and bread-and-butter and milk for supper. Nothing has been more gratifying or striking to those watching this treatment than the complete conversion of the patients themselves to it. They were admitted to the home on the understanding that they would implicitly obey all directions, but at first it was obvious that their prejudices were against the *régime* and some difficulty was encountered in keeping them continually out-of-doors and at rest. Fortunately, however, the first contingent of patients soon manifested remarkable improvement and satisfied themselves that their strength, appetite, and spirits were increased by the open-air life. New-comers have been taken in hand by the older patients and now the difficulty is to get them indoors at all. In the case, anyhow, of the uneducated classes I do not think the system can ever be satisfactorily inculcated in their own homes and I think a great use of the sanatorium is to thoroughly drill them in the proper habits of life. My patients have carried away with them to their homes a most intelligent comprehension of the virtue of fresh air and not only have they rigorously adhered to the prescribed mode of life, but they have also commenced to shake the rooted objections of other sufferers to pure air.

This mode of treatment is so simple that a few lines suffice to describe its broad features, but, as will be gathered from the preceding account, it demands for its successful practice a thorough acquaintance on the medical man's part with the disease he treats, an ingenuity in combating its various manifestations, some knowledge of climatology, and a patient study of each individual case. I must say that I have met with no serious difficulty in submitting phthisical patients to this life in the open air, but during the first week or two each patient has been the object of especial observation. He has not been allowed out of doors in any damp conditions of atmosphere and more notice has been taken of coldness. A week or a fortnight has served in my judgment to produce acclimatisation, but even then certain limitations are enforced. Wind is inimical from its cooling of the body by convection of heat, therefore on all but the stillest days confinement to the shelters is insisted on. Rain certainly increases bronchial catarrh and I have found it best to have all patients indoors while it is falling. About mists I am not certain. Dettweiler finds that they act as sedatives to laryngeal and bronchial irritation, but I have found that in some patients an extra catarrh, indicated by increased moist sounds in the tubes and cavities, followed exposure to them. Each locality must of course be studied separately. Winds from the sea were apt to induce in fresh patients increase of cough and increased difficulty of expectoration, but this effect did not usually extend beyond the first week. As a rule, no other immediate result followed the patient's arrival at Cromer and about the second week increase of appetite and strength began to be perceived with diminution of night sweats. A few patients really felt better from the moment they set foot in Cromer and the sense of immediate stimulation has been described by invalids who have come from other health resorts.

A selection of cases will be described in the ensuing portion of this paper.

(*To be continued.*)

SOME REMARKS ON RECTAL SURGERY.

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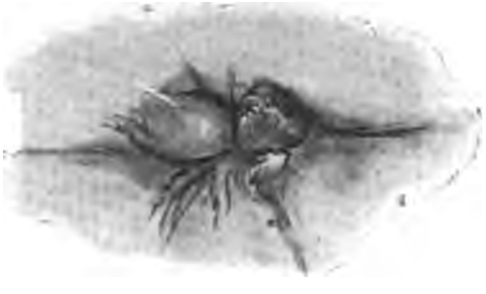
(*Continued from p. 428.*)

HÆMORRHOIDS, EXTERNAL AND INTERNAL.

IN the estimation of the public almost every anal trouble is regarded as hæmorrhoids and when the practitioner consulted is satisfied to accept his patient's diagnosis without making a local examination to satisfy himself as to its accuracy, errors of both diagnosis and treatment must of necessity constantly ensue. It should consequently be a rule of practice whenever a patient complains of supposed hæmorrhoids for the family medical adviser to ask for a local examination and, what is more, such should be conceded and carefully carried out before he ventures to prescribe or assumes any responsibility, and certainly before he prescribes the favourite confection of senna and gall ointment. In hospital experience a large number of so-called hæmorrhoids are examples of condylomata the result of syphilis (*vide* Figs. 8, 8A, and 8B, or of anal warts, Fig. 7[1]), but they may be of chancre or of cancerous disease (Fig. 9[1]). In private practice they may be of the same nature, but they may be anything.

A local inspection will reveal much to a surgeon with an educated eye. If the anus and parts about appear to be normal many possibilities are at once negatived. If loose folds of skin about the anus are visible the question of the former existence of external hæmorrhoids is naturally raised; if a soft venous swelling is seen a recent external hæmorrhoid may be diagnosed (Fig. 10); if it be hard the vein will have become thrombosed; and if it be red and tender inflamed. If the external anal folds of skin are œdematous or indurated the surgeon has to decide whether these conditions are due to a syphilitic affection or to some internal rectal disease, and this question can only be decided by an internal rectal examination. If but one indurated or raised skin papilla is present (*vide* Fig. 4[1]), and this is situated at either the dorsal or perineal extremity of the anus, the question of anal ulcer should be at once raised, as has been already pointed out. Should, however, the surgeon in making a local inspection find some prolapse of the mucous membrane of the rectum showing either like the tip of a tongue of mucous membrane (Fig. 11), or as several tips, or as a more or less marked prolapse of one or more masses of mucous tissue with everted and possibly œdematous anal skin folds (Figs. 11 A, 11 B), the surgeon has to decide whether the local trouble is one of prolapse of only the mucous membrane of the rectum or prolapse of some true internal hæmorrhoid, or of both tissues together; when bleeding to any extent complicates the case the diagnosis is speedily made—for prolapsed mucous membrane rarely bleeds so freely or easily as prolapsed hæmorrhoids—and the venous variety of hæmorrhoid (Fig. 10) is also readily diagnosed from the highly vascular arterial hæmorrhoid.

FIG. 10.



Hæmorrhoids vera of three weeks' standing. The patient was a woman aged fifty-four years.

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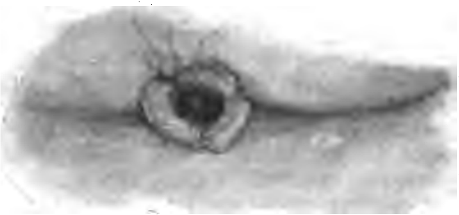
[1] Vide THE LANCET, Feb. 12th, 1898, p. 428.

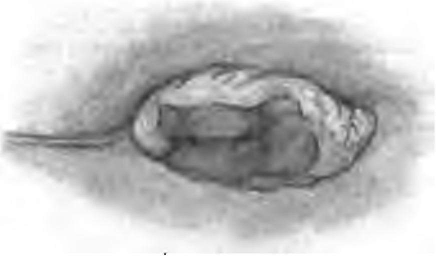
Should only one mass of mucous tissue project from the anus the thought of the mass being a polypus should always pass through the surgeon's mind. If the patient be a child a mucous polypus is the most probable cause, since hæmorrhoids in young people are rarely met with; if an adult some solid fibrous or villous growth is to be expected. But in every example of prolapse of the rectum, whether associated or not with hæmorrhoidal disease, the question of the disease being due to or complicated with the existence of a polypus, single or multiple, should always be in the mind of the investigating practitioner.

FIG. 11.



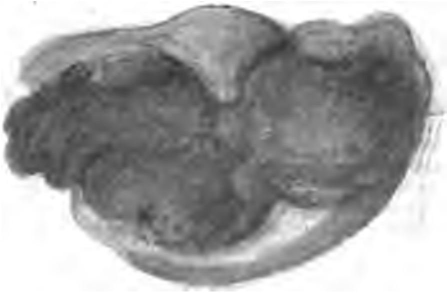
Slight prolapse of the rectum of four years' standing. The patient was a man aged twenty-eight years.

FIG. 11 A.



Moderate prolapse of the rectum in a man.

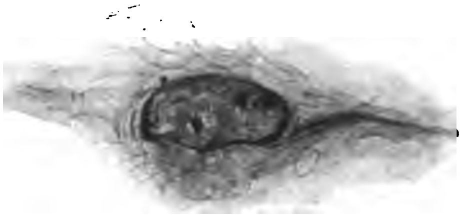
FIG. 11 B.



Prolapsed internal hæmorrhoids. The patient was a man aged thirty-six years.

In a popular and clinical point of view hæmorrhoids may be divided into the "bleeding" and "non-bleeding." The bleeding variety is as a rule of the internal kind, although if a true external hæmorrhoid ruptures the varicose vein which forms it may bleed profusely and dangerously (Fig. 12). The internal hæmorrhoid may bleed only when its owner passes a motion, but at times it may do so independently of such an action and under these circumstances it is certain that some prolapse of the hæmorrhoid exists, although the prolapse may be but slight (Fig. 11 A). With respect to prolapse of the hæmorrhoid or hæmorrhoids, all degrees of severity are met with. The hæmorrhoidal masses may vary from one to four or more. The protrusion may only take place during the act of defecation or it may recur when coughing, bending forwards, lifting weights, or straining takes place. It may disappear on the patient assuming the horizontal position to reappear on any standing or sitting posture, or it may be more or less of a constant character and prone to increase on any exertion.

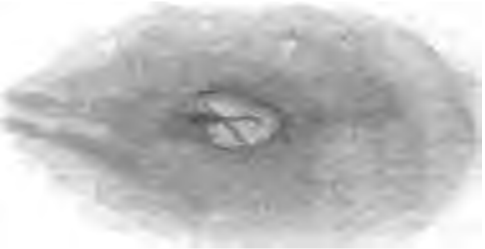
FIG. 12.



Ruptured external hæmorrhoid. The patient was a man aged fifty-one years.

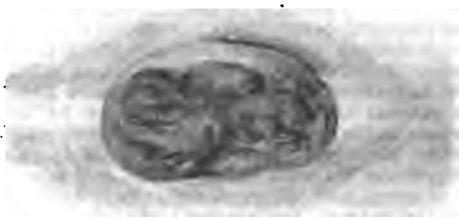
The amount of possible prolapse in any given case can, however, never be accurately determined before a full enema of warm water or soap and water has been administered to bring the prolapsed hæmorrhoids well into view, and this measure should invariably be taken in every case of prolapse or hæmorrhoids or suspected hæmorrhoids before a definite diagnosis is made or any operation for their cure is

FIG. 13.



After reduction of bowel, or before use of enema.

FIG. 13 A.

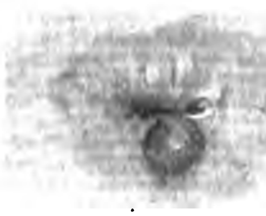


Bowel down after use of large enema. Procidentia recti in a man aged thirty years. He had had it from a child.

decided upon. The enema in bad cases should be as much as a patient can well bear. If the surgeon depends upon the straining efforts of his patients or upon a small enema he will occasionally only operate upon half the disease. I have seen many cases of failed operations for prolapse and internal hæmorrhoids which I am convinced have been due to a want of proper attention to the practice I am emphasising.

Mr. Gowiland's many drawings illustrating the local appearances of bad cases of hæmorrhoids before an enema and after its administration—two of which are reproduced in Figs. 13 and 13A—demonstrates very forcibly his opinion upon the matter with the necessity of every surgeon keeping it in his mind. The amount of pain that is present with hæmorrhoids, and even with prolapsed hæmorrhoids, is very variable. A small external hæmorrhoid is often far more painful than a large internal one and particularly when the hæmorrhoid has inflamed, the extreme sensibility of the anal integument being the probable explanation of the fact. Internal hæmorrhoids, if they do not protrude far enough to be caught by the sphincter or to become inflamed or strangulated by the sphincter, may be tolerated by their possessors for very extended periods and nothing beyond inconvenience is commonly complained of. When these become the seat of pain I am convinced that such has been brought about by some small fissure or ulcer having been started by either a large motion cracking the diseased anal tissues or some local source of irritation causing ulceration, for it is true that the surgeon will usually detect the presence of a fissure or ulcer in most of the cases of painful hæmorrhoids for which he is consulted when the history of the case will have told him that the existence of the hæmorrhoids had been recognised for months or even for years (Fig. 14). Such a view of these cases has its practical bearing, for it is more than probable that it is from the want of local cleanliness by washing that these chronic and comparatively painless hæmorrhoids have become acute and painful on account of the ulceration which is excited from the want of due personal attention to this matter. A person with hæmorrhoids should always well wash the parts after defecation. Besides being the source of hæmorrhage and of prolapse, hæmorrhoids may inflame and as a result of inflammation they may ulcerate. An external hæmorrhoid often inflames and when it does, if it is not actively dealt with, it may become the seat of abscess and if neglected of fistula. An internal hæmorrhoid may likewise inflame and when it does the inflammation is mostly due primarily to its prolapse and secondarily to some spasmodic action of the external sphincter, this action bringing about the more or less complete strangulation of the hæmorrhoid, and the inflammation, ulceration, or sloughing of its substance (Figs. 15, 15 A). When an internal hæmorrhoid is thus strangulated it swells rapidly and soon with the tissues about becomes œdematous and the seat of severe pain; and if this condition is not relieved the hæmorrhoid will slough, a natural cure by a painful process being the result.

FIG. 14.

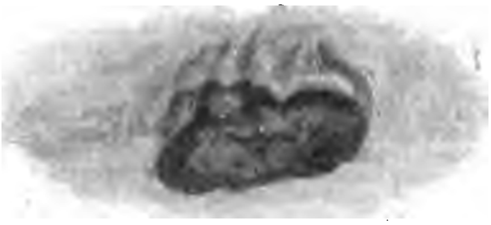


Hæmorrhoida vera and anal fissure. The patient was a man aged sixty-two years.

TREATMENT OF HÆMORRHOIDS.

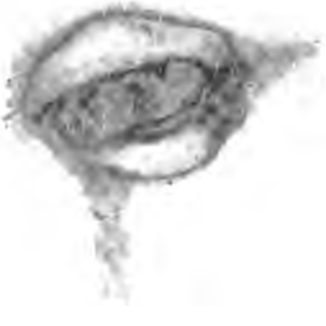
It is to be regretted that the public as a body are too apt to neglect this trouble and to allow it, whether real or suspected, to drift or run its course and only to seek surgical advice when pain has become a serious symptom or bleeding has become more than an occasional accompaniment. This custom is much to be condemned, for hæmorrhoids as a rule are well amenable to medical and surgical treatment in their early stage and the cases which now pass into the surgeon's hands for treatment would be far less numerous and severe than they often are, whilst in a large number even of serious cases an operation would not be called for. The public are aware that constipation is a prolific cause of hæmorrhoids and as a consequence they feel quite competent to treat themselves and so resort to strong medicines or to the quack nostrums which are so freely advertised and forced upon their notice, or they will consult a druggist, who, because he sells drugs and makes them up, is by some occult process supposed by so doing to have learned the difficult duties of a physician and be competent to advise; or they take the prescription of a friend who had been treated for this affection, or the domestic pill of a wife or relation for whom the pill had been prescribed by some eminent man with good effect, but for some trouble which may probably have differed very widely from his or her own. By these means much harm is done, for although hæmorrhoids are caused and aggravated by constipation the use of powerful purgative medicines, such as most quack pills contain, are in a general way injurious and are not to be recommended when the sufferer's family medical attendant would certainly with greater safety and propriety supply an efficient remedy as soon as he has satisfied himself of the nature of the case he has to treat, for it must be repeated that an affection which is often considered by the public to be hæmorrhoids is frequently something far different.

FIG. 15.



Sloughing external hæmorrhoid. The patient was a man aged sixty-five years.

FIG. 15 A.

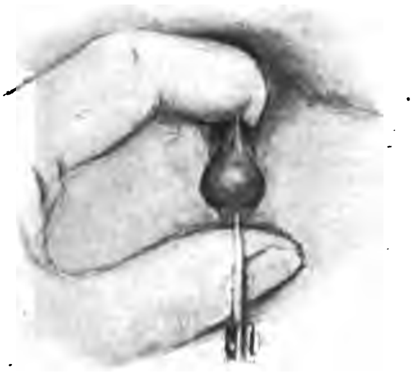


Sloughing hæmorrhoid after strangulation from prolapse in a man.

Purgative medicine for hæmorrhoids or for any healthy person ought never to be powerful; where such means are required it is in cases in which the bowel has been brought into bad habits and must be led out of them by dieting and the careful use of medically prescribed medicines, for I believe that the free use of quack pills and amateur advice has tended much to the increase of hæmorrhoids. This advice is given with the view of preventing hæmorrhoids and when they are present of relieving them. Much also may be done by dieting. The too free use of brown meats, such as beef and mutton, is to be condemned, particularly by men or women who cannot take much exercise; and even then it is wise to be more free with fish and birds than with beef and mutton. Any adult who takes two liberal meals of brown meat a day is doing his best to generate hæmorrhoids. Well-cooked vegetables are always good. Much potato is not be be recommended and anything like freedom with alcoholic liquors is to be condemned. I have known people who have had hæmorrhoids, and some very bad ones, ward off for years, and sometimes for ever, the necessity of a surgical measure for their relief by never taking brown meats and living on fish or birds in moderation with well-cooked vegetables and fruit, at the same time avoiding alcoholic liquors. If then under these somewhat grave conditions an affection which has grown to be a serious one can be kept in check, surely by the same means adopted at an earlier stage of its formation equal good may be expected. Experience proves that this may be the case.

With respect to the special treatment of external hæmorrhoids it may be said that the loose folds of skin which go by this name need not, as a rule, be interfered with unless they become the seat of trouble—that is, of fissure between the folds or of ulceration. Should such complications occur the anus should be well stretched and the folds of skin cut off, the lines of incision radiating from the anus and the cut edges of the skin stitched together. Should a varicose vein, as seen in Fig. 10, be the source of trouble or one ruptured, thrombosed, or inflamed be present it must be treated. If the vein be merely varicose a good clearing out of the bowel by a full dose of castor-oil—say an ounce—will probably be sufficient with a day or so's rest to bring about a cure. If the vein be thrombosed, as seen in Fig. 16, it must be laid open and the clot turned out. Should this measure have been omitted and the thrombosed hæmorrhoid has inflamed and suppurated it must likewise be laid open, otherwise it may become a fistula, the local application of lead and opium lotion helping to complete the cure.

FIG. 16.



An external hæmorrhoid being laid open.

THE TREATMENT OF INTERNAL HÆMORRHOIDS.

When these have become a serious local trouble much may yet be done in the way of their relief as well as in that of cure by following out the suggestions which have just been made under the heading of Preventive Treatment and when these fail much can also be done by surgical methods. For an internal pile that does not protrude so as to come under the influence of the external sphincter or prolapse beyond it and only bleeds at long intervals of time and then but little the preventive treatment I have described ought to be sufficient to retard its growth if not to bring about its cure, and if the patient makes up his mind to follow the treatment out persistently such a hope may be promised and realised. Should the hæmorrhoids, however, protrude so as to come under the influence of the external sphincter this desirable result is not to be expected and under such circumstances some operation for its cure should be entertained and particularly if the case be complicated with hæmorrhage. In some early instances the simple dilatation of the sphincter ani—when the patient has been brought under the full influence of an anæsthetic—will be found sufficient to bring about a cure; and as this simple proceeding is one which is always the first a surgeon undertakes when about to perform any operative curative measure upon an internal hæmorrhoid, it is well when the hæmorrhoidal disease is found to be of recent origin or very limited to give it a fair trial. The same line of treatment is likewise applicable to cases in which a small hæmorrhoid is complicated with a fissure or painful ulcer of the anus. When the hæmorrhoid is large or there is more than one, and these are of long standing, this simple dilating procedure cannot alone be expected to bring about a cure, and under such circumstances some additional measures should be undertaken. If the hæmorrhoid be single the application of a silk ligature to its base after its separation from the skin and submucous tissue by scissors is a favourite operation, the base of the hæmorrhoid being transfixed by a needle armed with a double silk ligature, the surgeon being careful before the ligature is finally tightened to cut off the distal portion of the strangulated hæmorrhoid to relieve tension. In my own practice I have, however, preferred the removal of all internal hæmorrhoids, whether small or great, by means of the clamp and cautery, the benzene cautery having rendered such a measure more facile. This practice has in my hands been very simple and successful and I am unable to give any other results than good. I am not prepared to say that these results are better than those secured by the methods which other surgeons advocate and practise, but I must say that they are certainly as good.

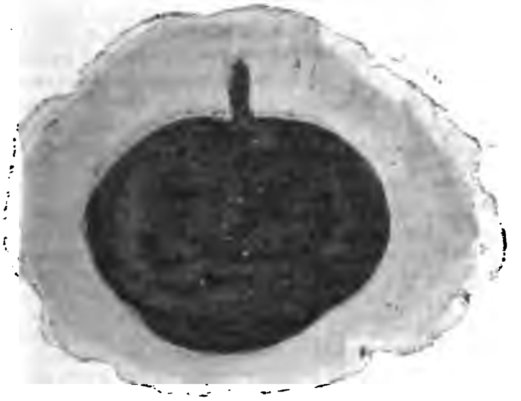
Where a single hæmorrhoid exists or several small ones are present the mere ignipuncture by the thermo-cautery in one, two, or more places after anal dilatation has been accomplished often acts very beneficially. The operation by crushing I have entirely given up, it was a mere passing fashion. The treatment of internal hæmorrhoids by the subcutaneous injection of diluted carbolic acid is only in exceptional cases a satisfactory measure on account of its uncertainty and its comparative tediousness. It is only applicable to internal hæmorrhoids and as a rule one hæmorrhoid should be treated at a time. It consists of the injection into the centre of a hæmorrhoid of five or six drops of a solution composed of equal parts of carbolic acid and glycerine by means of a hypodermic syringe. The acid should turn the hæmorrhoid white and in favourable cases the hæmorrhoid should then wither without pain or sloughing. In other cases the hæmorrhoid sloughs. Its advantages are that it can be employed in patients who require operative measures and fear the cure by operation yet hating the disease and who are indifferent to the expenditure of time in being cured. The practice cannot, however, be strongly recommended on account of its uncertainty.

Where internal hæmorrhoids have prolapsed and become extruded from the anus so as to be nipped or possibly strangulated by the external sphincter the surgeon has a painful and difficult case to deal with. If the strangulation is recent, the hæmorrhoid is of medium size, and the parts are swollen from œdema and inflamed, any attempt to reduce the prolapsed hæmorrhoid will without doubt fail, even though the surgeon may succeed in putting it for a time out of sight, for the hæmorrhoid is certain to come down again within a brief period. Such cases had better be left alone and a lotion of lead and opium applied to the part unless the surgeon is prepared to attempt a curative measure and with the patient under an anæsthetic to stretch the anus and reduce the hæmorrhoid with the hope that the inflammatory condition caused by the constriction of the hæmorrhoid by the sphincter will speedily subside and the hæmorrhoid itself subsequently wither and disappear. I have employed this treatment on many such occasions as these and been well pleased with the result. I am sure it is better than any expectant method. If when this measure has been employed the rectum is found to be loaded it should be emptied by means of a full enema, and when the operation is completed a morphia suppository should be introduced and belladonna ointment applied to the anus. If the strangulated parts have already become gangrenous or have sloughed (Fig. 15 A) the treatment I have alluded to is inapplicable. In such cases the parts must be kept clean and treated locally as required.

PROLAPSUS RECTI.

Prolapse of the rectum to variable degrees of severity is so frequently associated with hæmorrhoids that one affection is often mistaken for the other and where the prolapse is not severe it is as amenable as hæmorrhoids to local treatment. When the case is so mixed the presence of the hæmorrhoids is the probable cause of the prolapse, and from this connexion of the two affections it is always to be remembered that however troublesome prolapse of the rectum may be it is rarely an affection by itself but is the result of some definite cause which has to be made out (Fig. 17). Hæmorrhoids and polypus are the more common causes of this affection, but rectal growths of all kinds—polypoid or sessile—bowel irritation of all degrees, ulceration and other conditions of the bowel, bladder, penis, or similar parts which induces straining, may bring it about. It is likewise often met with where from some cause or other the sphincter ani has lost its power, as in cases of rectal fistula requiring serious or extensive operations or from the atony of the aged. In the treatment of prolapse the removal of its cause is the one principle of practice to be followed, although when the local affection is so severe as to require treatment it should be dealt with much in the same way as has been described for the treatment of prolapse associated with hæmorrhoids. In cases in which there does not seem to be any necessity for the removal of the prolapsed and redundant mucous membrane and yet the prolapse is extreme the linear cauterisation of the prolapsed bowel with the thermo-cautery is a very valuable method of treatment, care being observed not to destroy more than the mucous membrane of the prolapsed bowel before it is returned to its normal position; when removal of the redundant and prolapsed mucous membrane is called for it should be carried out by taking away vertical folds of the tissue, each fold alternating with healthy tissue. In acute prolapse or procidentia there is at times some difficulty in maintaining the reduction of the bowel after it has been affected; in such cases I have found the use of an anal plug for a few hours of much use and the one made of vulcanite such as I have employed for years after a lumbar colotomy answers admirably; it is about from two and a half to three inches long and about three-quarters of an inch wide. It should be kept in position by means of a T bandage and the buttocks should be drawn close together by bandage.

FIG. 17.



Procidentia recti of five years' standing associated with bleeding at times. It could be returned by pressure. The patient was a woman aged twenty-seven years.

(To be concluded.)

CARDIFF INFIRMARY.—The annual report of the Cardiff Infirmary shows that during 1897 there were 1688 admissions of in-patients and that the average daily number resident was 117. There were also 13,280 out-patients. The receipts amounted to £6642 and the total expenditure to £7405.

SOUTHERN DISPENSARY, BATH.—The annual meeting of this institution was held on Feb. 15th, under the presidency of the mayor. The medical report showed that 665 patients had been treated during 1897 and that the majority of these had been treated at their own homes. The financial statement showed that at the end of the year there was a favourable balance of £54

A ROUGH NOTE ON THE TREATMENT OF SYPHILIS.

BY W. MURRAY, M.D. DURH., F.R.C.P. LOND.

THIS note is by way of protest against routine methods of treating secondary and tertiary syphilis—that is, against the administration of a course of mercury or the iodides with the idea that a steady course of either or both will in time effect a cure, if a cure is to be obtained by medicine. I hope to show that while too much mercury or too long a course of the iodides often does harm there is a method of so administering these drugs, which play into each other's hands, that we can get far better results than by the routine method above referred to. In short, a good deal of observation, and experience the result of such observation, are needed to pilot a patient through a course of treatment to a successful issue. We must often beat a hasty retreat and often put on a bold front in attacking and dodging the enemy and we must be careful not to let our weapons do harm instead of good to our patient. Need I say that the constitution and stamina of the patient and his or her surroundings must enter into our calculations or we may kill the patient while trying to cure the disease.

My first protest is against a prolonged or severe course of mercury, for as soon as this drug has killed the brood of microbes, so to speak, or killed the specific poison, it begins to do harm and for the time being it should be withdrawn. For instance, let us suppose a case of severe secondary syphilis which has not been treated at all—skin eruptions, sore-throat, falling off of hair, enlarged concatenate glands, &c., all present. We begin by a course of mercury and the happiest results follow; then, by way of securing our advantage, we carry on this treatment for several weeks, by which time the patient has lost strength and an onset of more severe symptoms tells us that the disease is not cured and that a more serious phase of the disease (in spite of the mercury or in consequence of it) has been developed. What are we to do? If we give more mercury the disease grows worse, excavating ulcers or impetiginous sores arise, and we are in despair if nodes and periosteal pains supervene. Then is the moment for iodides, and we get the happiest (though perhaps only temporary) results from them. Our patient apparently recovers—the sores heal, the periosteal developments cease, and all seems well—but a time will come (I am supposing a somewhat inveterate case in a poor subject, and these are the cases requiring all our care and skill) when fresh symptoms will show themselves, such as suspicious sores in the mouth or scaly patches in the palm, and we are convinced that the disease is not cured. If left to itself, and these recurring symptoms have not sent off our patient to seek *further advice*, we shall probably see a recrudescence of the disease in a milder form if the disease has been judiciously treated, and we once more administer mercury or combine it with iodide; then a rapid disappearance of the symptoms once more takes place and we once more get an apparent cure but this is only a fall of the tide and it will surely rise again in spite of both mercury and iodides. While giving these medicines under such circumstances I have only too often seen still more severe symptoms supervene and grow worse as long as one or both (mercury or iodides) were administered. Under such circumstances what is to be done? Are we to give up all treatment and to leave the patient to "nature"? It would be wiser to do this than to give more mercury or iodide, especially more mercury.

Happily there is another drug which seems to deal with this mercurio-syphilitic diathesis and to help the patient over the stile, and that is *quinine*. At this juncture a bold administration of quinine will often act like a charm, and it may be safely combined with the iodide of potassium if that be deemed wise or necessary. This combination seems to be a deadly foe to the mercurio-syphilitic diathesis. Five or six grains of quinine three times a day is enough and it will work well with fifteen-grain doses of iodide. Indeed, it is quite wonderful to see how much better the iodide works with quinine than mercury and how this combination tends to undo the bad effects of mercury where specific disease has occurred in a poor habit of body with unfavourable surroundings.

This leads me to speak of another resource which in such a patient may succeed when all medicinal treatment has failed—that is, when the patient has been shattered by iodides and mercury and is still unfortunately not cured. What a pitiable plight for both patient and medical man—the one in despair, the other at his wit's end. What are we to do in such straits? I will relate a case by way of illustration; it occurred in a friend of mine when he was a student in London. He suffered from severe constitutional syphilis and sought the highest advice in several quarters. One and all advised mercury, and the worse he became the more mercury they gave him, until his teeth were loose, his gums bleeding on the slightest touch, and his symptoms growing worse. His surroundings in a London lodging were not favourable and he was sinking in despair. Luckily an old uncle, a man of the world of shrewd sense, called on him and took the case into *his* hands. He took the poor lad down to the country, gave him two quarts of strong beef-tea and a bottle of port every day, and prohibited all and every form of medicine. When at the end of two months he presented himself at the hospital again his friends hardly recognised him; all his specific symptoms were gone, his health was fully restored, and he has never had a symptom of syphilis since. Here was a case where the specific cure was pushed too far and a want of due regard to the patient's general condition and surroundings was hurrying him to an early grave; and yet we must suppose that the potentiality of the syphilitic poison had been destroyed by the mercury, while the remedy was keeping up the symptoms by some means—symptoms having the verisimilitude of the disease. In such a case probably quinine would have been of great use, but the other plan of "pure air, highly nutritious diet, and good wine" did the work alone and probably more effectually. I have never forgotten this case and have often seen similar but never such striking results.

The gist of my observations, then, is this: (1) that we must exercise the greatest judgment in giving mercury and the iodides; (2) that we must not trust to them alone; (3) that quinine is a most excellent supplement to the specifics; (4) that healthy surroundings with appropriate diet (wine) and regimen play a most important part in dealing with advanced stages of the disease; and (5) that we must often and again cut off the specifics and try hygienic treatment to see if we have gone far enough to effect a cure and if we have not succeeded we must again attack the disease by specifics.

Outbreaks of syphilis seem to come in waves or cycles. Each time the disease recedes under specific treatment it may redevelop itself and reappear in a milder or more severe form, requiring a fresh course of mercury or of iodide, and we must keep a most careful eye on the symptoms when giving mercury, cutting it off when the symptoms stand still or get worse and supplementing with iodide and quinine when these unfavourable indications occur.

Do not push the mercury too far, especially if there is no decided improvement when its action is fully established. Try the iodide alone or in combination with very small doses of mercury, or give the iodide with quinine in five-grain doses. "Ring the changes" is an excellent motto for the treatment of these cases, and if we follow it with judgment and perseverance we shall at last eliminate the disease; but if we rely on mercury alone, or on iodide alone, or give either or both too long, we shall defeat the end in view and possibly make the patient worse instead of better. It is by a system of giving and withdrawing the specific medicines as the symptoms indicate rather than by a steady and persistent use of them that we eventually get the better of the disease—we, as it were, let it exhaust itself while we are protecting the patient from its successive onslaughts.

Newcastle-on-Tyne.

Weston-super-Mare Hospital and Dispensary.—The annual meeting of this institution was held on Feb. 17th. The financial statement showed that during 1897 the receipts had been £1919, whilst the expenditure had necessitated the withdrawal of £260 from the Investment Fund. The medical report showed that 345 in-patients had been admitted during the past year, giving a daily average of 20 beds occupied. There were also 552 out-patients and 763 casualties. The report of the provident dispensary showed that at the close of 1897 there were 2330 patients on the books and that during the year 8179 home visits had been paid by the medical officer.

GRANULAR KIDNEY AND WHY IT IS SO OFTEN OVERLOOKED.[1]

By SAMUEL WEST, M.D. Oxon., F.R.C.P. Lond.,
ASSISTANT PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL; SENIOR PHYSICIAN TO THE ROYAL FREE HOSPITAL.

Granular kidney is very often overlooked, not because the diagnosis is difficult, but because there is little in the symptoms to draw attention to the kidneys. The symptoms of granular kidney become pronounced, as a rule, in the middle period of life, but the disease has existed long before. Cases of granular kidney in young people or even in children have been recently recorded in fair number. The relation between granular kidney and acute nephritis is often misinterpreted; granular kidney does not often take its rise in acute nephritis. It is possible that acute nephritis may, if it last long, lead to a form of interstitial nephritis, but whether the disease recognised as granular kidney can result from acute nephritis is another question. Simple acute nephritis in the adult is by no means common; when acute nephritis occurs it is generally because the kidneys are already unsound and granular kidney is a very frequent antecedent. As in a child acute nephritis raises the presumption of antecedent scarlet fever, so in the adult it raises the presumption that the kidneys have been diseased beforehand. Two instances were given in which apparently an acute nephritis ended in interstitial change and in one of these albuminuric retinitis developed. One of the common results of granular kidney is hæmorrhage and this may take place in almost any part of the body; thus it is common in the brain and is a common cause of apoplexy, especially in early life. Epistaxis is frequent and a case is quoted in which epistaxis was almost the first symptom of serious disease though the patient died from uræmia within six weeks from the commencement of symptoms.

Hæmorrhage may also take place from the gums, pharynx, stomach, and bowels and a probable instance of hæmatemesis has been recorded. Hæmoptysis also probably occurs, but is rare. Hæmorrhage from the bladder is better known; it may sometimes be profuse and produce very puzzling symptoms. Cases of this kind were quoted in which the diagnosis had to be made from calculus in the bladder, but post mortem nothing was found but granular kidney. Recurrent hæmaturia is a frequent occurrence in small amount and is a point of diagnostic importance. Hæmorrhages into the retina are part of albuminuric retinitis and detachment of the retina is not altogether uncommon, but generally the effusion is not blood but serum. Hæmorrhage has also been observed beneath the conjunctiva and behind the orbit, the latter producing puzzling symptoms during life. Hæmorrhages into the skin are not known. Heart failure is a more common symptom and the cases may present themselves as instances of angina. Pericarditis is by no means a rare complication and may produce no symptoms, so that the discovery is more or less accidental and made by physical signs. A case is recorded in which pericarditis was the first grave symptom to be recognised and the patient died within six weeks from the time when he was thought to have been in perfect health, the first complaint being some defect of eyesight.

General failure of vision is a marked symptom in the later stage of the disease and may amount to what might be almost called cachexia. Such cachexia developing in early middle life without other obvious cause should always raise the suspicion of granular kidney; it may considerably modify the course of other diseases, as in two cases of morbus cordis quoted, in which, though the patients had morbus cordis, the symptoms were due to granular kidney and from that they died. As intestinal symptoms are common the cases may be diagnosed as dyspepsia or as some other form of intestinal affection. In the latter connexion a very interesting case was recorded in which uncontrollable diarrhœa occurred, from which the patient died, but at the post mortem nothing was found but granular kidney.

General acute or sub-acute skin eruptions bear a very important relation to granular kidney, for they are almost without exception fatal; two or three striking instances of this have been given. Nerve symptoms which develop may be very misleading; thus headache may resemble hemicrania and may also suggest cerebral tumour, especially when associated with optic neuritis; cases of this kind were mentioned. Cramp, especially when associated with general loss of power, may suggest various forms of nerve disease and an instance is recorded in which the symptoms very closely resembled those of locomotor ataxia; another case presented itself as an instance of peripheral neuritis. The association of gout and lead poisoning in granular kidney is well known and often produces difficulties in diagnosis.

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[1] Abstract of a paper read before the Harveian Society on Feb. 17th 1898.

The toxic conditions are generally arranged under the heading of uræmia, but this occurs in two forms; the chronic uræmia, or, as it may be called, "chronic renal toxæmia," no doubt explains many of the symptoms which have been already described. Acute uræmia in granular kidney is, of course, generally fatal. It is often very difficult to diagnose from apoplexy, epilepsy, diabetic coma, and some other conditions. An instance is given in which the patient was admitted into the hospital as a case of apoplexy but proved to be one of uræmia, and although the patient was a well-marked instance of granular kidney he completely recovered and has been now well and at work again for some months without any other symptoms.

It is thus obvious that it is only too easy to be misled by the prominent symptoms and to miss the prime cause of the disease—viz., granular kidney. The early diagnosis of granular kidney is important, for although it is true that in the later stages little can be done, still in the early stages it is probable that if the disease were sooner recognised a good deal might prove possible either to prevent its development or, at any rate, to check its progress.

Wimpole-street, W.

"RADIOSTEREOSCOPY."

By W. S. HEDLEY, M.D. EDIN.

THE progress of radiography seems to open up a field of usefulness for the long neglected stereoscope. If it be realised that upon the radiographic film or the fluorescent screen there are thrown upon one flat surface, as in a transparency, the shadows of a variety of objects, which latter in reality occupy in space very different planes, and if further it be borne in mind that such light and shade as the radiograph presents are nothing more than indications of relative opacity to the x rays, it is evident that such a picture can only very imperfectly display the true relationship of objects and must entirely fail to give any adequate idea of the contours of their surfaces. In the case of foreign bodies an exact localisation can of course be secured[1]; that is to say, the radiographer is able to give the exact position of the foreign body with reference to certain artificial surface marks; but such information cannot convey to the mind as sight does a clear conception of the various objects that go to make up the picture. Yet this is what is chiefly wanted. Any method therefore must be acceptable which will enable the surgeon to see with his own eyes at one glance, and at any time during an operation, the *tout ensemble* of the region he is dealing with. It appears to me that the stereoscope is able to accomplish this.

To obtain a stereoscopic effect it need scarcely be said that the first requirement is true binocular vision on the part of the observer. The second indispensable condition is that there be two corresponding pictures of an object, the one seen from the point of view of the right eye and the other from the point of view of the left eye. It is evident that in the case of the radiograph these can be secured either by moving the object itself or by laterally displacing in a direction parallel to the plane of the sensitive plate the source from which proceed the x rays. In dealing with the living body the latter is the simpler process. But the vital point to ascertain is, what ought to be the proper extent of this displacement and what are the physical and physiological considerations upon which the extent of this displacement must be made to depend? In other words, given a certain distance of the positive electrode from the object to be radiographed and the thickness of the object itself, what is the proper lateral displacement of the focus tube? or given a certain displacement of the tube and a certain thickness of the object, what is the proper distance of the anode from the object to be radiographed? I have experimented on a purely empirical basis with the ordinary lenticular stereoscope and have at times obtained effects which were fairly correct. More often the relief is exaggerated or otherwise untrue. But M. Marie and M. Ribaut have lately attacked the question from another standpoint and have published certain formulas[2] the use of which will save a vast amount of experimental trouble. These writers point out that in looking at an object in the ordinary way the angle of convergence of the eyes and the accommodation vary simultaneously in passing from one plane of an object to another plane; but in stereoscopic vision the images are on one plane and therefore accommodation remains constant, while the angle of convergence of the eyes varies as it passes from one plane of the reconstituted object to another. This angle depends upon the thickness of the reconstituted object and its distance and these two of course depend in their turn on the distance from the real object and the thickness of the latter. This distance and this thickness must vary indefinitely, but the maximum limit of displacement of the tube cannot exceed a certain amount. Now, given the distance of the object and its thickness the lateral displacement of the tube may be calculated by the following formula: Where Δ is the relative displacement of the tube and object, D the distance of the tube from the object, and T the thickness of the object $\Delta = D\,\frac{(D+T)}{50\;T}$. Thus, if the object be, say, 3 cm. thick and its distance from the tube be 20 cm. then the displacement of the tube would be 3 cm. When the displacement of the tube is equal to the distance apart of the eyes, say 6·6 cm., the virtual image appears at the distance that the object has been photographed from and is the proper size. Therefore when practicable the displacement ought to be 6·6 cm. This being a known quantity and the thickness of the object also being known the following formula is given to calculate under such conditions the proper distance of the object from the tube: $6\;6 = D\,\frac{(D + T)}{50\;T}$.

I have lately worked on these lines and have been able fully to verify the accuracy of the method. Immediately the negatives are taken the images may be fused in the stereoscope[3] without reduction even with plates 8½ in. × 6½ in. in size. In the case of metallic foreign bodies there is sometimes an apparent want of truth in the result, owing perhaps to the fact that those objects which are most distinct in the field of vision have a tendency to appear nearer. Such cases are best dealt with by the lengthier methods of localisation. But when, as occurs in the great majority of cases, it is of importance to realise the relationships of the various structures in all their dimensions, as in bone surgery at the present time, without anticipating the soft tissue radiography of the future, it appears to me that radiostereoscopy is destined to play an important part.

Mansfield-street, W.

A CASE OF ANTHRAX TREATED WITH LARGE DOSES OF CARBOLIC ACID.

By G. SCOTT JACKSON, M.D. GLASG.

THE following case seems to me to be worthy of report. The constitutional symptoms were so severe as to suggest that the disease was not only local but general, and treatment was not commenced until eight days after the inoculation and five days after the appearance of a "sore." I firmly believe that the free hæmorrhage, which was encouraged, and the exhibition of carbolic acid in such large doses contributed towards the recovery of the patient. He received ten minims combined with an equal quantity of tincture of perchloride of iron every hour and his urine was quickly affected. The kidneys were evidently strongly irritated and traces of albumin were found for some considerable time afterwards. The spores of the bacillus anthracis are said to withstand a 5 per cent. solution of this drug, though the bacilli themselves succumb more readily, but I am of opinion that in this case the former, having escaped into the circulation, were very largely got rid of by the hæmorrhage, whilst the drug was sufficiently powerful to enable the patient to overcome the latter. Though no bacteriological examination was made the history and symptoms were sufficient to warrant the diagnosis.

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[1] THE LANCET, Oct. 16th, 1897, p. 1001.

[2] Archives de Physiologie, 1897.

[3] The adjustable reflecting stereoscope of Cazé.

The patient, who was a shepherd, aged thirty-six years, had cut up the carcase of a beast on Jan. 10th. As several suspicious cases had occurred a veterinary surgeon, at the instance of the county authorities, was in attendance. He warned the man to be careful as he suspected the case to be one of anthrax. Such it proved to be. The hands were washed immediately afterwards in a solution of permanganate of potash, but most attention was given to the left one, upon which were some scratches. On the 13th a small spot appeared on the right forearm, but in spite of the warning received no notice was taken of it. He was all right on the 14th, but on the 15th, forty-eight hours after the appearance of the "sore," he began to feel ill and was shivering. After a bad night he kept his bed on the 16th, his arm being much swollen, and he was troubled with diarrhœa. He vomited several times and had during the night of the 16th some well-marked rigors.

I saw the patient for the first time on the morning of the 17th. The temperature was then 103°F. The whole arm, forearm, and hand were enormously swollen, and there was a nasty, peculiar looking spot on the right forearm, a pustular base surrounded by blebs containing a transparent liquid. There were pain and tenderness in the axilla due to some enlarged glands. As he lived seven miles out in the country I advised his removal to where he could be better attended to. This I was promised should be done, but that night he was considered by his friends to be too ill to stand the journey, so I saw him again the next morning and found him much worse. He had spent a very restless night and at times had been quite delirious. The diarrhœa still continued. The patient was drowsy, the tongue was foul and coated, and the temperature was 103·4°. The "sore" was now as large as a Tangerine orange and its contents were very dark-coloured. There was another very similar spot a little higher up, but the fluid in this was clear. The pulse, which was 130, was hard and full. Having put him under chloroform I made very free crucial incisions through both pustules, the swelling of the parts causing the tissues to separate very widely when cut, and I swabbed out the wounds very freely with pure carbolic acid. There was a great deal of hæmorrhage. The same drug was now taken internally and the patient was able to retain it, though everything else was for the next twenty-four hours vomited. The next day (Jan. 19th) there was undoubted improvement. The temperature was 100·2°. There was no delirium. The patient had slept and his expression was good and intelligent. The diarrhœa had stopped, but there was constant vomiting. There was great change in the pulse from being strong and full to being small and compressible. This was accounted for by the bleeding, as blood was still oozing through the dressings. There was another bleb of the size of a pigeon's egg above the elbow and the patient complained of pain in the region of the spleen. For the next few days he remained very much in the same condition, but a dark hæmorrhagic spot appeared on the back of the hand and spread until the whole of the radial aspect of the forearm back and front was marked. The appearance was more hæmorrhagic than that of a slough, though the superficial layer of the epidermis separated leaving a most dark-coloured surface below. The bleb above the elbow never coloured. The temperature was normal in a week, the swelling gradually subsided, the vomiting passed off, and the patient has now recovered with the exception of the wounds made by the knife, which are, however, healthy granulating surfaces.

Alnwick, Northumberland.

MERTHYR TYDVIL GENERAL HOSPITAL.—The annual meeting of this hospital was held on Feb. 17th. The report showed that the total receipts for the year amounted to £1300 and the expenditure to £1066. The chairman (Mr. J. Plews) stated that £6330 had been received towards the Hospital Diamond Jubilee Fund and that the Marquis of Bute had promised £2800 if the subscriptions were made up to £10,000. The medical report showed that 210 in-patients had been treated during 1897.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

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OSSIFYING CHONDROMA OF THE FIFTH AND SIXTH CERVICAL VERTEBRÆ.

BY E. P. WRINCH, M.B., B.S. DUNELM., M.R.C.S. ENG., L.R.C.P. LOND.

CARTILAGINOUS tumours are known to be of very slow growth and when deeply seated may easily escape observation for some long time; that they may by reason of this slow growth give rise to no symptoms, even when pressing on important structures, is well shown by the following case.

On Nov. 4th, 1897, I was hurriedly called during the evening to see a Norwegian sailor, aged nineteen years, on board one of the vessels lying at the docks. I found him lying in his bunk in a perfectly helpless state, but quite conscious and rational. From him and three of his fellow sailors I managed to get the following history of the case: that he was in ordinary health the previous evening and went with a fellow sailor into the town, where they both were the worse for drink; that on their return to deck there was a scuffle, during which the patient fell and had to be carried to his bunk; there he lay until next day, when on his getting worse the captain of the vessel sent for me. I saw him twenty-one hours after the accident. He complained of no pain but of numbness in both legs. On examination I noticed a small wound of the skin over the left orbit, which was only superficial. He was very collapsed and looked very pale; his pulse was 46 and the respirations were 18; there was absolute loss of power and sensation in both arms and both legs and all reflexes in them were absent; there was marked priapism and the bladder was very full and the bowels had been confined since the accident. I had him removed to the Boston Hospital, where he was seen again an hour later. He was then still more collapsed; the pulse was 43 and the temperature was 95·6° F.; the breathing was regular but purely diaphragmatic. Nearly a pint of urine was drawn off with a catheter. He was given restoratives and appeared to rally somewhat, but he died six and a half hours after admission somewhat suddenly.

A necropsy was made by Mr. R. E. South and myself six hours after death and the following condition of affairs was found. The body was that of a well-developed man; there were no marks of violence except the small wound over the left orbit mentioned above. On cutting down from behind through the muscular layers on to the cervical portion of the spine a marked bony enlargement was felt on the left side in connexion with the fifth and sixth cervical vertebræ, which quite cemented the laminæ and spinous processes of the two bones together. The bones from the axis to the sixth cervical vertebra were then carefully removed with the contained cord and on clearing away the muscular attachments the enlargement felt was found to be an ossification of tissue springing from the left side of the fifth and sixth vertebræ. The surface of the growth was mainly hard and somewhat rough, though in some places there were evidences of cartilage. On careful disarticulation of the several bones and on opening up the spinal canal the growth was seen to continue upwards inside the canal as far as the upper border of the third cervical vertebra; in the canal the growth was purely cartilagious. It occupied quite three-fourths of the canal. Between the growth and the meninges there was evidence of recent hæmorrhage; the cord itself was very much compressed by the growth for nearly two and a half inches and completely displaced to the right side. The laminæ of the third, fourth, and fifth vertebræ were very much thinned on the right side, evidently from pressure. The roots of the spinal nerves did not seem to have suffered. All the other organs were found to be quite healthy. The specimen was sent to Mr. Shattock, curator of the museum of St. Thomas's Hospital, and he kindly examined the tumour and reported it to be of a simple nature and of purely cartilaginous consistency.

Death was evidently due to the result of the hæmorrhage pressing upon the displaced and already much compressed cord, spreading upwards to the origin of the phrenics. It is very curious that with the amount of compression of the cord there must of necessity have been before the accident that there should have been no symptoms and that the man should have been in the good health that he was stated to have been.

Boston, Lincolnshire.

OBSTRUCTION OF LABOUR IN A MULTIPARA.

By J. B. Pike, M.R.C.S. Eng., L.R.C.P. Edin.

On Feb. 21st, 1898, I was sent for to see a woman and found her under the care of a somewhat elderly midwife. A large head was impacted in the pelvis and the uterus, in the usual midwifery position, bulged forward well over the anterior brim of the pelvis, lying almost between the thighs. The woman told me that this was her twentieth child, including two editions of twins, and that her age was thirty-eight years. She was much exhausted by inefficient pain and being unable to procure skilled assistance except by some delay I applied the long forceps and drew down the head. The child proved far above the average size and some difficulty was found in extracting the body. A large gush of clots and fluid blood followed and the placenta was extracted by the hand, following the aberrant curve forward of the uterus. I was fortunately able to induce contraction by pressure and was thankful as I felt the uterus once more becoming a pelvic organ. During extraction of the child the uterus was as far as possible held in position by traction upon a binder, but with the assistance at my disposal the "dorsal decubitus" appeared to me to be impracticable, taking into account the helpless condition of the patient.

Loughborough.

NOTE ON A CASE OF ALBUMINURIA IN A PREGNANT WOMAN.

By Edward S. Gooddy, F.R.C.S. Eng.

The patient was a tall, thin, sallow woman, aged twenty-nine years. She had married young and had had two children by her first husband. Her health during both pregnancies was good and the confinements were normal. She had not aborted or miscarried. After the death of her first husband she remained a widow for some years, during which time she had no serious illness. When I was called to see her on Oct. 5th, 1897, she said that she was five months pregnant, that the child had quickened, and that its movements were strong. Her general symptoms were of no particular interest, consisting of neuralgia, headache, nausea, vomiting, and general malaise. On examining the urine I found it heavily loaded with albumin. When boiled and allowed to stand for twenty-four hours the deposit was about a quarter of the amount tested. Nothing worth recording happened for the first week; she improved slowly in general health under treatment, but with slight variations the amount of albumin continued as large as at first. On Oct. 13th the fœtal movements were said to be violent and to cause her severe pain, but on the 14th she informed me that they had ceased and that she was sure the child was dead. There were no fœtal heart sounds audible. By Oct. 17th there was a decided reduction in the albumin. On the 20th it had sunk to a trace and by the 24th it had disappeared. Her health also had rapidly improved and I saw no more of her until Nov. 5th, when she miscarried with a five months' fœtus which was macerated but not decomposed. A trace of albumin was found on Nov. 8th but on no other occasion.

The interest of the case lies in the light it seems to throw on the causation of albuminuria in, at any rate, the early months of pregnancy. Its persistence during the life and its rapid subsidence and early disappearance after the death of the fœtus before its expulsion from the uterus are strong arguments in favour of the view that the cause lies not in any alteration of abdominal pressure and venous tension, but in an inability of the kidneys to cope with the increased excretion demanded by fœtal life and growth. It is, to my mind, a question whether the trace of albumin found on Nov. 8th was or was not due to a temporary excretory excess coincident with, and due to, uterine involution.

Llandudno.

A Mirror
OF
HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—Morgagni *De Sed. et Caus. Morb.*, lib. iv. Procemium.

LONDON HOSPITAL.

A CASE OF INCOMPLETE REDUCTION OF A STRANGULATED INGUINAL HERNIA; OPERATION BY MEDIAN ABDOMINAL SECTION; RECOVERY. ACUTE INTESTINAL OBSTRUCTION ONE YEAR LATER FROM VOLVULUS AND INTERNAL HERNIA THROUGH AN APERTURE IN THE MESENTERY.

(Under the care of Mr. J. Hutchinson, Jun.)

A man, aged twenty-two years, suddenly developed a right inguinal hernia, its descent being soon followed by vomiting. The medical man who was called in to see him reduced the hernia by taxis and gave him an enema. The vomiting, however, continued during this (the second) and the next day and on the latter day the patient was admitted to the London Hospital with the following symptoms: (1) severe intermittent abdominal pain, chiefly felt about the umbilicus; (2) vomiting and complete anorexia; (3) dryness and furring of the tongue; and (4) slight abnormal fulness at the upper part of the right inguinal canal. In the belief that the case was one of imperfect reduction or of *reductio en masse* Mr. Hutchinson, jun., operated as soon as possible by median laparotomy. The intestine was distended and it was with some difficulty that the right internal abdominal ring was exposed on this account. A portion of the ileum (not the whole circumference of the loop and therefore a Richter's hernia) was found to be tightly nipped at the internal ring, into which a director was introduced and the edge divided in an upward direction, taking care to avoid the deep epigastric artery. The strangulation had been very marked, some of the peritoneum over the portion nipped being stripped off. It was interesting to see how the gut at once drew itself back as soon as the constriction was relieved—in other words, no traction from above was needed. The wound healed by first intention and there was no sickness after the operation. Five months later the patient went to see Mr. Hutchinson, jun., on account of dyspeptic symptoms; he was otherwise in very good health and there had been neither any tendency to ventral hernia nor return of the original hernial protrusion.

The patient remained in good health (with the exception of the vague abdominal discomfort occasionally complained of) for a year, continued at active work, and married. Exactly twelve months after the first operation he was seized one day with abdominal pain, soon followed by vomiting. He had not previously been constipated nor was he conscious of having committed any error in diet. He was readmitted into the hospital and as the continued sickness and growing abdominal distension (one coil in particular appeared to project beneath the abdominal wall) pointed to a mechanical cause for the obstruction a second laparotomy was performed, this time above the umbilicus. The small intestine was found to be much distended with fluid and gas, and some loops hanging down into the pelvis appeared to be twisted on their axes. In addition to this, part of the ileum was adherent to the anterior abdominal wall on the right side of the scar left by the first operation. The peritoneal surface immediately behind the latter was perfectly smooth, illustrating the advantage of sewing up the peritoneum separately by a continuous catgut suture after a laparotomy. The adhesion behind the right rectus muscle was an extensive one and there could be no doubt that the intestine which was so fixed was that which had at first been strangulated in the internal ring and, as previously noted, had partly lost its peritoneal covering. No other adhesions were found and in particular no band, as had been suspected to be present. Although the loop which was adherent to the abdominal wall did not feel tense or as though it could be the active agent in causing obstruction, yet no other lesion capable of doing so could be found. But in the manipulation of the distended coils to the left of this adherent one and in the pelvis it seemed to Mr. Hutchinson, jun., that a volvulus was unravelled and he therefore sewed up the abdominal wound. As will be seen later there was a volvulus, but in addition an aperture in the mesentery which was not detected. Unfortunately the relief afforded by this operation was practically nothing. No peritonitis supervened, but after a few hours the vomiting recurred, although the pain was perhaps not quite so severe. The vomit became feculent in odour. After waiting three days, during which no important change occurred, the abdomen was again opened (this time in the right linea semilunaris) and the adhesion, which was very firm and involved quite half the circumference of the loop of ileum, was cut through with scissors or broken down with a blunt instrument. Mr. Hutchinson, jun., was doubtful whether the division of this adhesion would relieve the symptoms, but no other cause for their persistence was made out. It must be remembered that the operation was done on a greatly distended abdomen and the search for the seat of obstruction was difficult. The patient died a few hours afterwards.

Necropsy.—Mr. Neville Howse kindly made a post-mortem examination for Mr. Hutchinson, jun., which revealed a most interesting condition of things. The abdomen contained a small amount of blood-stained fluid. A loop of small intestine (the lower part of the ileum) about twelve inches long had passed through a small slit in the mesentery about two inches above the right sacro-iliac joint and had then become twisted on itself and gangrenous. This volvulus lay over the descending colon, occupying the left iliac and lumbar regions. There were numerous adhesions around and the condition was so complicated that one could not ascertain exactly what had occurred until the intestines were completely removed from the abdomen. It was impossible to make water poured into the upper end of the small intestine pass through the obstructed loop until the adhesions were broken down and the slit in the mesentery was enlarged. Mr. Howse considered that it would have been hardly possible to unravel the intestine and remove the obstruction during life.

Remarks by Mr. HUTCHINSON, jun.—Some years ago Mr. Lawson Tait suggested that in operating on strangulated hernia it might be found advisable to perform a median abdominal section in preference to opening up the inguinal canal, &c. Mr. Tait thought that a radical cure might perhaps be more easily effected in operations from within the abdomen by dealing with the very commencement of the hernial canal. It is probable, however, that few if any surgeons have deliberately adopted this method of performing the operation of herniotomy and the occasions on which it is done more or less by accident must be very rare. Such has been the case however now and then with strangulated obturator hernia, in which the abdomen has been opened through the middle line, the diagnosis made being that of "intestinal obstruction," and it is only after careful exploration that the cause has been found to be a hernia. Again, the same thing has happened with a Richter's hernia or partial nipping of the gut in the femoral ring. The above case affords an interesting opportunity of testing the method as applied to inguinal hernia. With regard to the facility afforded by a median section for performing suture of the internal ring I must say this case impressed me strongly with its difficulty. The surgeon has to work across the whole width of the rectus muscle, the intestines are very liable to get in the way of the instruments, and I did not attempt to suture in the present case (the patient was a very muscular man with a broad abdomen and inflated intestine). I would note that it is almost impossible to push the internal ring towards the middle line from outside. The case had an unfortunate and strange sequel. We have to note the remarkable occurrence in the same patient of two attacks of acute intestinal obstruction from totally different causes; one, the nipping of small intestine at the internal ring, and the other, the passage through a rent in the mesentery followed by volvulus. These two attacks were separated by an interval of a year, during which the patient was practically in perfect health. It has, however, been mentioned that he had complained of abdominal discomfort, though not sufficient to prevent his working. It is probable that this symptom was due to adhesions forming between the intestines and between the latter and the abdominal wall. It is remarkable how much the symptoms vary when such adhesions are present. One patient whom one knows from operation to have the intestines matted together in a wholesale manner will perhaps recover from the operation and enjoy apparently perfect health; on the other hand, we know too well the disastrous results which may follow from a few or even a single adhesion by the production of kinking, volvulus, or stricture of the gut. It is difficult to believe that the first operation of herniotomy in the present case had anything to do with the formation of a hole in the mesentery. Three years ago my colleague, Mr. Dean, and I recorded[1] a case somewhat similar to this one in that the same patient underwent two operations for acute intestinal obstruction due to a band. In that instance, fortunately, the patient made a complete recovery.

GENERAL HOSPITAL, RANGOON.

AN UNUSUAL CASE OF PENETRATING WOUND OF THE ABDOMEN.

(Under the care of Surgeon-Captain DUER.)

THE following very remarkable case demonstrates the small amount of shock which may follow the infliction of serious injury to the intestine. Death resulted obviously from the internal hæmorrhage and not from the wound of the bowel, for the patient lived only twelve hours, and this was much too short a time for any extravasation of the intestinal contents to have led to this result. It is difficult to see how the severity of the case could have been recognised immediately after the infliction of the injury.

A healthy, well-nourished native of Burma, aged about thirty years, was admitted at 8.30 A.M. on March 1st, 1897, to the General Hospital, Rangoon. While squatting in Eastern fashion in a corner of his house with his back to the wall someone outside the house had stabbed him in the buttock through the thin bamboo matting of the wall. He did not apparently attach much importance to his wound. On examination a transverse wound one and a half inches long at the level of the lower end of the sacrum and just to the right of the middle line was found. A probe passed in about one inch and impinged upon bone. The rectum was examined and no injury was detected. The pulse was good; the patient complained of little pain and there were no symptoms of shock. At 7.30 P.M. Surgeon-Captain Duer was called to see the patient and found him moribund. He was almost pulseless; his abdomen was distended and there were signs of much fluid within it. He died very shortly afterwards.

Necropsy.—At the post-mortem examination the track of the wound was found to pass between the sacrum and the coccyx. The floor of the pelvis to the right of the rectum was perforated. A coil of small intestine about midway between the stomach and great intestine hanging in the recto-vesical pouch was penetrated. The abdomen contained a great quantity of blood the source of which was not demonstrated, but was probably the right internal iliac vein or one of its large tributaries. The dissection was performed by one of the hospital attendants in the presence of Surgeon-Captain Duer, but his skill was not sufficient to demonstrate this point. Having other surgical cases to attend to Surgeon-Captain Duer was unwilling to perform the dissection himself. All the other organs were healthy and uninjured.

Remarks by Surgeon-Captain DUER.—The above case seems to be worthy of note as what appeared to be an injury of no great severity was in reality very serious, and that the real extent of the wound was not manifest at a time when successful operative measures might have been adopted.

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[1] Transactions of the Medical Society of London, vol. xvii., p. [illegible].

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Annual Meeting.—Election of Officers.

The annual general meeting of this society was held on March 1st, the retiring President, Dr. **Howship Dickinson**, being in the chair.

The report of the Council and of the honorary treasurers was read and showed that the affairs of the society were in a favourable condition. Twenty-eight new Fellows had joined the society during the past year, while the losses from death or retirement were only sixteen. The financial position also showed an improvement, a number of debentures having been paid off, while Dr. Robert Barnes had returned two of his debentures as a donation to the funds of the society.

The **President**, in delivering his valedictory address, after alluding to the satisfactory state of the society, referred with much regret to the retirement of the honorary surgical secretary, Mr. Parker, who has completed his term of office, observing that in the laborious task of revising the by-laws he had done the greater part of the work. He also regretted that this year, for the first time for many years, Mr. Holmes did not hold office. He had held almost all the offices in the society and in addition to being President had been chairman of the Building Committee and of the House Committee. The President then read the usual obituary notices of the Fellows who had died during the past year, referring particularly to Mr. Oliver Pemberton, Dr. James Andrew, Mr. Walter Rivington, Mr. Greig Smith, Sir Rutherford Alcock, and Dr. Leonard Remfry.

On the motion of Dr. **Church**, seconded by Mr. **Bryant**, an enthusiastic vote of thanks was passed to Dr. Dickinson for the manner in which he had performed the duties of President during the last two years.

The usual votes of thanks were passed to the retiring officers and members of council and a special vote of thanks was passed to Mr. Holmes for his long services to the society.

The result of the ballot for the officers for the ensuing year was then declared and the following gentlemen were declared duly elected: President: Mr. Thomas Bryant. Vice-presidents: Dr. George Fielding Blandford, Dr. William Marcet, Mr. Frederick James Gant, and Mr. Reginald Harrison. Honorary treasurers: Dr. William Selby Church and Mr. J. Warrington Haward. Honorary secretaries: Dr. Norman Moore and Mr. Alfred Pearce Gould. Honorary librarians: Dr. Samuel Jones Gee and Mr. Rickman J. Godlee. Members of Council: Dr. William Henry Allchin, Dr. Robert Leamon Bowles, Dr. John Mitchell Bruce, Dr. Francis Henry Champneys, Dr. George Henry Savage, Mr. William Watson Cheyne, Mr. Henry Hugh Clutton, Mr. Frederic S. Eve, Mr. William Appleton Meredith, and Mr. Edgcombe Venning.

Dr. **Dickinson** then invested Mr. Bryant with the collar of office and installed him in the presidential chair.

MEDICAL SOCIETY OF LONDON.

Abdominal Exploration as a Medical Measure.

A **meeting** of this society was held on Feb. 28th, the President, Dr. **Sansom**, being in the chair.

Mr. **Frederick Treves** read a paper on the value of Abdominal Exploration as a Medical Measure. He observed at the outset that a great change had taken place in professional opinion as to the line which should be drawn between the province of medicine and surgery. He proposed to deal in his paper with those cases in which operation was performed but in which it was not possible to account for the benefits derived simply by the surgical measures adopted. The first class of cases to which he wished to draw attention was that in which remarkable effects followed simple incision, such as cases of tuberculous peritonitis. No less than 308 cases had been collected in which operation had been performed, and of these 69·8 per cent. were reported as cured and 34 per cent. remained well some years afterwards. But if the cases of suppurative peritonitis were put aside, treatment with ordinary surgical measures, such as drainage, application of iodoform had done no more than simple incision. Such incisions had been performed mostly under misapprehension, as in Spencer Wells' well-known case in which he opened the abdomen for a supposed ovarian tumour, and finding tubercle, hastily sewed up the abdomen, but the patient at once got well. One hypothetical explanation which had been offered was that the benefit was due to the admission of light into the peritoneal cavity, but very little light got in through the opening. He was inclined to think that the true explanation would be forthcoming when more was known about intra-abdominal pressure, of which at present little was known. He thought that it was impossible to tell accurately before opening the abdomen whether the pressure would be found to be positive or negative. The intestines might either be forced out or the peritoneum might be found closely clinging to the intestines. As an instance of the benefit sometimes seen from simple incision even in old-standing cases he mentioned a case in which chronic perityphlitis had caused ill health, making the patient bedridden. On opening the abdomen the appendix was found surrounded by old tuberculous matting and it was left alone as being beyond the reach of surgery, but as the result of that simple incision the patient got well. He also quoted a case of pylephlebitis which occurred on the eighth day of a sharp attack of perityphlitis, there being a temperature varying from 102° to 104° F., daily rigors, and delirium. The liver on exploration on the thirty-first day was found to be as soft as a lung and much enlarged, the surface being dotted over with minute yellow specks. The abdomen was closed without anything being done, but the rigors stopped and the patient made an immediate recovery. In another remarkable group were the cases of malignant disease in which shrinking of the growth occurred after simple incision, and this had been seen not only in the case of sarcoma of the peritoneum but also in retro-peritoneal sarcoma. In one case, that of a young man, on exploration he found a retro-peritoneal sarcoma of the size of two fists. The abdomen was closed and retrogression of the tumour continued for three months till it could hardly be felt, and then it began to increase and rapidly killed the patient. This retrogression was also seen in the case of malignant stricture of the pylorus. In one such case a man who was in a very miserable condition before exploration was so much improved that he was able to resume his work as a hall porter, but the symptoms afterwards returned and caused death. In another group he placed the "nervous" cases and quoted first cases in which the symptoms approximated to those of recognised forms of disease. He mentioned the case of a middle-aged woman who was supposed to have chronic perityphlitis, and who insisted on having her abdomen explored. There were constipation, tenderness (chiefly cutaneous) in the right iliac region, and occasional vomiting. As she had been an invalid for twelve months and medical measures had had no effect, Mr. Treves cut down and found the appendix and surrounding parts quite healthy. He removed the appendix for the moral effect on the patient, and all the symptoms vanished. A similar train of symptoms also occurred in a young woman, and in her case the removal of an appendix which was perfectly normal microscopically completely relieved her nervous symptoms. Occasionally, however, cases were met with which did not simulate known diseases and he mentioned one which occurred in a woman, twenty-four years of age, who had had several operations on her abdomen for violent paroxysmal pain. Five months before admission to the London Hospital she was said to have been seized with fæcal vomiting, a condition which Mr. Treves believed rarely to be due to obstruction unless there was a fistulous communication between the stomach and the transverse colon. Previous to the onset of this vomiting she was said not to have passed any motion for four weeks. She was admitted to the London Hospital, where nothing abnormal could be discovered, but after a few weeks the bowels ceased to act and fæcal vomiting returned and she also vomited nutrient enemata and there was a rise of temperature to 109°. (This she subsequently said that she managed by squeezing the thermometer with her teeth.) She was watched and an ounce of castor oil was injected into the rectum. In ten minutes this was returned by the mouth. Next a pint of water coloured with methylene blue was given. In ten minutes exactly a pint of water of a blue colour was rejected by the mouth. As her condition was getting worse Mr. Treves reopened the abdomen, and the colon was found to be perfectly normal and there was no sign of a gastro-colic fistula. After the operation she went through the performance of dying according to popular ideas, but she spoilt the picture by constant screaming. She was therefore removed to an isolation room, and all the symptoms ceased as soon as she had no appreciative audience. She explained how she managed to raise the temperature record, but it was never ascertained how she managed to bring the enemata out of her mouth. Cases of intestinal hypochondriasis were also met with in which exploration was followed by disappearance of all symptoms. The cases usually occurred in men and were associated with pain at a spot to the left of and below the umbilicus, often with a sensation suggesting to the patients that there was a stricture. Usually there was a contracted sigmoid flexure which could be felt the size of one's thumb and could be rolled under the hand. He thought these cases occurred in patients who had habitually had too frequent action of the bowels; in other words, undue irritability of the colon. After a time the irritability resulted in spasm. It was in these cases, he believed, that opium acted as an aperient. In many cases of chronic constipation which had not yielded to remedies he had found a flabby inert sigmoid flexure, occasionally complicated by a few adhesions or the presence of a tumour, or there might be acute flexion of the transverse colon, or the sigmoid flexure might be extremely short and bound down by adhesions, and sometimes he had seen a great deposit of retro-peritoneal fat in a patient who was not otherwise fat. He wished to call attention to a form of pelvic cellulitis occurring in men which started from the bowel and was often mistaken for peritoneal sarcoma. He mentioned the case of a medical man, forty-eight years of age, who had been overworked and much exposed to the weather. He had symptoms of acute colitis, followed by severe pain in the rectum and perineum, constipation, and the passage of much mucus. He lost flesh and on examination of the rectum a mass was felt blocking up the pelvis. This in time all cleared up. In another case a patient, seventy years of age, who had an enlarged prostate and had always had constipation alternating with spurious diarrhœa, began to complain of pain in the buttocks, perineum, and rectum, together with a good deal of fever and alarming prostration. A mass was felt per rectum which was taken to be a malignant mass, but when the patient was examined some months later it had nearly disappeared. He believed that in these cases there was first a stercoral ulcer of the colon and cellulitis extending from this point. Dilatation of the stomach and intestines was by no means always the result of distension with gas. Thus, in so-called ballooning of the rectum there was no collapse when the speculum was introduced and he had seen a case in which a large opening was made into a dilated stomach in performing gastrostomy and yet the stomach remained of the size of the patient's head. The so-called idiopathic dilatation of the colon he believed always to be due to congenital narrowing of the lower bowel, and in one such case he had removed the narrowed rectum and descending colon and brought the transverse colon down to the anus. Mr. Treves remarked on the difficulties due to the variable position of the linguiform lobe of the liver. He was obliged to abridge the remarks which he had intended to make on the surgery of the liver, but quoted one case in which the diagnosis had been of extreme difficulty. A young woman, nineteen years of age, had been deeply jaundiced since she was two years of age and possibly longer. The urine was mahogany coloured and offensive and lately there had been epistaxis and bleeding from the gums. Dr. Lauder Brunton, who was in charge of the case, thought that there was probably either congenital absence or atresia of the common bile-duct. On exploration the gall bladder was found to be present and full of bile, but on opening it and passing a probe down into the common duct it was found firmly closed by a hard fibrous nodule. Mr. Treves therefore established a communication between the gall bladder and jejunum and although the operation was only done a few weeks ago the urine was already much lighter in colour and the discolouration of the skin was less profound. While his paper showed that great benefit often followed a surgical exploration Mr. Treves wished to deprecate undue haste in resorting to it, as such practice must tend to less careful and thorough investigation of the case by ordinary methods.

Dr. LAUDER BRUNTON, after complimenting Mr. Treves on his paper, said that he thought that there was reason to believe that tuberculous disease other than peritonitis was relieved by abdominal incision. In this connexion he mentioned the case of a woman who had had severe pain in the right iliac region for several years and then developed marked phthisis with signs of a large cavity at the left apex. At her urgent request the abdomen was opened and it was found that there were chronic appendicitis and much tuberculous matting around the cæcum. The abdomen was closed without anything being done, and not only did the abdominal condition get well but the lungs improved and were now nearly normal. The only explanation he could think of was that the admission of air into the abdominal cavity might cause a change in some of the albuminous substances, converting them into antitoxins. It seemed to him not altogether fanciful to believe that abdominal surgery might be extended to the cure of phthisis. Another remarkable condition was paroxysmal pain occurring especially in gouty persons and coming on usually in the early hours of the morning. This condition was often due to adhesions, and in one case in which the pain was on the left side adhesions were found on the right. Their division at once freed the patient from the pain.

Mr. BRYANT said that he was accustomed to lecture twice a year at Guy's Hospital on his mistakes. Many of the cases quoted by Mr. Treves were mistakes in that the operations were undertaken for the relief of a condition which was not present. He (Mr. Bryant) remembered two cases referred to him for operation by an obstetric colleague as cases of ovarian tumour. In one there was a gush of fluid from some encysted collection and in the other there were so much obliteration of the peritoneal cavity and thickening of the bowel wall that the bowel was wounded. The abdomen was sewn up in each case and the patients recovered. The cases of displacement of the colon which Mr. Treves had referred to were very important and he wished that Mr. Treves had been able to say more about the diagnosis of the condition.

Dr. F. J. SMITH asked as to the best method of removing ascitic effusions. If aperients and diuretics failed he preferred, at any rate with hospital patients, to get the surgeon to make an exploratory incision, as it involved less risk of sepsis and much information might be obtained by digital exploration. He remarked on the variable position of the appendix. Usually it was tucked behind the cæcum but sometimes it dipped down and was in contact with the ovary and might give rise to confusion in diagnosis.

Mr. ALBAN DORAN said that he had seen genuine fæcal vomiting in a case in which there was some obstruction combined with the presence of irritating food. He thought that in Mr. Bryant's first case there was probably either a cyst of the urachus or an encysted collection the result of some past attack of tuberculous peritonitis.

Mr. TREVES, in reply, agreed with Dr. Smith that the evacuation of fluid by incision had great advantages. He believed that genuine fæcal vomiting in cases of obstruction was very rare. Foul-smelling brown lumps were sometimes vomited, but on examination they proved to be altered curd of milk.

PATHOLOGICAL SOCIETY OF LONDON.

Test-tube Reactions between Cobra Poison and its Antitoxin.—Traumatic Aneurysm of the Innominate Artery.—Congenital Sarcoma of the Liver.—Ulcerative Enteritis.—Hydatid Cyst of the Liver.—Retro-peritoneal Cyst.—Tumour of the Pulmonary Valves.—Miliary Thrombosis of the Kidneys.—Mycetoma.

A MEETING of this society was held on March 1st, the President, Dr. PAYNE, being in the chair.

Dr. J. W. W. STEPHENS and Mr. W. MEYERS read a paper on Test-tube Reactions between Cobra Poison and its Antitoxin. The experiments were undertaken to throw light on the much-disputed question of the mode of action of antitoxins. In brief, the two main views are: (1) that the cells of the animal body are necessary for the action of an antitoxin to make itself felt (Roux and Metchnikoff); and (2) that the antitoxin and toxin react chemically upon one another and that they can do so without the assistance of the living organism (Ehrlich and Kanthack). The actual experimental observations which suggested the particular mode of experimenting were the following. Professor Kanthack in October, 1896, before the Physiological Society demonstrated the observation made by Brigade-Surgeon-Lieutenant-Colonel D. D. Cunningham that cobra poison when mixed with shed blood in a test tube prevents coagulation, but he also showed that this action could be prevented by previously mixing the poison with antivenomous serum—the mixture now coagulating as normal blood-clots—and finally he showed that the action of the serum was specific, diphtheria antitoxin having no such effect. In 1897 Ehrlich performed experiments upon the action of a solution of ricin *in vitro* on citrated blood. The clumping and precipitation of the blood cells which resulted could be completely done away with by previously mixing definite quantities of anti-ricin serum, and the mixture was also innocuous on injection into mice. Mr. Stephens and Mr. Meyers accordingly were led to look for other reactions between a toxin and its antitoxin which could be demonstrated *in vitro* and at Professor Kanthack's suggestion were led to examine (1) the action of cobra poison on the blood *in vitro*; (2) the effect of Calmette's antitoxin upon this action; and (3) whether the "neutral point" *in vitro* was also the neutral point *in corpore* for the animal whose blood was used in the experiment. Observations were made to see if the antitoxin neutralised the normal hæmolytic effect of cobra poison. Most of the experiments were performed by mixing known volumes of blood and poison solutions in small test tubes and—after about twelve hours—noting which of a series of tubes showed any hæmoglobin in solution. They pointed out the necessity for dissolving the poison in solutions which were isotonic or only slightly hypertonic for the particular blood under investigation so that the action of the poison could be estimated. Dr. Stephens and Mr. Meyers found that the hæmolytic action could be completely arrested by definite quantities of serum. Repeated observations showed that 0·1 c.c. of isotonic serum was always sufficient to arrest the hæmolytic action of 0·1 milligramme of poison on guinea-pigs' blood. They found that when they used larger amounts of poison, although completely neutralised as regarded hæmolysis, yet on injection into animals they were rapidly fatal. They based their explanation of this fact upon the work of Mitchell and Lembert and Martin, who have come to the conclusion that snake poisons are composed of at least two, probably more, proteid constituents and they suggested accordingly that the poison may contain, in addition to the toxic substance which is neutralised by the serum, another toxic substance which is not so neutralised by the amount requisite to prevent hæmolysis. The similar observation made by Wasserman on pyocyaneus toxin was explained by Mr. Meyers on the supposition that the large quantity of toxin present paralysed the cells in the body and prevented the tissues modifying the antitoxin from its inactive to its active form. Dr. Stephens and Mr. Meyers, however, agree with the opinion expressed by Ehrlich that the toxin and antitoxin react chemically *in vitro*. They summarise their results thus: (1) cobra poison is strongly hæmolytic *in vitro*; (2) this action is neutralised by antivenomous serum and the action of the latter is specific; (3) for certain doses (0·1 milligramme) the measure of this neutralisation *in vitro* is a measure of the neutralisation *in corpore* for guinea-pigs; and (4) this neutralisation is chemical and not cellular or vital.

Mr. **George Heaton** showed a Traumatic Aneurysm of the Innominate Artery which caused death by rupture into the sac of the pericardium twenty-nine days after the wound of the blood-vessel. The sac lay behind the manubrium sterni, having the arch of the aorta forming the floor, the left innominate vein being incorporated in its front wall. The innominate artery lay in the posterior wall of the sac. About half an inch above the origin of the innominate from the aorta was an oval opening leading directly into the aneurysmal sac. The long axis of the opening measured a quarter of an inch in length and lay in the long axis of the blood-vessel. The walls of the aneurysm varied much in thickness and were covered on their inner surface with adherent blood-clot. There was an irregular rent in the floor of the aneurysm opening into the pericardium. The wound was caused by a pocket-knife. The only signs the aneurysm gave during life of its existence were abductor paralysis of the right vocal cord and some dulness behind the manubrium. The specimen was one of extreme rarity, if not unique.—Mr. **George Heaton** also showed a specimen of Congenital Sarcoma of the Liver, which weighed 49 oz. and was taken from the body of an infant, aged eight weeks. The abdomen was noticed to be very much enlarged at birth and increased rapidly until the child's death. There was no evidence of syphilis or leukæmia. The spleen was normal in size. There was a small secondary growth in the right suprarenal capsule. The liver was uniformly enlarged and presented when fresh a mottled or marbled appearance on its surface. This appearance was due to patches of a dark red colour separated by pale ones. A microscopic examination showed a general infiltration of the liver by a small round-celled sarcoma. The sarcoma cells apparently invaded the liver tissues along the blood-vessels.

Mr. **C. P. White** showed a specimen of Ulcerative Enteritis from the small intestines of a man, aged forty-two years, who for five years had had recurrent attacks of acute abdominal pain with diarrhœa and was admitted under the care of Dr. Rickards to the General Hospital, Birmingham, on Jan. 21st, 1898. At the necropsy numerous ulcers were found in the jejunum and upper part of the ileum, several of them extending completely around the bowel. The most recent of the ulcers were covered with a thick false membrane which was bile-stained. Five ulcers had perforated and given rise to extravasation of the intestinal contents and septic peritonitis. Peyer's patches and the solitary follicles were not enlarged. The lower part of the ileum and the large intestine were healthy. The spleen was normal and the mesentery was enormously thickened by enlargement of the glands which were white and firm. Microscopically the false membrane was seen to be formed by necrosis of the mucous membrane. The glands showed a large increase of fibrous tissue. Cultivations were made from the membrane and the glands, but only a pure culture of bacillus coli communis was obtained. Other organisms, however, could be stained in sections by Gram's method.

Mr. **Thomas Carwardine** showed a pendulous Hydatid Cyst of the Liver resembling an enlarged gall-bladder. The specimen was taken from the body of a woman who was admitted to the Bristol Hospital with a history of having had a swelling in the region of the gall-bladder for some months associated with paroxysmal attacks of pain and rigors. On Dec. 16th, 1897, an exploratory incision was made through the abdominal wall and a cystic tumour was found below the liver. A few days later the wound was re-opened without an anæsthetic and the liver and the cyst were incised. It was noteworthy that the incision into the liver caused no pain. Thirty ounces of bile-stained, highly albuminous fluid were evacuated and a day or two afterwards hydatid membrane and hooklets were passed through the wound. A few days later symptoms of nephritis developed for some unexplained reason and the patient died from uræmia. At the necropsy the gall-bladder was found to be full of pus, explaining the rigors which occurred in the early stage of the illness.

Mr. **C. B. Lockwood** exhibited a Retro-peritoneal Cyst supposed to have originated in remains of the Wolffian body. The cyst was of the size of an ostrich egg and had been removed by operation from a young woman aged twenty years. It had been noticed for two years; it was quite painless and freely moveable. It was situated behind the peritoneum; the left colon lay to its outer side, the transverse mesocolon above, and the beginning of the jejunum internally. Its nature was not diagnosed, but speculations were in favour of some form of renal tumour. The cyst was unilocular with walls rather more than an eighth of an inch thick and composed of connected tissue and blood-vessels. Its interior was filled with altered blood-clots without any trace whatever of hooklets of daughter cysts and it felt very hard and tense and did not fluctuate. It was removed without difficulty, the patient making a rapid recovery. It had no connexion whatever with the kidney, pancreas, or intestine; indeed, the pancreas was not seen during the course of the operation. As regards the origin of the cyst it was demonstrated that until at least the third month of intra-uterine life the upper part of the Wolffian body persisted along the course of the ureter and in the position in which the cyst had grown. Considering that cysts originate so frequently in the lower part of the Wolffian body, where it is related to the ovary or testis, it seemed not unreasonable to assume that the upper part had given origin to the cyst in question. As regards the frequency of such cysts it was suggested that some of the so-called pancreatic cysts may have had a similar origin. Another case of almost exactly the same character was also described, but in this the cyst was multilocular.—Dr. ROLLESTON agreed that some so-called pancreatic cysts had their origin in the remains of the Wolffian body. He mentioned a case which Mr. Alban Doran showed at the Medical Society of London of a cyst removed from the region of the tail of the pancreas and if he remembered right Mr. Doran suggested that it was of Wolffian origin. He confirmed what Mr. Lockwood had said that the suprarenal body came as low as the hilum of the kidney and accessory suprarenal tissue could sometimes be traced as low as the epididymis.—Mr. SHATTOCK said that Mr. Doran's tumour was clearly pancreatic, since the contents rapidly digested starch.—Dr. ROLLESTON pointed out that several observers had maintained that the fluid from other than pancreatic cysts had this power.

Dr. RAYMOND CRAWFURD showed a Heart with a Tumour of the Pulmonary Valves together with sections from the tumour. Clinically the case was remarkable for the fact that the patient suffered no inconvenience from its presence until the moment of his sudden death at the age of seventy-two years. The tumour was growing from the posterior cusp of the pulmonary valves and the contiguous portions of the artery and of the wall of the right ventricle. It was roughly ovoid in form, deeply lobulated, elastic, and greyish-white and glistening in appearance; one or two dark patches at the surface suggested minute hæmorrhages into its substance. It was 5 cm. in length and 3 cm. in its transverse measurement; it was sessile and its centre was on a level with the centre of the pulmonary valve; above this point it extended 3 5 cm. upwards into the pulmonary artery and 1·5 cm. downwards into the right ventricle. The fixed base of the tumour seemed to extend about 1 cm. in every direction from the centre of the posterior cusp of the pulmonary valve. There was no obvious dilatation of the pulmonary artery and its channel was completely blocked by the tumour except for a sinuous furrow along its anterior surface with a channel about equal to that of the brachial artery. The wall of the artery did not appear to be infiltrated by the tumour. Death was almost certainly due to sudden occlusion of the pulmonary orifice. The microscope showed pretty clearly that the tumour consisted of granulation tissue in all stages of development, replacing an initial thrombus. There was evidence, also, to show that the thrombus had been gradually deposited from the circulating blood. A malignant character of the tumour was strongly negatived both by the microscope and by the clinical history. A radiotint photograph of the gross specimen showed how accurately the appearance of fresh specimens could be reproduced by this simple method.—The specimen was referred to the Morbid Growths Committee.

Dr. F. PARKES WEBER showed Kidneys with Miliary Infarcts. Both kidneys in a chronic cardiac case were found at the necropsy studded with small, irregularly shaped, sharply defined blotches of an opaque yellowish white colour situated in the cortex beneath the capsule. Some of these pale blotches had a wedge-like shape similar to that of minute anæmic infarcts. Mr. Shattock found that the pale appearance of these areas was due to a localised fatty degeneration of the renal epithelium and that some of the small renal blood-vessels were full of short, plump bacilli, doubtless bacteria coli. In the case in question it was possible that the microbes reached the renal vessels a day or two before death and by their presence induced plugging of minute blood-vessels, fatty degeneration of the kidney substance supplied by these vessels being the result.

Mr. S. G. SHATTOCK exhibited a specimen of Madura Disease of the Foot in which there was present an unusual and highly pronounced Papillary Condition of the Skin. No similar case had been described by Dr. Vandyke Carter or others and he ventured, following the example of dermatologists, to give it a new name—i.e., Mycetoma Papillomatosum. the coarse papillary processes, some of which were smooth, whilst others bore papillæ like those on the intervening insegument, were hollowed out by spaces holding the fish-roe-like grains or colonies of the streptothrix maduræ. Whether the anomalous result arose from an unusual invasion of the cutis by the microphyte or from some other less specific cause he could not say. In filarial elephantiasis a somewhat similar cutaneous condition was well known and in rare cases a papillomatous condition followed upon eczema which was classed in the Dermatological Catalogue of the Museum of the Royal College of Surgeons of England as elephantiasis papillomatosus.

CLINICAL SOCIETY OF LONDON.

Laminectomy for Spinal Paraplegia.—Achondroplasia.—Xerodermia Pigmentosa.—Retained Testis.—Muscular Wasting after Empyema.—Immediate Reduction of Spinal Caries—Lupus of the Nose treated by Tuberculin.—Congenital Dislocation of the Hip.—Rupture of the Ligamentum Patellæ.—Gastro jejunostomy.

A MEETING of this society was held on Feb. 25th, the President, Mr. LANGTON, being in the chair.

Mr. J. HUTCHINSON, jun., showed a girl, aged twelve years, after recovery from Pressure Paraplegia for which laminectomy had been performed. The spinal symptoms came on when she was ten years of age, eighteen months before admission, the spinal curvature having occurred much before this. She had been treated by rest, galvanism, &c., and on admission there were complete motor paralysis of both legs, ankle clonus, and marked anæsthesia of the legs and abdomen, the knee-jerks were exaggerated, and the plantar reflexes were extremely marked. There was imperfect control of the bladder. There was an extensive "hump" in the upper dorsal region. Laminectomy was performed in December, 1895, the laminæ of four upper dorsal vertebræ being removed. The patient was sent out in February, 1896, little benefited, having still motor and to a less extent sensory paralysis and tendency to frequent involuntary flexion of the thighs. She was readmitted in July, 1896, for cystitis and at that time a note was made that no benefit had accrued from the operation although pressure had been completely removed from the back of the cord. The apparent failure of the operation to improve the paralysis pointed to chronic inflammatory change in the cord itself as the result of the operation having been too long deferred. About nine months after the operation, however, the patient began steadily to improve, sensation being the first to return. Ultimately muscular power was completely restored. She could now walk two miles, the back was perfectly strong, and new bone appeared to have developed at the site of the operation.

Mr. F. C. WALLIS showed a man, aged thirty-eight years, in whom he had performed Laminectomy for Paraplegia two years ago. There was a strong family history of phthisis. He was admitted in March, 1896, having complained eighteen months before admission of pain at the bottom of the spine, pins and needles, loss of power, &c., for two months previously. There were no anæsthesia and no bladder trouble, but he complained of girdle pain. When admitted he had complete paraplegia and prominence of the lower dorsal vertebræ. On March 28th laminectomy was performed, three laminæ being removed. Ten days later the pain had disappeared and three weeks later power began to return in the legs. He was now able to walk with practically no support and was able to do some work. Recovery was delayed through the occurrence of an attack of phlebitis in the right leg for which no explanation could be found.

Dr. A. E. GARROD showed a girl, aged six years, who exhibited the characteristic features of Achondroplasia—a deep depression at the root of the nose, marked lordosis, shortness of the limbs especially of the humeri and femora. The bones of the cranial vault, which were formed in membrane and not cartilage, were well developed. The thyroid treatment had been tried for some months without any obvious benefit. He pointed out that in this disease, which had been described as fœtal rickets, the cartilage cells underwent some alteration resulting in a condition of dystrophy and arrest of ossification. While ossification from the periosteum went on in the usual way the process in cartilage was arrested, the bones becoming very dense and bossed, but not increasing in length. He pointed out that the disease was apperently limited to the first half of the intra-uterine life and the majority of cases were in stillborn infants. Those who survived exhibited the results of the disease and not the disease itself. He thought syphilis might be excluded and the disease did not appear to be related to cretinism. Thyroid treatment had had no effect. There was no mental defect whatever. Contrasted with a normal child of the same age it was found that there was marked shortening of the limbs, but the spine of his patient was longer than that of the other child.

Dr. J. H. DRYSDALE showed three sisters, aged fifteen years, thirteen years, and nine years, who exhibited a dwarfed appearance similar to that of Dr. Garrod's patient. They however, exhibited some contrasts. There was not the deep depression at the root of the nose and there was not the same disproportion in the lengths of the spine and the limbs. There was a curious spade-like condition of the hands, the thickening affecting the soft parts as well as the bones. Treatment with thyroid extract had been of no benefit. The best designation for the condition would be chrondrodystrophia hyperplastica.

Dr. J. J. PRINGLE showed a girl, four years of age, suffering from Xerodermia Pigmentosa, a rare condition of which there were only sixty-five cases on record. She was the child of a market gardener and the arms and face had been much exposed to the sun, and when she was quite small the skin was noticed to become deeply freckled, the freckling not disappearing at all during the following winter. The following summer it became worse and in the following winter lumps developed at the side of the nose. At the present time there was much freckling with a good deal of diffuse dermatitis, a number of spots of telangeiectasis, and some horny growths on the upper lip which were really epitheliomata. He had treated the dermatitis by a method suggested by the observations of Dr. Bowles, who found that sunburning when climbing in the Alps did not occur if the face were coated with some brown paint. He had applied an ointment consisting of lard containing eosine and primrose yellow and considerable improvement had resulted. He intended to scrape away the horny growths. He showed drawings of a similar case which he had treated in 1888 by energetic scraping of the growths. All trace of them except the scars left by the scraping had disappeared by the time that the child was fifteen years old.

Mr. G. R. TURNER showed a man, fifty-six years of age, who had a Retained Testis and an Abdominal Tumour. He was the father of six children. He had always had a swelling the size of an egg in his scrotum. In 1871 he had malaria very severely, the attack being accompanied by much vomiting, and a swelling showed itself above the groin. At the present time there was a large soft swelling occupying most of the lower part of the abdominal wall to the left of the umbilicus. The tumour was resonant and if not composed of bowel had bowel over it. On one occasion, however, when he was examined there was dulness over the tumour. A hard body the size of a chestnut could be felt freely moveable near the left anterior superior spine. Several diagnoses had been formed—cystic condition of a retained testis, retro-peritoneal fatty tumour, and interstitial hernia. He himself was in favour of the last.—The PRESIDENT also took the view that the tumour was an interstitial hernia, a condition which was not so very rare, especially on the right side, and he thought that it was a congenital condition. The testis was almost always retained and the external ring was small and tightly compressed by the intercolumnar fascia. A hernial protrusion got into the canal and gradually distended it, giving rise to a swelling outside the linea semilunaris, more easily seen when the patient was recumbent than when erect. It sometimes ripped up the tendon of the external oblique and became subcutaneous. The tumours rarely gave rise to much inconvenience. Occasionally strangulation occurred and necessitated operation. In that case there was often great difficulty in reduction as the internal ring was displaced and extremely difficult to find.—Dr. ROLLESTON thought that possibly it might be an example of perirenal lipoma of congenital origin which had prevented the descent of the testis. On one occasion on which he had examined the tumour there had been dulness over it. He remarked that Dr. Adami had collected forty such cases.

Dr. CAYLEY showed a young man, twenty years of age, who presented Muscular Wasting following double Empyema. On Nov. 1st, 1897, he had part of the tenth rib removed at its posterior end and the pleura opened and ten days later a piece of the corresponding rib on the right side was removed. Before he left the hospital a fortnight later he had noticed some difficulty in raising the arms and on his return from a convalescent home there was marked paralysis of both serrati and of the left infra-spinatus which was very much wasted. There was at first loss of reaction to both currents, but latterly some recovery of power was taking place under treatment with galvanism and hypodermic injections of strychnia and the electrical reactions had improved. It was difficult to account for the paralysis, as the incisions were too far back to have wounded the long thoracic nerve or the serratus muscle. It was pointed out to him by Mr. A. Robinson that the long thoracic nerve and the nerve to the infra-spinatus came off close together from the brachial plexus, and were in close proximity to the dome of the pleura, and it was conceivable that they might have become inflamed through extension of the intra-thoracic inflammation.

Mr. COTTERELL showed a child, aged five years, suffering from Spinal Caries who had been treated by Calot's Method of Immediate Reduction. She was treated by rest and double extension but without any improvement. In September, 1897, he extended the spine under chloroform and fixed the patient in a plaster jacket. Within a week movement in the legs began to return and progress had since been steadily maintained. The jacket was removed on Feb. 18th, 1898. The patient could now walk, run, and jump without pain or discomfort.

Dr. HERON showed a case of Lupus of the Nose cured by the New Tuberculin. The patient was a man, aged twenty-seven years, who came to him with lupus vulgaris involving the whole of the left nostril within and without the bridge of the nose and the left ala. There was another patch on the front of the lip and the right ear. The treatment was commenced on April 20th, 1895, and completed on Aug. 20th, the T.R. tuberculin being used. The total amount administered was 126·5 milligrammes given in sixty-two injections. The dose varied from $\frac{1}{500}$ to 4 milligrammes. On July scar tissue only was seen over the sites where the lupus patches had been and by July 18th these had entirely healed. The man gave a history of syphilis, consisting in a chancre with sore throat, but personally he thought the chancre was probably a patch of lupus. He pointed out that the temperature after the injections rose to 102° and was maintained at about 100°. He thought this reaction was useful from a diagnostic point of view.—Dr. BALMANNO SQUIRE thought that the diagnosis of lupus vulgaris was open to doubt. The scars resembled those of syphilitic eruptions and the patient's age was against the occurrence of lupus. He admitted that tuberculin was not supposed to cause any reaction in cases of syphilis.—Mr. COTTERELL said that he had tried the treatment with tuberculin in an undoubted case of lupus, but although there was an inflammatory reaction not the least improvement took place in two months and the treatment was abandoned.—Dr. STCLAIR THOMSON thought that the scars suggested that the disease was a syphilitic one and that was confirmed on examining the interior of the nose, in which the disease was by no means cured, and there were indications that there was necrosis of bone.—Mr. JONATHAN HUTCHINSON, jun., pointed out that the patient had had a node on the shin which had been treated with iodide of potassium and inquired whether the patient was taking the drug while the improvement was taking place.—Dr. HERON, in reply, said that the node was the result of a blow which was not received till after the patches had nearly healed, so that the administration of iodide of potassium could not be responsible for it. He questioned whether it was possible for anyone to diagnose the syphilitic nature of the scars from their appearance.

Mr. BRODHURST showed a man, aged twenty years, the subject of a Congenital Dislocation of the Hip on whom he had operated by subcutaneous division of the adductors and certain trochanteric muscles. He was then enabled to restore the head of the bone to its place with excellent results, although before the operation there was shortening to the extent of three inches.

Mr. WATSON CHEYNE showed a man who was brought to the hospital having, it was thought, Ruptured the Ligamentum Patellæ. On cutting down, however, he found little trace of that structure. He was unable to find any ends to join, so he inserted stout silver wires which he passed through the tubercle of the tibia, taking advantage of the opportunity to bring together the shreds of tissue that remained with catgut suture. The man left the hospital eighteen days after the operation and now had very good movement though he was careful at present not to bend the knee too freely.

Mr. COTTERELL showed a man, aged fifty-eight years, who, in November, 1897, had come with Symptoms of Pyloric Obstruction. He steadily became worse, so Mr. Cotterell cut down and performed gastro-jejunostomy. The patient's weight at that time was 8 st. 12 lb. and had since risen to 11 st. 12 lb., a gain of 3 st. The patient declared that he had never felt better in his life.

MANCHESTER THERAPEUTICAL SOCIETY.

Treatment of Gastric Ulcer.—Antitoxin Serums.

THE fourth meeting of this society for the session 1897–98 was held at the Owens College on Feb. 23rd, Professor **LEECH**, the President, being in the chair.

Professor **DRESCHFELD** made a communication on the Treatment of Gastric Ulcer by large doses of Bismuth. He mentioned the experience of Fleiner, who obtained good results by the injection of from 20 to 30 grammes (from 300 to 450 grains) of bismuth in suspension in water into the stomach by means of a tube after previous lavage of the stomach. He also referred to the work of Mattheys on the action of bismuth in hastening the cure of experimentally-produced ulcers in the stomachs of dogs. Professor Dreschfeld pointed out the inconveniences and dangers of using the stomach-tube in cases of gastric ulcer and stated that he had observed excellent results by giving large doses of bismuth by the mouth after ordinary doses had proved unsuccessful. Doses of from 30 to 40 or even 50 grains of bismuth subnitrate were given three times a day suspended in water. Under these pain was rapidly relieved, vomiting ceased, digestion improved, allowing light nitrogenous food such as fish or fowl to be given, and the ulcer quickly healed. He had not seen any bad effects from these large doses other than a little pain and diarrhœa—never constipation. He had used this treatment chiefly in chronic cases, but in some acute cases after recent hæmatemesis it had proved successful. In acid dyspepsia, too, it rapidly relieved the symptoms. In neurasthenic conditions with symptoms resembling those of gastric ulcer it had also been of great benefit. Two cases of gastric ulcer which were not relieved by large doses of bismuth given by the mouth were cured by carrying out Fleiner's method of lavage of the stomach and injection of the bismuth by means of a tube.—Several members took part in the discussion which followed Professor Dreschfeld's communication.

Dr. **WILD** showed specimens of Diphtheria Antitoxin Serums and compared the cost of the different preparations.—Professor **LEECH** stated that he was at first sceptical as to the value of the antitoxin treatment, but a case in which a child, aged eighteen months, with severe laryngeal symptoms recovered under injections of serum convinced him that they had a powerful effect, as he had never seen a similar case in so young a child recover.—Dr. **MARSDEN** related his experience of the use of antitoxin at the Monsall Fever Hospital. They used there the serum of the British Institute of Preventive Medicine, injecting a dose of 3000 units at once, except in children under eighteen months, when they used a dose of 1500 units. He had never seen any ill-effects from injecting the whole dose at once. Often there was no appreciable local effect by the end of twenty-four hours and even up to thirty-six hours after injection. By the end of forty-eight hours, however, the membrane was thinner or almost gone; in many cases it seemed to melt rapidly away. When septic ulceration was present as well the effects were not so rapid or marked, but by the end of forty-eight hours some improvement was manifest. The general effects of the antitoxin included relief of the throat symptoms, fall of temperature, and diminution of membrane. He thought it was desirable to inject antitoxin even if the patient did not come under treatment till the seventh or eighth day of the disease. He did not think antitoxin contributed materially to produce nephritis. More of the severe cases recover or hold out longer under the serum treatment, thus giving more time for secondary results to follow. In one case presenting grave nephritis with a very large proportion of albumin in the urine antitoxin injections were made and the patient recovered. The ill effects which he had seen were troublesome rashes, but these were more frequent in the early days before the serum was supplied so concentrated. He had seen cellulitis occasionally at the site of injection, but in one instance only did this go on to suppuration.—Professor **DRESCHFELD** said that he had seen bad cases do very well when injected early, but he had also seen cases die although injected on the first day. He had not found prophylactic injections very successful.—Dr. **HARRIS** considered that antitoxin was certainly of great benefit in laryngeal cases, especially those requiring tracheotomy.—Dr. **COUTTS** gave the statistics compiled by the American Pediatric Society's committee for the collective investigation of the value of antitoxin in laryngeal diphtheria and also the figures recorded in the practice of Dr. O'Dwyer and in that of Dr. Dillon Brown, comparing the results obtained with and without antitoxin. These figures show under antitoxin a reduction in the mortality from 70 per cent. to about 30 per cent. in cases of laryngeal diphtheria requiring intubation or tracheotomy, a striking testimony of the value of the treatment in an extremely severe class of cases.—Dr. **WILD** suggested that members might note and compare the effect of the different preparations in view of the marked difference in cost. On the question of statistics he pointed out that notwithstanding the introduction of the serum treatment the number of deaths from diphtheria in London had remained practically unaltered. The number of cases of diphtheria notified had increased largely, perhaps owing to the addition of cases bacteriologically diphtheritic, but not so clinically. —Mr. **PLATT** had performed tracheotomy for diphtheria without antitoxin in eight cases, all of which died. The only two cases in which he had performed tracheotomy when antitoxin was given both recovered.—Dr. **HOPKINSON** mentioned a case of sudden collapse after antitoxin injection.—Dr. **MARSDEN** stated that sudden death from diphtheritic toxæmia was not uncommon and he would not be disposed to blame the serum injections for the fatal collapse.

NORTH OF ENGLAND GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY.

Exhibition of Specimens.—Perforation of the Uterus.—Cæsarean Section.—Gynæcological Aspect of Criminal Responsibility.

A MEETING of this society was held in the Liverpool Medical Institution on Feb. 18th, the President, Dr. J. W. **MARTIN** (Sheffield), being in the chair.

Dr. **GLYNN WHITTLE** (Liverpool) showed some Lubricating Pessaries.

Dr. **BRIGGS** (Liverpool) showed the Uterus and Microscopic Section from a well marked case of Adenoma Malignum of the Uterus.

Dr. **DONALD** (Manchester) read notes of a case of Perforation of the Uterus in which Vaginal Hysterectomy was performed. The patient had been attended by a medical man for profuse uterine hæmorrhage and on Dec. 16th, 1897, the medical attendant while exploring the uterus discovered that there was a hole in its posterior wall. He at once asked Dr. Donald to see the case with him. On arrival the patient was found in a state of extreme collapse, very blanched, and with a pulse as far as it could be counted of 150. Respirations were shallow and sighing and there was considerable restlessness. On vaginal examination the finger passed into the uterus and then through an aperture in its posterior wall into the abdominal cavity and into the tissues of the left broad ligament. Ether was administered, the parts were carefully disinfected and an opening was made with a snip of the scissors through the posterior vaginal fornix into the pouch of Douglas. This allowed of the escape of a large quantity of fluid and clotted blood which had collected in the abdomen and permitted the nature and extent of the tear to be made out from the peritoneal aspect. The uterus was then rapidly excised by Doyen's method, being first split up into two halves, each half dragged down to the vulva and a pressure forceps placed on each broad ligament from above downwards. The points of the forceps were then turned up into the pelvis and the gap in the vaginal vault was packed with iodoform gauze. The operation was performed in a workman's cottage at four o'clock on a December afternoon with the assistance of a district nurse and lasted about ten minutes. Dr. Donald remarked that he chose hysterectomy in preference to suture of the tear or plugging with gauze because of the rapidity with which it could be carried out and of the security against further bleeding. He thought the method might be adopted with advantage in some cases of rupture of the uterus during labour. The great advantage of the vaginal as compared with the abdominal incision lay in the almost complete absence of shock. The advantage of forceps over ligature in cases in which rapidity was essential was obvious.

Dr. **GRIMSDALE** (Liverpool) read notes of a case of

Cæsarean Section for Cancerous Tumour Obstructing Delivery. The patient was a woman, aged twenty-nine years, whose pelvis was blocked with a cancerous tumour originating in the rectum. Intestinal obstructive symptoms had necessitated the performance of lumbar colotomy by Mr. Thelwall Thomas at the fifth month of pregnancy. On what was reckoned to be the 268th day of gestation Dr. Grimsdale performed Cæsarean section. Both mother and child are alive.

Dr. GLYNN WHITTLE (Liverpool) read a note on a Gynæcological Aspect of Criminal Responsibility.

Reviews and Notices of Books.

Lectures on the Theory and Practice of Vaccination. By ROBERT CORY, M.A., M.D. Cantab., F.R.C.P. Lond. London: Baillière, Tindall and Cox. 1898. Price 12*s.* 6*d.*

AT a time when attention is being directed on all sides to the subject of vaccination the appearance of a volume from one whose experience in the practice is unrivalled cannot fail to be opportune, and Dr. Cory deserves the thanks of the public and the profession alike for having done them this great service. He has, he states in the preface, been engaged for twenty-two years in giving instruction upon the subject, and the instruction he has given is embodied in this volume, which consists of six lectures dealing respectively with the reasons for vaccination, the nature of the vaccine and small-pox vesicles, the differences between a primary and a secondary vaccination, post-vaccinal eruptions, the practice of vaccination and, lastly, the relation of cow-pox, horse-pox, and camel-pox to small-pox. Now, although there is hardly an aspect of the whole question of vaccination and small-pox left unnoticed it would be a mistake to suppose that the subject is exhaustively treated. It is obvious from the nature of the work that this could not be done, and it is perhaps an advantage that it has not been, for, after all, the side-issues, some of which are regarded by writers as of almost prime importance, such as the early history of vaccination, the sources of the lymph now in vogue, and many other matters that teem with points of contention—these sink into insignificance beside the central facts which are presented by Dr. Cory in a manner as convincing as it is impartial. The subject of the first lecture is entitled, "The Reasons which led the Legislature of this Country to Impose the Vaccination Laws upon the People and the Duty Entailed upon every Medical Man to Support these Laws at the Present Time." For, as he says, people are apt thoughtlessly to ignore the efficacy of vaccination and perhaps to magnify its ills owing to the fact that the horrors of natural small-pox are no longer familiar, and he does well to cite the striking testimony of Dr. Crosse, of Norwich, who, writing in 1820, pronounced a strong eulogium on the newly introduced discovery which had robbed small-pox of its terrors. Dr. Cory points out that the comparative freedom from small-pox at present enjoyed depends upon the diminished susceptibility of the population which is owing to vaccination, and upon another factor—namely, the diminution of infectiveness by the deportation of small-pox cases. Being himself persuaded of the dangers arising from small-pox hospitals which are situated within populous centres, and pointing to the marked decrease in London small-pox mortality that has followed upon the establishment of the ships and hospitals at a distance from inhabited areas, he does not, so far as we can gather, show that isolation alone would fail to cope with the disease, although we may infer, of course, that he is quite of this opinion. We know as a matter of fact that measures of isolation, theoretically perfect as they may be to stem the progress of an epidemic, have seldom, if ever, been able to do so completely, and to abandon the safeguard of vaccination which limits the extent and intensity of outbreaks would be disastrous and would in all probability lead to mistrust of the value of all other measures. For what has vaccination done? It has changed the incidence of small-pox, since no longer do infants and young children form the chief victims; it has reduced in proportion to its thoroughness the liability to epidemic invasion; and it has mitigated the severity of individual attacks. By a very careful study of a number of persons pitted with small-pox Dr. Cory was enabled to determine with fair accuracy the degree of protection which a primary vaccination affords, and he shows how the average age at which small-pox attacks occur (and are *recovered from*) increases from about six years in those who were never vaccinated to about nineteen years in those who presented five or more scars of infantile vaccination. It is surely remarkable that whereas amongst these individuals about 52 per cent. of the whole number (448) had never been vaccinated, yet the known proportion of the non-vaccinated in London is only 5 per cent. As to the objection that decline of small-pox has coincided with, and is probably due to, improved sanitary conditions rather than to vaccination, he pertinently points to the other zymotics, notably measles, and asks how it is that these prevail even more than they used to and amongst the young just as severely and fatally as ever. The second lecture deals with the Histology of the Vaccine and Small-pox Vesicles and is illustrated by some striking drawings. Incidentally the total dissimilarity in histological characters between these vesicles and the syphilitic chancre is pointed out. The third lecture treats of the Difference between a Primary and a Secondary Vaccination and is worthy of careful study, for it seems to afford an explanation of those differences which is reasonable and suggestive, besides accounting for the varying susceptibility not only to re-vaccination but to small-pox which is seen amongst the vaccinated. It may be noted in passing that a reason is given for the present fatality of small-pox amongst the non-vaccinated being higher than that obtaining in pre-vaccination days which is at any rate plausible—viz., that small-pox is no longer endemic and "natural immunity" is ceasing to be a factor. Whatever be the reason the fact of this difference does seem to be undoubted. The fourth lecture treats of the Eruptions that occasionally follow Vaccination and it might with advantage be ampler. It does, however, clearly bring out the fact that such eruptions depend on the individual vaccinated to a greater extent than upon the vaccinia. The fifth lecture is devoted to the Practical Details of Vaccination and it is needless to say that it is well considered and very useful. The facts with regard to re-vaccination are also most valuable and we could wish that this subject were more definitely worked out in relation to small-pox incidence than it has yet been. Lastly, the Natural History of Small-pox—or rather its relations to vaccinia, horse-pox, and camel-pox—is described in the sixth lecture, where the salient facts are presented and the reader is left to form his own conclusions.

Clinical Lectures on Urine. By J. ROSE BRADFORD, M.D., D.Sc., F.R.C.P. Lond., F.R.S. London: The Medical Publishing Company, Limited. 1898. Price 2*s.*

THESE lectures appeared in the course of last year in the columns of the *Clinical Journal*. They are nine in number and cover the whole ground in a manner which deserves the highest commendation. Indeed, for clearness of description and accuracy of observation they may be said to bear the palm in works of this useful class, so that the student may regret that there are not even more of them. Moreover, they are just the kind of instruction that is wanted, and the subject gains by being presented in the expository form as well as being limited to the more important facts. The author speaks, too, with the authority of a skilled scientific observer, and on several occasions has to correct errors of interpretation, and indeed of fact, which have been handed down in text-books. We can heartily commend this *brochure* to all students of clinical medicine, and we trust it will not be long before another edition is called for, partly because of the intrinsic merit of the book and partly because it will afford an opportunity for the addition of an index, the absence of which is a grave defect and one that detracts somewhat from its utility.

Dictionary of National Biography. Edited by Sidney Lee. Vol. LII. Shearman—Smirke. London: Smith, Elder and Co. 1897. Pp. 413.

One of the most famous names in the present volume is that of Percy Bysshe Shelley, who was born near Horsham in 1792, and was drowned in the Mediterranean off Leghorn in 1822. The memoir of him is by Dr. Richard Garnett, who says that "opinion seems to be agreeing to recognise Shelley as the supreme lyrist, all of whose poems, whatever their outward form, should be viewed from the lyrical standpoint. ...... Despite his limitations, no modern poet, unless it be Wordsworth, has so deeply influenced English poetry." The article on Sir Philip Sidney (1554–1586) is by Mr. Sidney Lee, the editor. There is a short notice of a sixteenth-century printer, John Siberch, who probably came to England from Cologne and set up the first press at Cambridge in 1521. He printed nine or more books there in 1521 and 1522, after which year there was no printing at Cambridge till Thomas Thomas was appointed university printer in 1583. It was in the title-page of Siberch's Augustinus that Greek type was first used in England.

The biographies of medical men are thirty-three in number and include those of one president respectively of the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Royal College of Physicians of Edinburgh. Sir Hans Sloane was born in County Down in 1660, studied medicine at Paris and Montpellier, and graduated as M.D. at the University of Orange in 1683. Coming to England in 1684, he was elected a Fellow of the Royal Society in 1685 and a Fellow of the College of Physicians in 1687. He then spent fifteen months in Jamaica, where he made a large natural history collection and on his return to London he settled in practice in Bloomsbury-square. He was secretary of the Royal Society from 1693 to 1712 and president from 1727 to 1741. In 1701 he graduated as M.D. at Oxford University, he was elected a Censor of the College of Physicians in 1705, 1709, and 1715, and was president from 1719 to 1735. In 1716 he was created a baronet, and in 1727 was appointed physician to George II. Sloane retired from medical practice in 1741, died in 1753, and was buried in Chelsea churchyard. Sloane-square, Sloane-street, and Hans-place are named after him. His collections were bequeathed to the nation. In 1754 Montague House was purchased for their reception and from this beginning the British Museum was developed. Francis Sibson was born in Cumberland in 1814, studied medicine in Edinburgh, and obtained the diploma of the Royal College of Surgeons there in 1831. From 1835 to 1848 he was resident surgeon at Nottingham General Hospital. In 1848 he graduated as M.B. and M.D. at the University of London and commenced practice as a physician in London. His house was in Brook-street, Grosvenor-square, and he there gave, in the winter of 1849–50, a course of demonstrations of visceral anatomy which was well attended. Sibson was appointed physician to St. Mary's Hospital when it was opened in 1851 and on the formation of the medical school he became one of the lecturers on the principles and practice of medicine. He was admitted to the Membership of the Royal College of Physicians of London in 1849; was elected Fellow in 1853 and Censor in 1874; he also delivered the Gulstonian, Croonian, and Lumleian lectures. He died in 1876. His numerous published papers were reprinted in four volumes in 1881. Frederick Slare or Slear was born in Northamptonshire, probably in 1647, and was admitted M.D. at Oxford University in 1680. He became a Fellow of the Royal College of Physicians of London in 1685, held the office of Censor in 1692, 1693, and 1708, and was a member of the council from 1716 till his death in 1727. He was elected a Fellow of the Royal Society in 1680. His published works and papers are mostly on chemical subjects. Frederick Carpenter Skey was born in Worcestershire in 1798, studied medicine in Edinburgh, in Paris, and at St. Bartholomew's Hospital, and took the qualification of M.R.C.S. Eng. in 1822. He was appointed demonstrator of anatomy at St. Bartholomew's about 1826, and assistant surgeon in 1827, but in 1831 he resigned his office of demonstrator and taught surgery in the Aldersgate-street Medical School for five years. He was elected a Fellow of the Royal Society in 1837, was appointed to lecture on anatomy in St. Bartholomew's Hospital in 1843, and became full surgeon in 1854. He held various offices in the Royal College of Surgeons of England, being appointed Hunterian Orator in 1850, professor of human anatomy and surgery in 1852 and president in 1863. In 1864 he was selected as the chairman at the Admiralty of the first Parliamentary Committee to inquire into the best mode of dealing with venereal disease in the army and navy. He received a Companionship of the Order of the Bath for his services in this capacity and the committee's report resulted in the passing of the Contagious Diseases Act. Skey died in 1872. He was the author of two treatises, one on Operative Surgery and the other on Hysteria. Sir Robert Sibbald, son of Sir David Sibbald, was born in Edinburgh in 1641 and graduated as M.D. in Leyden in 1661 and apparently also at Angers in 1662. Towards the end of 1662 he commenced practice in Edinburgh, formed a botanical garden there in 1667, and was chiefly instrumental in founding the Royal College of Physicians of Edinburgh, for which a charter was obtained in 1681, and of which he was elected president in 1684. In 1682 he became physician to Charles II. and in 1685 he was appointed by the town council the first professor of medicine in the university. Sibbald died in 1722. He was the author of numerous historical, topographical, and antiquarian treatises on Scotland. Samuel Foart Simmons was born at Sandwich, in Kent, in 1750 and studied medicine at Edinburgh and at Leyden, where he obtained the degree of M.D. in 1776. In 1778 he was admitted a Licentiate of the Royal College of Physicians of London and in 1779 he was elected a Fellow of the Royal Society. He was also physician to the Westminster General Dispensary, physician to St. Luke's Hospital, and editor of the *London Medical Journal.* His reputation as an authority in cases of insanity led to George III. being entrusted to his care in 1803. The King recovered from this mental attack in six months but became permanently insane in 1811, and Simmons, who had been appointed one of His Majesty's physicians extraordinary, was again in attendance. He was the author of several treatises and many articles in periodical publications. He died in 1813. Probably no medical name in this volume is more widely known than that of Sir James Young Simpson, who was born in Linlithgowshire in 1811, studied medicine at Edinburgh University, graduated there as M.D. in 1832, and was appointed professor of midwifery on Feb. 4th, 1840, when only in his twenty-eighth year. He was the first to utilise in obstetric practice the

American discovery that anæsthesia could be produced by means of ether, and in November, 1847, he had the good fortune to ascertain that chloroform possessed an analogous property. The biographers (Miss E. B. Simpson and Dr. D. Berry Hart) say that "to the science of obstetrics at the same time Simpson gave a new precision, while in the practical branches, notably in the use of the obstetric forceps and of the various methods of ovariotomy, his work was of he highest value." He received a baronetcy in 1866 and died in 1870. Among the more prominent of the other medical men included in the present volume may be mentioned Dr. David Skae (1814–1873), of the Edinburgh Royal Lunatic Asylum; Mr. Alfred Smee (1818–1877), surgeon to the Bank of England, chemist, and inventor of the electric cell which bears his name; and Dr. William Smellie (1697–1763), the obstetrician. The account of Mr. Septimus Sibley, of the Middlesex Hospital, contains at least two conspicuous inaccuracies and is unduly meagre.

Medical Diagnosis. By J. J. GRAHAM BROWN, M.D. Edin. Fourth edition. Edinburgh: William F. Clay. Price 9s.

THE appearance of the fourth edition of this book has, we fear, not come at a very opportune time, since the last few months have produced other works upon similar lines which may prove serious rivals. Every medical school must follow what are practically the same methods of clinical examination, but each teacher will introduce into those methods something of his own personality, and it is only natural that those who follow his instruction should become prepossessed in favour of any little individualities in a method of investigation to which they have become accustomed. For this reason we have no doubt that the present work will find a large circle of admirers in Edinburgh.

In his preface to the present edition the author tells us that it has been thoroughly revised and in great measure rewritten, while the chapters dealing with the Examination of Gastric Contents, the Examination of the Blood and of the Urine, also those treating of the Nervous System, have in particular been recast and considerably extended. On turning to the chapter dealing with Gastric Contents we find that the information given is quite up to date, but when we compare it with the corresponding sections in works which we have recently had before us we think that the modes of expression are not so clear as they might be. In the chapter upon the Examination of the Blood we find that some mention is made of all that is important in a work of this character, and were pleased to notice that a description is given of the serum diagnosis of typhoid fever. A short and clear description, however, in each case of the manner of preparing a given specimen for examination by the microscope or by reagents would have greatly added to the practical value of the book. Many of the examinations referred to are of an extremely delicate nature and any failure to produce the exact conditions necessary for examination would entirely alter the result.

LIBRARY TABLE.

John Armstrong: the Story of a Life. By MAJOR GREENWOOD, M.D. Brux., LL.B. Lond. London: Digby, Long, and Co. 1898. Price 6s.—This is a well-told tale of sustained interest throughout, having for its *motif* the not uncommon tragedy of a life-long retribution for a crime due to youthful passion. We do not intend to divulge the manner in which the plot is worked out, and it may suffice to say that John Armstrong appears before the reader first as house surgeon to a provincial hospital and that when his career is prematurely closed he had attained the summit of his ambition and had come to occupy foremost position as a surgeon. There are several dramatic episodes in the tale, but we must confess that the character of the hero is unattractive. His ambition is only surpassed by his selfishness, and few readers will regret his failure to win the libel action (owing to the disagreement of the jury) that he brought against one of his colleagues at St. Barnabas Hospital. Not that the libel could be justified or its mode of propagation approved, but Armstrong seems to have been guided throughout by a spirit of vindictiveness and a belief in his own infallibility. Many will find in this libel episode a most instructive exposition of the two sides of a question that is nowadays decidedly prominent. Dr. Major Greenwood has drawn his characters skilfully and in a life-like manner, the contrast between the "hero" and his friend the "Rev. James Paget," who is a model of uprightness and self-abnegation, being very vivid. We are glad to welcome Dr. Major Greenwood in his new *rôle* and to congratulate him on joining the ranks of the novel writers amongst the members of his profession.

The Cyclist's Pocket-book. London: Messrs. Archibald Constable and Co. 1898. Cloth, 1s.; leather, 1s. 6d.—All cyclists will appreciate this little pocket-book, which is handy in size and contains a mass of useful and even necessary information for the rider who would exact a maximum amount of pleasure from his "mount." The cyclist's almanack with space for entering distances, &c., will, when filled up, form an interesting and permanent record of the year's "wheeling."

The South African Gold Fields.—The Castle Mail Packet Company, Limited, have issued a useful little handbook dealing with the past, present, and future of the South African gold fields, their methods of working, labour, wages, cost of living, and means of access. The map which accompanies the book is a good one and there are several useful tables.

A Manual and Dictionary of the Flowering Plants and Ferns. By J. C. WILLIS, M.A. Two vols. London: C. J. Clay and Sons and H. K. Lewis. 1897. Price 10s. 6d.—The possession of these two little volumes will enable anyone who wishes to commence the study of botany to do so in a systematic and useful manner. The broad principles of the subject are clearly explained so that many of the difficulties which the beginner usually experiences are smoothed away and the student who follows out the methods for study which are here suggested should rapidly find himself making very definite progress. At the beginning of the first volume there is a short account of the general arrangements of some of the chief botanical gardens of this country and a perusal of this will be found an aid to methodical work and will give a general knowledge as to the whereabouts of the various plants. The first volume gives a great deal of general information about plants upon those points which do not require the use of a microscope, for the author thinks that the study of the external features of plants is in danger of being considered secondary to that of the internal features. There are chapters on Morphology, Natural History, Classification, Geographical Distribution, and the Economic Uses of the Phanerogams and Ferns. A large proportion of the space is devoted to the chapter on Morphology, and like the other chapters it is written in a clear and simple style which is at the same time both interesting and instructive and provides a good groundwork upon which further knowledge may be easily built. The second volume consists of a dictionary of the flowering plants and ferns and contains a very great amount of information. The two volumes used in conjunction with each other form a very good combination of practical and theoretical work.

The Occurrence of Optic Nerve Atrophy in General Disease. Being a Report of the Chairman of the Committee appointed by the Section on Ophthalmology of the American Medical Association to report upon Optic Nerve Atrophy of Obscure Origin. By H. V. WÜRDEMANN, M.D. Chicago: American Medical Association Press. 1896 Pp. 7.—This is only a brief preliminary statement to another article in which about 100 case histories will be reported. The groups given in this communication are those occurring in diseases of the digestive organs, diseases of the sexual organs, of the respiratory, cutaneous, circulatory and urinary organs; in constitutional and infectious diseases; congenital optic nerve atrophy; and, lastly, a group comprised under the head of "Miscellaneous" including exposure to cold and sunstroke. Dr. Würdemann concludes that atrophy of the optic nerve occurs in general diseases usually as a result of direct irritation from their toxins, causing inflammation with resultant interstitial changes or through necrobiotic changes in the blood-vessels affecting the nutrition of the nerve and retina. He admits, however, that well-pronounced atrophy is sometimes observed where neither in the history nor by examination can any clue be found to explain its occurrence.

A Comparison of the Value of Local Medicinal Measures in the Treatment of Granular Conjunctivitis (Trachoma). By H. V. WÜRDEMANN, M.D. Chicago: American Medical Association Press. 1898. Pp. 11. Also, *A Further Report on Holocain as a Local Anæsthetic in Ophthalmic Work.* By H. V. WÜRDEMANN, M.D., and NELSON M. BLACK, M.D. Reprint from the *Ophthalmic Record*, January, 1898. Pp. 3.—In the first of the above pamphlets Dr. Würdemann gives a short account of the pathology of the disease and then arranges the local treatment under the headings of detergents, antiseptics, reduction of acute inflammation, stimulation of nutrition, mechanical or surgical removal of the products of inflammation of the follicles, hyperplastic tissue, &c., relief of asthenopic symptoms, and finally relief of sequelæ. The various remedies that are or have been employed for the relief of trachoma are here succinctly and usefully given. In the second pamphlet the authors recommend holocain as being in many respects superior to cocain in its action.

A Degree for British Practitioners. By CHARLES REINHARDT, M.D. Brux. Published by the author, South Stoke, near Reading. Price 2*s.* 6*d.*—This is a very clear and succinct account of the examination for the degree of M.D. of the University of Brussels. It will be found very useful to those who go in for this degree and undoubtedly the examination is a good one in most points. But we should rather doubt the wisdom of the system by which, according to Dr. Reinhardt, a candidate can take up the whole of his allotted time, some fifteen minutes, in wordy disquisitions on the nature, pathology, and symptoms of a disease. Dr. Reinhardt says on page 17: "When once embarked on an answer after this fashion it is impossible for an examiner to interfere." Surely this cannot really be the case. Some of the questions set seem a little too comprehensive—e.g., "What germs do you find in the sweepings from a hospital floor?"

Verses and Ballads. By THOMAS EDWARD AMYOT, F.R.C.S., of Diss. Norwich: Agas H. Goose. 1897.—This book, written by a recently deceased Norfolk practitioner, is a collection of verses of singularly unequal merit. Some of the pieces are very good and some of them, to put it mildly, are not. Mr. Amyot has modeled a good many of his "serious and religious" pieces upon Herbert, Vaughan, and Quarles and the "Noonday Hymn" is worthy of Ken. We cannot give so much praise to the translations of the Psalms.

JOURNALS AND REVIEWS.

The Ophthalmic Record. Edited by CASEY A. WOOD, M.D. Chicago, and Others. New Series, Vol. VII. Subscription price 14*s.* Parts 1 and 2. January and February, 1898 The Ophthalmic Record Office, Suite 3, The High Building, Chicago, U.S.A.—Amongst the articles of interest in the two numbers of this excellent journal are the following: 1. A Case of Blood-vessel Formation in the Vitreous, with a chromo-lithograph, by Dr. G. Schweinitz. 2. Some Points in Retinoscopy, by Dr. Helen Murphy. 3 Three Facts and Two Theories as to the Law of Direction, by Dr. G. C. Savage. The facts adduced unite in destroying the theory that all lines of direction are axial rays prolonged and that these lines all cross at the nodal point in the posterior part of the lens. On the other hand, the facts demonstrate that "all lines of direction are radii of retinal curvature prolonged." 4. Removal of the Clear Crystalline Lens for High Myopia, by Dr. Edward Jackson. Twenty-two original articles are contained in these two numbers, several of which are illustrated, besides reports of societies.

The *Middlesex Hospital Journal.*—The February number of this journal contains a very interesting article on the Indian Medical Service by Surgeon-General C. R. Francis. It is eminently practical and lays stress upon a point which some people are too prone to forget—namely, that the average dweller in India is not merely a "nigger," that he has his likes and dislikes and prejudices, and that these ought to be respected. Another paper with some useful hints is the one on Pertussis, by Mr. C. Braine-Hartnell.

The *Girl's Own Paper* for March contains the first instalment of what promises to be an interesting and instructive series of articles on the feeding and housing of the poor. The present article deals with Lady Ashburton's praiseworthy work among the London dock labourers.

# Analytical Records
FROM
THE LANCET LABORATORY.

(1) PEPSENCIA; (2) PANOPEPTON; AND (3) PEPTOGENIC MILK POWDER.

(FAIRCHILD BROTHERS AND FOSTER, NEW YORK. LONDON: BURROUGHS, WELLCOME, AND CO., SNOW HILL-BUILDINGS, E.C.)

PEPSENCIA is quite a palatable pepsin fluid extract which contains the physiologically active principles of the gastric glands. That the activity of these digestive secretions is preserved unimpaired is evident from the complete solvent action which, as our experiments have shown, it exerts over coagulated albumin. It rapidly converts albumin into peptone. The preparation is free from the nauseous taste and smell which frequently accompany preparations of the digestive ferments. Pepsencia is quite clear and free from deposit. It has recently been observed that when the iodides are given in conjunction with pepsencia the salt appears to be well borne while the therapeutic effect is satisfactory. It is suggested that as much as fifty grains of potassium iodide may be given in half a tumblerful of milk to which one or two teaspoonfuls of pepsencia (Fairchild) have been added. The glass is then filled with aerated water and taken while effervescing. Panopepton is one of those useful, partially digested preparations which may be used with undoubted advantage as nutrients in the dietary of the sick. It is a slightly alcoholic solution containing the peptones of cooked beef and the digested products of bread. From the results of our analysis there is little question as to its sustaining properties. Alone, it contains the elements of a complete food, but it may be employed as an excellent adjuvant to milk or other food. The peptogenic milk powder aims at providing a means of easily preparing milk of the composition and character of human milk from cow's milk. An analysis of the milk so prepared shows that this is one of the simplest and most reliable means of preparing milk in accordance with the requirements of infants. The powder is composed largely of milk sugar but contains also the essential ferment for peptonising. A certain measure of the powder is added to half a pint of cold fresh cow's milk previously diluted with half a pint of cold water and to which also four tablespoonfuls of cream have been added. The mixture is then gradually raised to the boiling point. One of the most important results effected is that of the action of the ferment on the casein, so that the modified product conforms more to the character and nature of the casein of human milk. In this condition it is well borne by the infant and does not form into big indigestible clots.

CASCARA HAWLEY.

(EVANS, LESCHER AND WEBB, 60, BARTHOLOMEW-CLOSE, E.C.)

The extract of cascara sagrada is admitted to be a very useful aperient and cathartic. It has the advantage, too, of being tonic and stomachic. The disadvantages, however, attending its administration are its bitter nauseous flavour and its tendency to gripe owing to the presence of certain waxy constituents. The former drawback is easily overcome by administering the fluid extract in the form of capsules such as the above. The latter drawback may be removed by so modifying the preparation of the extract as to eliminate the griping principles. The above capsules and their contents conform to both these desiderata.

PURE GRANULATED CANE SUGAR.

(THE WESTBURN SUGAR REFINERIES, LIMITED, BERRY-YARDS REFINERY, GREENOCK.)

There are few, we imagine, who would not prefer cane sugar to beet sugar; the latter is liable to manipulation, especially in regard to artificial colouring, while cane sugar bulk for bulk is sweeter than beet sugar and its sweetness is superior. Chemically cane sugar and beet sugar are the same. We have examined the specimen mentioned above and find that it is correctly described as pure granulated cane sugar. It yields absolutely no mineral or other foreign matter and is in fact sugar and nothing but sugar and that of the far preferable variety. We have also examined a specimen of golden syrup made from the sugar cane which shows a similarly pure composition. It is remarkably clear and of that peculiar, sweet taste characteristic of highly refined molasses.

New Inventions.

TWO CLINICAL CHARTS.

THE first of the accompanying illustrations shows a very simple chart in the form of a calendar which may be called a "Medical Recording Calendar." It is designed principally for use during the treatment of menstrual irregularities. The record here given shows a case of regular menstruation interrupted by pregnancy which terminates in incomplete abortion causing menorrhagia, curetting cures the condition, and normal menstruation is re-established. The history of a year is here seen at a glance. The chart is equally useful in treating epilepsy, nocturnal incontinence, ague, or any periodic symptom. It also serves to record weekly weighings or the passage of bougies, &c. The patient's part is reduced to making a cross on particular days; a coloured pencil is best for this purpose. The second chart is for recording weekly weighings in infancy. Such a weight chart is of great use and interest in the first two years of life. It is an invaluable guide in questions of food and general hygiene. The weight curve is peculiarly sensitive to any slight departure from health and has been known to foreshadow the outbreak of measles by a depression during the incubation period. The chart is particularly useful for patients suffering from malnutrition due to errors of diet. Both charts can be obtained from Messrs. Reynolds and Branson, Leeds.

FIG. 1.

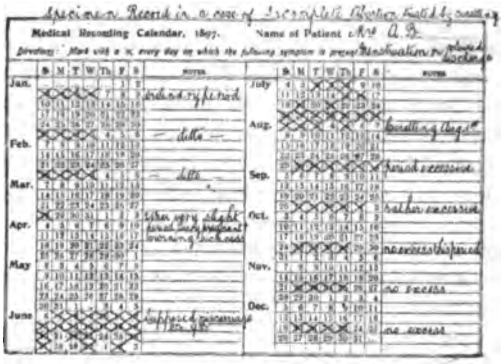
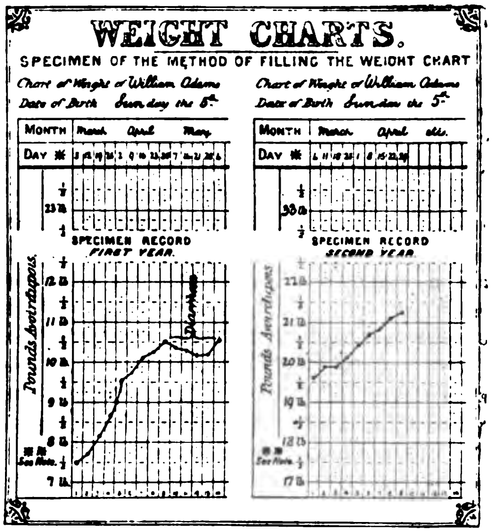


FIG. 2.



JOHN B. HELLIER, M.D. Lond.,
Lecturer on Diseases of Women and Children, Yorkshire College;
Surgeon to the Hospital for Women and Children, Leeds.

A NEW ASEPTIC CABINET.

MESSRS. ARNOLD AND SONS, of West Smithfield, inform us that they have constructed a cabinet for the storing of surgical appliances at a price that will place it within the reach of every general practitioner. It is made of iron enamelled white, with ¼-in. polished plate glass top, back, sides, and door, with two plate glass shelves with polished edges and is manufactured in two sizes—18 × 15 × 8 in., 35*s.*; and 24 × 18 × 11 in., 55*s.* The cabinet should prove useful to many institutions and practitioners.

THE LANCET.

LONDON: SATURDAY, MARCH 5, 1898.

THE General Medical Council may be considered as the great mediating body between the State or the public on the one hand and the medical profession on the other, and there is no period of the year at which it has the opportunity of showing itself to greater advantage than at a time like the present when Parliament is beginning work and when the Government is looking to the General Medical Council for direction in regard to various questions in which the public, as well as the profession, are interested. It is unfortunate that the PRESIDENT of the General Medical Council is physically unable to take an active part in making arrangements for the settlement of these questions. His interest in them is unabated, and all that he can do in the present condition of his health he does. But this implies great limitations. Meantime Sir WILLIAM TURNER is *in loco præsidentis*, and he shows a knowledge of the business of the Council and a desire to promote its efficiency which leave little to be desired. Various committees met last week, as we are informed—the Executive Committee, the Penal Cases Committee, and the Midwives Registration Bill Committee; and our readers do not need to be told that there are various matters of an urgent character which would be sure to engage the anxious attention of these committees.

The most pressing of these remains over from the year 1896 and is likely so to remain unless the Executive Committee presses for its settlement—we refer to the loose system of registration of deaths which has been exposed in various ways and at divers times in the proceedings and reports of the General Medical Council. Herbalists, "safe medicine" curers, midwives, unqualified assistants—in fact, almost anybody who likes—may write a statement of the cause of death which the registrar of deaths is at liberty to accept at his own discretion, and on the strength of such statements inquests are evaded, insurances paid, and the burial of the deceased secured. The present state of the law on this subject is quite indefensible and almost vitiates the system of registration of deaths. Though the REGISTRAR-GENERAL will not admit that his subordinates are acting illegally or improperly in registering deaths on such a loose and dangerous system, there is no reason to think that either he has, or the executives of the Government have, any insuperable objection to such a change of the law as is required. In these circumstances the Council or its Executive Committee will be at fault if very serious representations are not made to the Government on the subject without delay. Sir WILLIAM TURNER himself has taken great interest in pressing the existence of this great evil on the attention of the Government. This is the very kind of question in regard to which the Council can do much good on the one hand and can on the other hand by negligence fail very much in its duty. It is strange that of all forms of registration that of death should be chosen for laxity of treatment, and it will be largely the fault of the General Medical Council if this laxity is much longer permitted.

The Midwives Registration Bill now before Parliament—which Bill is identical with that of last year—has, it is understood, been again referred by the Privy Council to the General Medical Council. The Midwives Registration Bill Committee of the General Medical Council cannot report to the Privy Council on its own responsibility; it must submit its report to the judgment of the whole General Medical Council. The second reading of the Bill is down for May 11th and the Council does not meet in the ordinary course till the end of May. This is somewhat awkward but it will doubtless be possible for the PRESIDENT or Sir WILLIAM TURNER to intimate to the Government the arrangements for the meeting of the General Medical Council and to promise in the early days of June the maturest judgment of the Council on the merits of this Bill as judged by its fitness to remove the scandal of the high mortality of lying-in women. The General Medical Council has grave responsibilities in regard to this Bill and doubtless its Committee will see that its report is so framed as to favour the discussion of the Bill with the least loss of time.

We have not exhausted the subjects on which the General Medical Council has to mediate as it were between the profession and the public. The Council at its last meeting accepted the report of its Penal Cases Committee as to the advisability of certain prosecutions under the Medical Acts which are calculated to test the real value of these Acts as a protection to the public in the first place and to the profession in the second. In spite of the ill-success which has attended the first move of the Council in this direction—we refer to the case of W. M. COLLINS (see page 664)—we trust that the Penal Committee will continue its labours.

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THE draft Local Government (Ireland) Bill, which was laid before Parliament on Feb. 21st, provides for the establishment of County Councils and defines their powers and claims for certain contributions out of the Imperial exchequer. But incidentally it provides also for very extensive and necessary reforms in medical and sanitary matters which are quite as sweeping as those in other directions. Those intimately acquainted with London workhouses know that they contain an undue proportion of Irish inmates, but, unless they have visited Ireland, they can have but little idea of the horrors of an Irish workhouse. The new Bill will, we hope, do a good deal to abate some of the abuses in these institutions. The lunatics of all classes will be entirely transferred from the custody of the guardians to the lunatic asylums which in future will be under the management of the new County Councils. Hitherto the asylums have been under the management of a Board of Control, these boards and the executive officers being appointed by the LORD LIEUTENANT. In future the County Councils will appoint the medical superintendents, but both their appointment and dismissal will still be subject to the concurrence of the LORD LIEUTENANT. Adequate provision for persons now in office is made, and the right of retiring with a pension is provided. As regards the assistant medical superintendents now in office who have been waiting for promotion as in a Government service—that is, under the LORD LIEUTENANT—it is objected by some that they will be disadvantageously affected, but we cannot agree with this. Indiscriminate promotion by seniority by no means always procures the best men. If the assistant medical officers are efficient they will doubtless still stand a very fair chance of promotion; and if they are not efficient it is certainly not for the good of the service that they should be advanced.

The Dispensary Committees are to be abolished; but whether the grave scandals which arose in this connexion will cease, remains to be seen, for their business is to be transferred to the boards of guardians. The most important and far-reaching changes, however, are to be found in Clause 42, which provides that one-half of the salaries of medical officers of workhouses and dispensaries, half the salary of one trained nurse in each workhouse, half the cost of medicines and medical appliances, half the salaries of medical officers, and finally, a substantial contribution towards the lunatic asylums—subject to the lunatics therein being properly maintained and cared for and the asylum kept in good order and condition—will be contributed out of the Imperial exchequer. This reform, it seems to us, is one which carries within it the greatest consequences and is of the highest importance in the interests of good administration, especially as regards the medical officers and the one trained nurse. Alas, only one nurse is referred to, but it follows, we hope, as a matter of course that the authority sharing the expense will see that the terms of the agreement are complied with—i.e., that the nurse is properly trained and really efficient and that the old system of pauper nursing will be done away with for ever. A large amount of time is spent in discussing whether this or that system is the better, but without efficient officers no system can succeed, and it is on the nurses and attendants in immediate relation with the patients and inmates that kindly treatment of the sick and the detection of malingering and fraud largely depend. This is especially the case in workhouses and infirmaries where the medical officer is non-resident and engaged in busy practice. In the interests of efficient and economical management we are glad to see this reform adopted and we would gladly see it extended to the provincial parts of England.

The duties of rural sanitary authorities have hitherto been discharged by the boards of guardians of the district. If the proposed Bill becomes law these duties will in future belong to the district councils. In the interests of sanitary reform we believe this to be a lamentable error. In nine cases out of ten the new district councils will consist of the same persons as the old boards of guardians—that is to say, of members who have not the most rudimentary knowledge of the sanitary needs of a community. It seems a matter for grave regret that sanitary affairs should not be delegated altogether to the new County Councils, which we may fairly hope will consist of a superior and more intelligent class. Consisting as Ireland does of large and sparsely-populated areas the need for numerous small sanitary districts does not exist to the same extent as in England, and the sanitary areas might well have been brought under the County Councils. The business as to cattle diseases is to be transferred from the boards of guardians to the County Councils; why not also the business as to the diseases of man and their prevention? We have referred only, and that very briefly, to those matters in which the profession is interested. The Bill, as a whole, delegates an immense amount of business and responsibility to popularly elected bodies. How far this will be a success in Ireland time alone will show. The Irish public have not always given evidence of reliability in this respect, but it is to be hoped that with the need will come the means of discharging the responsible duties which appertain to such bodies.

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THE country has now been thoroughly informed of the Government scheme of proposed army reforms. Mr. BRODRICK'S lucid statement of the case was both frank and full and he may be fairly congratulated on the ability he displayed in dealing with a most difficult subject and on the favourable impression he made on the House of Commons. Without attempting to follow all the points in the UNDER-SECRETARY FOR WAR'S statement we may briefly summarise some of them. There is a proposed accession to the strength of the army of 25,000 over the number in 1896-97—the greatest addition to the British army ever asked for in time of peace; the daily pay of the soldier is to be increased and the amount of the present deferred pay decreased; every effort will be made to teach various trades to soldiers whilst serving with the colours and to find them civil employments as reservists; an attempt is to be made to overcome the difficulties of the linked battalion arrangements and to induce men to return from the reserve to the colours so as to provide for our future small wars as well as those on a large scale proposals are suggested for making militia and volunteers available for general Imperial service; a scheme of general decentralisation is suggested, together with many other more or less important reforms.

This, it must be admitted, initiates if it does not complete a large and bold scheme. Its success obviously turns upon the assumption of two things. First, the enlistment soldiers in sufficient numbers and physically of the requisite quality; and secondly, the reliance to be placed upon the reserve that its members will be forthcoming when wanted and that they will be found efficient for military service in the field or otherwise. The arm of the service which most requires to be strengthened, perhaps, at the present time is the Royal Artillery and the officers and men of that corps also need the longest and most efficient training. We are also very glad to see that the War Office proposes to have military manœuvres on a large scale, for these test all branches of the service and bring to light any practical defects that require to be remedied. The benefit to the medical service in this respect is great. It stands to reason that to attain practical efficiency in war the organisation, administration, and practices adopted on field service require to be frequently rehearsed. It has been said, and not unjustly, that on the existing system the army is made for the reserve rather than the reserve for the army. The tendency of the proposed War Office scheme is to redress this. No one can shut his eyes, however, to the fact that a short service system has accomplished much and that there is a great deal to be urged in its favour. What is wanted, however, is a more elastic system under which a larger number of physically matured and trained soldiers can be retained with the colours. The *Times* of Feb. 25th contained a communication from Cairo signed "Captain" on "Our Young Soldiers" which struck us as a very manly and obviously very honest vindication of their cheerfulness, bravery, and excellent qualities as well as a strong testimony to the good feeling and sympathy which binds officers and men together in every really good regiment. Everything should be done to encourage and strengthen this feeling of *esprit de corps*. The regiment is the home of the soldier and if the army is to be made a popular calling the regiment should be the unit of whose traditions the soldier is proud, in which he is happy, and which he leaves with regret. Whilst acknowledging to the full all that can be said in praise of our young soldiers it must nevertheless be borne in mind that on physiological grounds endurance of fatigue and "staying power" in the soldier require a matured physical development. It may, we think, be truthfully said that the scheme set forth in the late speech of the Under-Secretary for War is a great stride in the right direction. Whether it has gone far enough in all respects and whether the inducements held out to recruits will prove to be adequate remain to be seen when tested by experience. We venture to think that the limitations as to the shilling a day are a mistake; the proposal to deduct pay from young soldiers under nineteen years of age will not facilitate successful recruiting. It seems to us also a bad policy not to have better recruiting establishments than we possess at the present time. These establishments should occupy prominent and airy sites and not be hidden away in some dirty back street and they should have more attractive exteriors and be provided with good interior accommodation and clean, inviting arrangements generally. However, on the whole we must congratulate Mr. Brodrick and wish the Government scheme all success. It now remains for the War Office to declare its intentions in regard to the medical service of the army.

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The University of London Commission Bill, 1898, the provisions of which we print in another column, is practically a similar Bill to that introduced by the Lord President of the Council on July 20th of last year. We trust that the difference of dates in the introduction means that the Government intends to pass the Bill during the present session, as it now cannot plead a want of time if it does not push it through both Houses of Parliament. The main difference in the two Bills is that in 1897 the names of the Commissioners were inserted in the Bill, whereas in the later one they are omitted. This would seem to indicate that some change in the *personnel* of the Statutory Commission is contemplated. In 1897 the members proposed for the Commission were Lord Davey, the Bishop of London, Lord Lister, Sir William Roberts, Sir Owen Roberts, Professor Jebb, and Mr. E. H. Busk (the chairman of the Convocation of the existing University). In all other respects except the date the wording of the two Bills is identical.

The Schedule, however, which contains the executive details, has two important additions, as will be seen by referring to page 668, where we have printed it in full. In Part I. are laid down for the Commissioners' guidance "*the provisions to which effect is to be given*" when framing statutes and regulations for the constitution of the future University and in Part II. we find this headline: "*The Matters for which Provision must be made.*" These include the adequate protection of all classes of students, whether external or internal, collegiate or non-collegiate; the recognition as teachers of the University of duly qualified teachers and lecturers giving instruction of a university type in public educational institutions within a radius of thirty miles; the inclusion of the matriculated pupils of such teachers as internal students; and the due representation on the Senate of the Academic Council of all subjects of study and all sections of teachers of the University. The composition of the Senate is slightly altered by the appointment of one member by the Council of the City and Guilds of London Institute and four by the Crown, whereas in the former Bill five were to be the number of the Crown representatives. The total number of the Senate is fifty-six—viz., the Chancellor and fifty-five other members. Whether the Duke of Devonshire intends to consider the claims of the Society of Apothecaries to representation we have no information, but the Society can certainly make out a good case for inclusion. The Senate is to form three standing committees: (1) the academic council for the internal students; (2) the council for external students; and (3) a standing board for the extension of university teaching. As medical students in London are all internal or collegiate students we are not so concerned as are the other faculties, especially those of arts and law, in the regulations for the examinations of external students; but their interests seem to us to be adequately safeguarded by the formation of a standing committee of twenty-eight members including the sixteen members appointed by Convocation. The conduct of the examinations is very fairly and adequately laid down in the following paragraphs:—

> "Unless the Senate either generally or by regulation as to a particular case otherwise determine separate examinations shall be held for internal and external students respectively and each certificate and diploma shall state whether the candidate has passed as an internal or as an external student, but the degrees conferred shall represent the same standard of knowledge and attainments. Internal students shall be admissible to the examinations for external students if they prefer to graduate on those terms.
>
> "In all examinations the Senate shall if practicable appoint in each subject at least one examiner who is not a teacher of the University."

The Commissioners are to frame the statutes and regulations by the end of 1899 and then the Senate will have power to make statutes and regulations for altering or supplementing those made by the Commissioners, but these must be communicated to Convocation the opinion of which body will have to be taken into consideration by the Senate. All statutes and regulations must be laid before the Houses of Parliament for forty days and will not be valid until they have been approved by HER MAJESTY THE QUEEN in Council. Not only may either House of Parliament present an address praying the QUEEN to withhold her assent from any statute or regulation or any part thereof, but the Senate or Convocation of the University of London or any other person or body directly affected may within three months from publication petition HER MAJESTY in Council to withhold her approval and such petition may be referred to a committee of the Privy Council for special report. We fail to see what further safeguards can be asked for by the opponents of the scheme which appears to us as definite, and at the same time as elastic, as could be devised for a dual university under one Senate.

Annotations.

"Ne quid nimis."

THE EXPENDITURE OF THE METROPOLITAN ASYLUMS BOARD.

THE wholesale admission of all and sundry into isolation hospitals without any of those wholesome checks which the law was supposed to have provided in giving the power of making regulations to the Local Government Board goes on at an ever-increasing rate. Fifty per cent. of the infectious cases notified in London are received into the hospitals. Thus in the fortnight ending on Thursday, Feb. 24th, there were 1443 notifications of infectious cases and the Board admitted in the same period 723 cases. The lucid and frank statement of Mr. A. C. Scovell, chairman of the Finance Committee, at the meeting of the managers on Saturday last enables the public to understand that such a system is a costly one. The expenditure proceeds by leaps and bounds and no serious remonstrance is raised against it. For the year ended at Michaelmas last the grand total expenditure was £665,400, made up thus: for imbeciles, £134,000; for boys on training ships, £18,200; and for the infectious sick, £328,000; general expenditure, including loans and general administration, £185,200. The total amount of loans raised by the managers to Oct. 2nd last was £2,912,986, of which the sum of £873,336 has been repaid. The assets are said to amount to £2,831,609, showing an excess over liabilities of £791,959. The borrowing process goes on merrily. The Local Government Board has given its consent to the Managers borrowing from the London County Council £500,000 for the year ending March 31st, 1899, and the sum of £100 000 ending Sept. 30th, 1899. The excess of expenditure in 1897 over that of 1896 was £40,270. The difference is accounted for chiefly by the Brook Hospital involving an additional expenditure of £33,000. The history of the discrepancy between the estimates and cost of this hospital almost exceed in interest that of the famous Works Committee of the London County Council. According to the *Times* report of Mr. White's speech moving the adoption of the Financial Committee's report the original estimate for the erection of this hospital was £194,810; the amount of the tenders ultimately accepted was £218,171 16*s.* 2*d.*, whilst the amount which the Managers were asked to pay in settlement of the contractor's final claims was £268,507 11*s.* 2*d.* Such an excess demands a very strict inquiry and the Board adjourned without disposing of the subject and in the middle of a debate on an amendment to refer the report back to the committee. We sincerely trust that the amendment will be passed and that we shall get to the truth in this matter.

THE MEDICAL DEFENCE UNION.

THE work accomplished by the Medical Defence Union during 1897, as summarised in the annual report of the council, has resulted in material benefits to a considerable number of the members and supplies a further proof, if indeed any further proof were needed, of the advantages to be obtained by combination. Referring to the numerous cases in which attacks have been made on members of the Union on various pretexts the council justly remark that if the individuals assailed had been unsupported by the Union serious personal expense, great anxiety, and much loss of time would have been incurred by them, but coöperation has worked wonders and a member having his case taken up by the council is relieved of most if not of all of the trouble connected with it. The amount of work undertaken by the council on behalf of the members may be inferred from the fact that upwards of 180 cases have been legally advised upon and conducted by the solicitor in the course of 1897. An outline of 100 of these cases is published in the annual report, the nature and results being given, but, of course, without the addition of any names. Prosecutions of irregular practitioners have been conducted both under Section 40 of the Medical Act and under the Apothecaries' Act. Dr. W. S. A. Griffith has been elected president in the place of Mr. Victor Horsley, who has rendered most valuable services to the Union, but who resigned last October on the occasion of his election as one of the Direct Representatives for England on the General Medical Council. The offices of the association are at Nos. 20 and 21, King William-street, Strand. The general secretary, to whom all communications should be addressed, is Dr. A. G. Bateman.

THE FELLOWSHIP OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

WE have been given to understand that there is a feeling of dissatisfaction amongst Members of the Royal College of Physicians of London with respect to the elections to the Fellowship which have been made of late years. According to the by-laws of the College the duty is imposed on the Fellows of nominating and electing annually from amongst the Members of more than four years' standing those who may be deemed worthy of the Fellowship. The duty is a responsible one, but a still greater responsibility rests upon the Council upon whom involves the selection from amongst the nominees of those whose names shall be submitted for election. Whether any better procedure could be devised it is difficult to say, but obviously from one reason or another it may happen that names are passed over without any intention of inflicting slight or injury. There are reasons why early promotion should fall to the lot of those who elect to spend the best years of their life in scientific work which if it lead to fame is less certain of leading to fortune; but there must always be a risk of overlooking the merits of others whose careers are less obtrusive but none the less honourable and worthy of recognition. The College has long passed out of that narrow exclusiveness which did it so much harm fifty years ago and has assumed a most important position as a licensing body, no fewer than 7632 Licentiates appearing on the list of the present year. It has also enlarged its proportion of Fellows and we trust that it will exercise a generous spirit in still further expanding the list. At the present time there are 301 Fellows, of whom about one-third are provincial, and 470 Members, of whom one-half are provincial. It cannot, we think, be urged that London physicians are disproportionately represented amongst the Fellows of a London college. Yet there may still be present in some quarters the same feeling as was expressed by the late Dr. C. J. B. Williams, who, speaking of the early seventies, wrote in respect to elections to the Fellowship that "there were complaints of partiality and unfairness as to those who were elected, deserving seniors being passed over and juniors preferred if they happened to have friends among the Fellows."[1] Dr. Williams had gallantly but vainly attempted to reform the College thirty years before, and he tells us that in 1872–74 he frequently attempted to remove what he considered to be a defect in its constitution. His remedy was to promote to the Fellowship by seniority of standing, although he further suggested that junior Members might perhaps be admitted to the higher grade by examination. We should be sorry to see such a change as that, for ideally the method in vogue at present is better suited for the end in view. To make it free from any reproach or charge of injustice it should be incumbent upon every Fellow of the College to exercise his privilege of nomination with due regard to all the considerations which influence the bestowal of an honourable title.

CHILDREN'S SIGHT.

IN a paper read before the Society of Arts upon Feb. 23rd Mr. Brudenell Carter gave the results of his inquiries into the vision of a considerable number of children in the London board schools. The examination of such children is not, on various grounds, an easy one to undertake. To obtain perfectly satisfactory results the application of atropine or of some other cycloplegic drug is requisite, and this in view of the interference with school work and the wrath of litigious parents is unfortunately not practicable. Still, as Mr. Carter observes, approximate results can be obtained, and it is much to his credit that he is able to supply statistics of no less than 8125 children. Of these he found that only 3181, or 39·15 per cent., had normal vision with both eyes, the cases of normal vision with one eye and subnormal with the other constituting an insignificant minority, so that, roughly, of London school children between the ages of eight and thirteen years nearly 60 per cent. do not see as acutely as they ought to do. More careful examination of the refraction of the defective eyes made by himself and Mr. Hickman in 1448 cases showed that hypermetropia was present in 61 per cent. and myopia in 14·3 per cent. These figures are fairly in accordance with those given in recent authoritative works. Thus MM. Truc and Valude give as the result of the examination of 985 eyes of children between the ages of six and twelve years the number of emmetropic eyes at 31·66 per cent., of myopia at 11·68, and of hypermetropia at 56·66. It is questionable whether hypermetropia is to be regarded as a defect. The great majority of children are said to be born hypermetropic, and the seaman or dweller on plains requires throughout life good vision for distance. Flat eyes and the long sight associated with them only become a defect when they are applied to the avocations of civilised life. Nor within moderate limits is myopia a defect. A myopic eye is one that is better adapted for near than for distant vision, but that is all; and many myopic persons pass through life with no further inconvenience than that they are unable to define objects at a distance while they are readily perceived and recognised by others. It is only when these conditions of refraction are of high degree or when from some general condition moderate degrees of hypermetropia or myopia prove troublesome that assistance is required. To determine this, however, an examination is requisite which would as a rule only occupy a minute or two, but which would be sufficient to place the parents or teachers on their guard and to indicate the necessity for further skilled advice. Few people, Mr. Carter remarks, have any exact or useful knowledge as to what their children ought to be able to see, though they might be perfectly competent to say how high they might jump, how far they might walk, and what weight they could carry, and he adds that he would like to lay stress on the desirableness of giving a place to excellence of vision among the various physical qualifications which were habitually tested by competition and for which prizes were awarded. Whilst admitting that considerable assistance can be afforded to children with defective vision it must, we think, be conceded that much still remains to be done in the way of prevention. No small number of schools both public and private urgently require inspection both in regard to the amount of light admitted, the arrangements for ventilation in their schoolrooms, and the nature, quantity, and cooking of the food supplied.

RECENT VIEWS ON DYSPEPSIA.

AN important monograph on the physiology and pathology of the gastric secretion by Dr. A. Verhaegen, of Louvain, forms the sixth number of *L'Œuvre Médico-Chirurgicale*. The writer's views are the result of his personal experience, which appears to be extensive, and of an exhaustive study of the French and German authorities, to whom almost all our recent knowledge based on the examination of the gastric contents removed by syphoning at different periods of digestion is due. Excepting nervous dyspepsia Dr. Verhaegen repudiates the view that dyspepsia is ever a merely functional disease; it always results from subacute or chronic gastritis. He recognises four forms—chronic simple gastritis, gastritis with hyperchlorhydria, gastritis with hypersecretion, and nervous dyspepsia. Chronic simple gastritis, usually called gastric catarrh, comprises most of the conditions vaguely designated flatulent, bilious, or atonic dyspepsia. If prolonged the catarrh terminates in atrophy of the glands and sclerosis of the connective tissue. Finally the muscular coat may become involved and disorganised. Examination of the gastric contents shows deficient acidity, delayed digestion, and abnormal fermentations. As to treatment, the meals should be small and there should be long intervals between them; four may be taken in the day in ordinary and three in the worst cases. Milk being a complete food and easy of digestion forms a suitable diet; four and a half pints daily are sufficient for a man at rest. Leube thus arranges foods in the decreasing order of their digestibility: broth, solution of meat of Leube and Rosenthal, peptones, milk, eggs raw or cooked a little, biscuit, calf's brain and sweetbread, poultry, finely hashed meat, beefsteak. Pork is condemned by all authorities. Cheese and vegetables are tolerated in only small quantities Those vegetables which contain but few fibres of cellulose should be selected, such as carrots, cauliflowers, spinach, &c For drinking nothing is better than water, but with it few patients are satisfied. Milk may be taken pure or with a little coffee, or effervescent mineral waters may be taken in moderate quantity. But absolute rules as to diet cannot be laid down; the personal experience and idiosyncrasies of each patient must be studied. Drugs have singularly lost their importance. Bitters such as condurango, calumba, quinine, or nux vomica may be given from a quarter to half an hour before meals; they should be discontinued when the appetite has returned. Hydrochloric acid in dilute solution may be taken half an hour after meals. Pepsine is superfluous; the stomach secretes sufficient. Washing out the stomach with warm water every day, or every second or third day according to the case, is of the greatest service. Gastritiswith hyperchlorhydria is not what has been called "acid dyspepsia," which merely designates dyspeptic troubles of various origins having the symptoms of pyrosis in common. Pyrosis has no signification from the point of view of hydrochloric acid secretion; it can be produced by the regurgitation of feebly acid chyme. Most of the cases which have been called gastralgia were really examples of gastritis with hyperchlorhydria. Examination of the gastric contents after a test meal shows normal digestion and usually increased acidity. But in some cases the acidity is not above the mean and even is below it. The symptoms, for this and other reasons, must be due not simply to acidity but to intolerance of the mucous membrane even to ordinary gastric juice, in consequence of morbid changes. The principal symptom is pain, which may be severe. It radiates from the epigastrium through the last intercostal spaces. It begins two, three, or four hours after a meal and lasts from a few minutes to several hours. It is relieved temporarily by the ingestion of food and still more by bicarbonate of soda. The stomach is sensitive to pressure in the pyloric region. The treatment consists of rest in bed with warm applications. The diet should be milk or eggs; after a time a small quantity of hashed meat and a little bread may be taken. Bicarbonate of soda should not be given in large quantities which irritate the stomach, but in small doses every half-hour or hour until the end of digestion. Gastritis with hypersecretion is, according to Dr. Verhaegen, only a later stage of the previous form in which secretion has ceased to be intermittent and has become constant. The stomach during fasting always contains a notable quantity of acid secretion. It is always dilated, sometimes enormously. Hayem, indeed, regards the hypersecretion as simply a symptom of pyloric stenosis. Washing out the stomach with warm water is the best means of moderating the glandular activity. Several grammes of bicarbonate of soda should be dissolved in the water in order to destroy the sarcinæ which are always present. The best time for washing out the stomach is before the evening meal; the pains which occur at night will thus be mitigated. In other respects the treatment is similar to that of the previous form. Starchy foods, which are but little or not at all digested, should be reduced and given only at the most favourable time—the meal which precedes or follows the washing out of the stomach. In the advanced forms gastro-enterostomy, which gives very good results, is indicated.

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[1] Memoirs of Life and Work, 1884, p. 402.

"ROMANCE UPON ROMANCE."

THE phrase is Thackeray's, who made it the title of one of his happiest efforts, and it may be revived if only to indicate the drama in real life in which George Sand and Alfred de Musset were protagonists, playing against each other through the intervention of the physician, Dr. Pietro Pagello, who died at Belluno last week a nonagenarian. Some forty years ago when poor de Musset, exhausted in mind and body—did he not inscribe on his bottle of absinthe "per me si va nella Città dolente"?—passed "under the daisy quilt," his old love, George Sand, published her "Elle et Lui," to put the world right as to the real cause of their separation at Venice in the winter of 1833–34. Mistress of a magic style which John Stuart Mill found to act on his nerves like champagne, the authoress of "Consuelo" had all but succeeded in making the deceased poet appear before the Parisian world the guilty party when his brother Paul's "Lui et Elle" turned the tables on her and proved that it was no infidelity of her rightful lover but the superior attractions of the young Venetian medical man called in to attend him that dissolved that "union of hearts." The controversy, so much to the taste of "the Lutetia of the ancients and the Laetitia of the moderns," took some time to die out, but had at last descended to the limbo of forgotten scandals when just a year ago it was discovered that the one survivor of the "triangular duel" was enjoying a green old age at Belluno and that if properly approached he could settle the rights and wrongs of the "vexata quæstio" for all time. So in great force the interviewer repaired from Paris to the quaint old Venetian town and found Pagello "robusto e vegeto" on his daily walk arm-in-arm with his son to the Piazza Campitella and the Caffè Manin, where he took his daily refection. There the "old man eloquent," in answer to courteous inquiries, steadily and circumstantially revealed all he knew of the romantic quarrel, described the "febbre cerebrale" under which he found the poet labouring, and alluded with all due delicacy to the lady's passion for himself—a "bel giovane" not long out of his teens. In fact, so impressed was he at the time with the brilliant Parisian pair, their gifts and graces, their "amantium irae" doomed never to reach the "amoris integratio," that he kept a diary of his daily visits at their residence, and to this in a published form he referred his eager interviewers for full and final light on a theme more fit for Ovid than for a disciple of Celsus. That diary is now before the public, and if it reinforces Paul de Musset's version of the inconstancy that wrecked his brother's life it does so with a verisimilitude and manly self-abnegation that redounds to its author's credit, spared as he was to live down the "years of April blood" and in a tranquil professional autumn to put on record his unique experience, its "shadows" no less than its "lights."

A CORONER ON UNQUALIFIED PRACTITIONERS.

AN inquest was held at Bury by Mr. S. F. Butcher on Feb. 15th to inquire into the death of an infant named Fenwick. The mother of the child in her evidence stated that the baby had been attended by a man named Berry, whom, when she called him in, she believed to be a qualified man. After the child died she found that Berry was not qualified because she could not get a certificate. He used to come two or three times a week. Mr. W. J. France came once but refused a certificate. The coroner in summing up caused Berry to be brought before him and made the following remarks, which are so admirable that we quote them in full from the report of the inquest in the *Bury Times*:—

> The coroner said he considered it essential that coroners should very carefully inquire into all deaths of children who have not been attended by a medical man. It was completely in the interest of the public that those who administered the practice of medicine should not only be by their knowledge and experience fully qualified, but that they should be under such regulations as the General Council of the medical body afforded so far as such things could be brought to bear. It was essential for the administration of justice that those who administered the practice of medicine should be qualified and properly regulated, and it was even more essential in the interests of the poorer classes of the community, for unless these medical men were actuated by an honourable spirit and at the same time subject to proper regulations he was afraid the poorer people were apt to suffer rather than receive benefit at their hands. He knew nothing personally about Mr. Berry as to whether he was an honourable man or otherwise, but he knew that he was an unqualified man. That being the case, the presumption was that he lacked opportunity or knowledge to enable him to properly qualify himself, and in addition he was not subject to the regulations of the General Medical Council. He (the coroner) therefore desired it to go forth that in every case of death where he found that Mr. Berry had been in

attendance he would feel it his duty to hold an inquest. Mr. Berry was unable to give a certificate of death, and if a medical man declined to attend a person who was being attended by Mr. Berry, unless in very extreme cases, he would say that that qualified medical man was doing his duty. He (the coroner) would feel it to be his bounden duty in all such cases to hold an inquest, and he made that announcement in order that all whom it might concern might take warning. If Mr. Berry possessed medical knowledge sufficient to enable him to practise, he hoped he would take steps to place himself under proper regulations. A verdict of death from natural causes was returned.

We have nothing but commendation for these words of the coroner, and they are all the more to be commended inasmuch as he is not a medical man.

TESTIMONIAL TO MR. HALL HAINS.

The legal proceedings in which Mr. Hall Hains was recently involved are so well known to our readers that it is unnecessary to reiterate them, but it is with pleasure we note that Mr. Hall Hains's friends and patients have presented him with a congratulatory address and a purse of 178 guineas. The presentation was made on Wednesday, Feb. 23rd, by General Goldsworthy, M.P., at the Athenæum, Shepherd's Bush, and among those present were Mr. W. J. Bull, L.C.C., Mr. E. A. Goulding, M.P., L.C.C., Colonel Tytheridge, Mr. Revis, Mr. J. Watson Moyses, Mr. Joseph Smith, and Mr. Carre-Smith.

ABORIGINAL GRATITUDE.

In his efforts to cure his patients and maintain the honour of his profession nothing is more helpful to a medical man than the knowledge that his labours are appreciated, and spontaneous recognitions of his work atone for much disappointment, brighten the dull routine of duty, and stimulate to fresh endeavours. Though we are able to record frequent examples of the recognition of services rendered by medical men among civilised races it is but seldom that we can refer to an event like that reported by the *Fiji Colonist and Levuka Gazette* of Dec. 4th, 1897. Our antipodean contemporary reports a farewell entertainment or "*meke*" given by the natives of Levuka and district to their retiring medical officer, Mr. George Fox. Mr. and Mrs. Fox and a few friends were invited to the house of Ratu Vilemoni, the chief native, when "some score or more of the maiden beauties of the district, gaily dressed out in their most imposing *sulus* and wreaths of flowers and *Wa-Kalou*, presented themselves, when a series of *mekes* was performed, ranging from the soft slow cadences which would make such a delightful lullaby to the quick joyous tones which give one the impression that these children of nature are without a care in the world." Ratu Vilemoni then presented Mr. Fox with some mats, some valuable curios of old Fiji, and a dainty *Roi*. The *Fiji Colonist*, in concluding its report, observes: "The invitation was issued spontaneously and it is doubtful if such an honour has ever before been tendered any retiring medical man for the express purpose of signifying the natives' appreciation of his services among them. Commissioners, magistrates, and acting Rokos—yes, by the score, as to one in authority, but to one who has waited upon them and as a recognition of benefits received the occurrence is almost unique and reflects great credit on all who were concerned in providing it." Whatever the exact character of a "*meke*" the circumstances under which it was given are as creditable to the Fijian natives on the one hand as they are to Mr. Fox on the other. If untutored aborigines can recognise in such a tangible manner the services of the medical man whom Government provides for them, notwithstanding what our poet says of "benefits forgot," the time has not come to despair of the rest of mankind. And in spite of medical aid sweaters and the grudging parsimony which discharges all its obligations with the tardy payment of an oft-rendered account there will never be lacking some who will recognise unselfish performance of duty and lift from the jaded medical man the gloom which, but for them, would settle upon him and stifle some of the most generous impulses of the heart.

THE RECENT MAIDSTONE EPIDEMIC.

It appears from the report of the half-yearly meeting of the Maidstone Water Company which was held on Feb. 24th, that the sum expended by the directors during the past six months in connexion with the late epidemic was over £1651. As this expense has been met out of the revenue account no dividend is to be declared on the ordinary share capital.

ST. WINIFRIDE'S WELL.

Romance is evidently out of date in these days. The urban council of Holywell have decided to allow Mr. Atherton to abstract water from the Well of St. Winifride between midnight on Saturday and midnight on Sunday, the said water to be bottled for table purposes. Of course this decision has not been arrived at without a great deal of argument and the reports of the meetings of electors as given in the *County Herald* of Feb. 18th reveal an amount of imbecility which is almost inconceivable. It seems to us that the urban council have gone quite the wrong way to work. Without entering upon the *vexata quæstio* of whether the waters of the well possess healing powers or no the said council ought not to exploit the water of the well simply as a means of making money. They ought to consider themselves simply as the trustees of the well and the well itself should be looked upon somewhat in the light of the Monuments Historiques in France. The council should be charged with keeping the well in repair and preventing its pollution, while the expense should be met by a small fee being charged to those who visit the well.

ASSAULT ON THE LEADER OF THE TUSCAN SCHOOL.

From Florence a correspondent writes: "It has hitherto been the boast of civilized countries that whatever other member of the community may be the object of personal violence the medical man may go wherever and whenever his duty calls him without fear of molestation. Proof to the contrary, however, has just been afforded by the Tuscan capital, where the leader of its medical school, Dr. Pietro Grocco, Professor of Clinical Medicine in the Istituto di Studi Superiori and Director of the Balneary establishment at Monte Catini, was on Feb. 17th attacked and injured in his own residence by two brothers from motives unjustifiably and brutally vindictive. The circumstances were these. In the medical wards of our great hospital, the Santa Maria Nuova, in Professor Grocco's clinique, one Cecchi died from tuberculosis and, in accordance with the rule that all patients in the hospital who succumb to their malady shall be subjected to post-mortem examination if deemed necessary, the body was submitted to the usual necropsy. His two brothers, Giovanni and Luigi Cecchi, on hearing of his death repaired to the hospital to see the body and on being shown it with the traces of its having recently been opened still manifest they professed surprise and indignation and used the most outrageous language towards the 'preparatore' and his assistant, just stopping short of actual assault. They then proceeded to the residence of Professor Grocco in the Piazza Santa Maria Maggiore and announcing themselves as patients were admitted to his consulting-room. They at once fell upon him and before he succeeded in beating them off with the aid of sundry domestics they had wounded him in the face, producing a rather painful contusion under the right eye. By this time Professor Grocco, quite unaware of the motive of the assault, had been informed of the names and alleged 'grievance' of its authors, and as they were being led away by the Municipal Guards he procured their release—not, however, before one of the brothers (Luigi) had been recognised as an old offender, having, in fact, been lately released from prison. They were afterwards put under arrest by the Public Prosecutor, at whose instance the preliminary steps were taken for their trial. Meanwhile Professor Grocco, in answer to sympathetic inquiries, is announced as having quite recovered from the agitation and the physical maltreatment he underwent and was able within a few hours to start first for Prato and thereafter for Monte Carlo, to both of which places he had been called in consultation. The incident has created a profound impression throughout Italy, not only on account of the pre-eminently valuable life which was so violently assailed, but as an object-lesson in the 'mediævalism' which still adheres to certain classes of the people. The same prejudice, the same animosity, against the healing art and its representatives that inspired the brothers Cecchi explains the scenes from time to time put on record by THE LANCET when during a cholera epidemic the proletariat rise in fury against the physicians who they think are poisoning them or proceed to stone the public vaccinators when performing their duty as prescribed by the State.

INFLAMMABLE HAIR COMBS: A GRAVE DANGER

THE danger of employing as articles of dress substitutes for tortoiseshell and ivory such as celluloid and the allied substances, is well known and, in fact, was pointed out by us some years ago.[1] We had hoped that the public through the channel of the press would by this time have been so acquainted with the highly and easily inflammable nature of these substitutes as to have led to the exercise of all care. But it is not so. On the contrary there has been placed upon the market a comparatively new design of a hair-fastening comb which, we admit, affords advantages both from the useful and artistic point of view but in regard to the dangerous properties of which we feel in duty bound to issue a not uncertain note of warning. It appears to be a very popular article and we are convinced that it exposes the wearer to very real dangers. The evidence both of experience and of experiments prompts us to issue a very serious word of caution. The hair-fastener to which we allude consists of two combs fastened by a hinge at the top so that the combs close like the legs of a compass, the teeth overlapping and serving to secure the hair with a too sure certainty which may lead to the most disastrous results. Should the comb of the fastener be by any means fired, and there are many ways in which in practice this might easily occur, it would be practically impossible to withdraw the comb from the hair. In one instance within our own knowledge combustion of the comb, whilst fastened in the hair, was caused by the mere application of hot curling tongs. We have since confirmed the extreme probability of an occurrence of this most dangerous kind. In experimenting with one of these combs we found that though it may be readily ignited when detached from the hair yet the combustion does not appear to proceed far. But when the comb is placed in position in the hair the combustion, aided doubtless by the non-conducting property of the hair, proceeds in a most alarming fashion. The combustion takes place silently, but dense and very copious fumes are evolved which are highly inflammable and which, like coal gas or, even worse, like the vapours of ether, will in contact with a naked flame ignite, as we have found, some distance away from the seat of evolution. In the case to which we refer above severe burns were produced and the hair was practically destroyed. Our experiments were tried by placing the comb in position in a wig and the results were absolutely convincing as to the possibility of the most serious consequences ensuing to the wearers of these hair combs. We found that a curling iron heated to the temperature usually employed for the curling of the hair was sufficient in contact with the comb to start the evolution of dense fumes. Assuming these to be free from injurious consequences, which is not probable, the proximity of a naked light does the rest. We earnestly trust that those using this otherwise doubtless useful article will remember the extremely dangerous property of celluloid and will use the greatest care. We are strongly of opinion that such inflammable substances as celluloid are utterly unsuitable either for ornamental or useful purposes on the person, since they expose the wearer to such serious risks. Celluloid may be easily recognised by its developing a smell of camphor on being carefully warmed or rubbed, or by noting the extreme inflammability of a portion scraped off the article. We plead in the interests of public safety for a return to the employment of the good old-fashioned substances, such as horn or other non-inflammable materials, in the manufacture of these articles intended for the toilette. If celluloid must be used for these hair combs and hair curlers the manufacturers should be compelled to stamp plainly on every article the words "Highly Inflammable."

INFECTIOUS HÆMATEMESIS.

IN an annotation in THE LANCET of Nov. 6th, 1897, we called attention to the bacteriological examination of the blood during life—a comparatively new method of investigation which seems destined to be of great service in the future. Its advantages over bacteriological examinations in the cadaver—on which for internal diseases we have had in the past to rely almost entirely—must be manifest. In THE LANCET of Jan. 15th, 1898, we announced that MM. Triboulet and Coyon had found constantly in the blood of patients suffering from acute rheumatism a diplococcus which seems to be much more probably the long-sought cause of the disease than the various organisms found after death. The pathogenesis of gastric ulcer is still an obscure subject; microbes are supposed, but only hypothetically, to be the cause in some cases. In the following case, published in the *Journal des Praticiens* of Feb. 3rd, 1898, by M. Giraudeau, bacteriological examination of the blood gave evidence in support of this view and also threw much light on the case. A woman, aged forty-three years, who had never suffered from any gastric symptoms, was suddenly seized with hæmatemesis amounting to from half to three-quarters of a litre, which was followed a few hours later by copious melæna. The same events occurred two days afterwards. On the next day she was admitted to hospital so enfeebled that artificial serum had to be injected subcutaneously. A third attack of hæmatemesis and melæna took place on the seventh day. Before the first hæmorrhage occurred the patient had rigors and when admitted her temperature was 104° F.; on the next day it was 104·7° in the morning and 105° in the evening; on the following days it showed great oscillations, reaching or passing 104° in the evening and falling to 102° and later to 100·4° in the morning. There was no tenderness over the stomach; the abdomen was tympanitic. The symptoms of the patient did not correspond, therefore, to any well-known type of disease. Evidently there was an infectious process. But what? The serum test showed that it was not a case of ambulatory typhoid fever with gastric ulceration. A mitral regurgitant murmur was then heard; there was evidently infectious endocarditis. The staphylococcus aureus was found in the blood and a few days afterwards the staphylococcus citreus. Under quinine the patient improved, the temperature oscillating between 100·4° and 102·2°, but on the twenty-fifth day it rose to 103·2° and there was phlebitis of the left crural vein. The patient recovered, but the cardiac murmur persisted. The case was, therefore, one of staphylococcic septicæmia with gastric, cardiac, and venous lesions. The patient had been much worried and had endured privations before the attack which no doubt predisposed her to infection. Infectious hæmatemesis may also occur in small quantities and in repeated attacks. A man, aged forty-five years, with suppurating inguinal bubo, suffered from pyrexia, profuse sweats, and vomited his food every day with little blackish clots; the symptoms ceased only when the bubo was opened. The existence of these blackish vomitings in surgical septicæmia is not rare. Infectious hæmatemesis may occur in typhoid fever, tuberculosis, syphilis, &c. In fatal cases nothing like the ordinary round ulcer of the stomach is found; the source of the hæmorrhage is a slight erosion often difficult to find; it appears to result from a miliary abscess. In cases which do not yield to medical treatment and in which the condition of the patient permits it, gastrotomy should be performed to arrest the hæmorrhage; but the surgeon should be warned that he must not expect to find an ordinary round ulcer but this slight erosion for which the search may be long and difficult. We have recently in our Paris correspondence[1] published an abstract of an important paper on this form of ulceration by M. Dieulafoy in which seven cases are mentioned. In two gastrotomy was performed to arrest the hæmorrhage; in one the operation was successful. M. Dieulafoy regards this erosion as an early stage in the formation of the round ulcer. In the latter, also, the French surgeons are now performing gastrotomy to arrest the hæmorrhage when medical treatment fails, as we lately stated in our columns.[2]

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[1] THE LANCET, March 26th 1892, p. 708.

THE LICENSING LAWS IN ENGLAND, SCOTLAND, AND IRELAND.

The drinking propensities of a nation bear, as several writers have shown, a distinct relation to the moral statistics of the nation concerned and therefore a comparison of the licensing laws and usages which obtain in the three kingdoms should convey some useful lessons. A Blue-book was issued on Feb. 23rd containing this comparison. It is not for us to point out the relative degree of sobriety of the three kingdoms, but there are distinct differences and peculiarities in the administration of the licensing laws which may have a distinct moral bearing and from which moralists may draw interesting inferences. Perhaps the discretion of the licensing authorities differs more than anything else. In respect to new grants this discretion is absolute in Scotland and absolute also subject to appeal in respect to renewals. In England the justices have full discretion to grant or refuse all new "on" or "off" licences, but the grant is subject to confirmation or rescindment. And any refusal must be based on one of four grounds. These grounds are that the applicant is not of good character, that the premises are disorderly, that the applicant is disqualified by law from holding a licence, or that the premises are not duly qualified. In England the justices can refuse a temporary transfer without appeal on one or more of the grounds which apply to renewals; but Scotch justices can only refuse when they think the character of the applicant unfit. In Ireland certain grounds of refusal must be held in all cases except that of a beer-retailer's certificate. But in this matter of the exercise of discretion the Irish law principally differs from the English and the Scotch in requiring magistrates to state their grounds of objection in writing, whatever these may be. The closing hours in the respective countries are well known, but it is interesting to remember that there is no three-mile limit imposed upon the *boná-fide* traveller in Scotland. In Scotland, again, children under fourteen may not be supplied with drink for consumption either on or off the premises, whereas in England a child over thirteen may be served with anything but spirits "for its own immediate gratification." "A child over sixteen," however, may be supplied with spirits. In Scotland, moreover, no licence is required for music and dancing, for refreshment houses, or for billiards, and in Ireland no licence for billiards is needed. We are confident that there is much food for reflection in this Blue-book for those who have the well-being of the community at heart, and doubtless in due course of time we shall hear of special deductions being made by well-meaning persons who may be nevertheless over-persuaded by feelings not entirely free from prejudice.

ENLARGEMENTS OF EPIPHYSES: A COMPLICATION OF GONORRHŒA.

At the meeting of the Société Médicale des Hôpitaux on Nov. 5th, 1897, M. Paul Claisse presented a girl, aged nineteen years, who showed a new and peculiar complication of gonorrhœa. In the position of the costal cartilages persistent pain had occurred which was increased by sudden movements of the thorax and still more by pressure. A series of nodosities developed on the cartilages meriting truly the name of gonorrhœal rosary. Analogous swellings appeared at the superior epiphyseal junctions of the tibiæ. There was no affection of the joints or tendon sheaths. The patient was of small stature, which with the form of her thorax might suggest that the disease was a manifestation of rickets awakened by gonorrhœal infection. But as the existence of gonorrhœal osteo-periostitis had been demonstrated by Fournier and others, M. Claisse thought that it was natural to attribute the lesions to the direct action of the gonococcus. He explained the special localisation by the age of the patient whose ossification was not yet completed.

RESPONSIBILITY OF ASSAILANTS.

An inquest was held by Mr. Iliffe at Coventry Workhouse on Feb. 17th on the body of a woman, aged fifty-six years, who, it was alleged, had died from the result of injuries inflicted on her by a man with whom she lived. Evidence was given that on Feb. 5th a dispute arose between the two and the man knocked the woman down twice and seemed to hurt her head. They had not lived happily together and once he had been sent to prison for violence towards her. Another witness testified that the deceased "was never right" after the alleged assault and she became unconscious on the following Wednesday (Feb. 9th). She became paralysed in the right side and died on Feb. 14th. Medical evidence showed that the head was bruised and that there was a small abrasion on the left temple. She died from cerebral apoplexy. "The vessels were already diseased and ready to be ruptured." The coroner informed the jury that after the medical evidence there was no alternative but to return a verdict of "Death from apoplexy." The jury retired and then wanted to recall the medical man, but the coroner said that that could not be done. They then with evident reluctance returned the verdict suggested, but desired that the man should be censured. We agree with this verdict, but can quite understand the "evident reluctance" of the jury.

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[1] The Lancet, Jan. 29th, 1898.

[2] The Lancet, Jan. 29th and Feb. 19th, 1898, p. 543.

Deaths of this kind present considerable medico-legal difficulties and each one has to be judged on its own merits. The question of the responsibility of assailants who have inflicted injuries on persons who are not perfectly healthy has several times been raised in courts of law and the judgment usually quoted is that in the case of Bennet *v.* Gedley, when the Chief Baron remarked that a man was not bound to have his body in so sound and healthy a state as to warrant an unauthorised assault upon him. In the case we are discussing the cerebral arteries were atheromatous, but symptoms of paralysis did not supervene until four days after the alleged assault was committed. We doubt, therefore, whether death could necessarily be attributed to the injuries which had been inflicted. Any subsequent exertion on the part of the patient, such as straining at stool, might have produced the rupture of the vessel, and although we commend the finding of the jury as regards censuring the man yet if the case had been sent for trial there would have been little evidence to show that he was directly responsible for the woman's death.

THE GOVERNMENT VACCINE LYMPH SUPPLY.

AN announcement has been made to the effect that the Local Government Board will at once proceed to distribute glycerinated calf lymph to public vaccinators. The statement is evidently premature, for although the Board are making arrangements to secure a proper laboratory where the necessary processes of preparing and storing the lymph can be carried out these arrangements are not yet completed. There must also necessarily be delay after the laboratory and its staff are in working by reason of the necessity of keeping the glycerinated lymph a sufficient period of time for the destruction of extraneous organisms and for testing the keeping qualities of the lymph. If, as announced by Mr. Chaplin, glycerinated calf lymph is to be available for all vaccinations it is clear that the use of humanised lymph must practically cease, and before this can take effect the department supplying the glycerinated lymph will have to feel confident that it can meet the many demands which will be made on it by supplying in large amount a lymph that can be depended on. We therefore doubt whether any such supply as is needed will be forthcoming for some months to come. But there is reason to believe that such a supply will be issued quite independently of the passing of any Vaccination Bill.

THE PREVENTION OF TUBERCULOSIS IN MAN AND CATTLE.

AN important and interesting memorandum on the prevention of tuberculosis in man and in cattle has been presented to the Legislative Assembly of New South Wales by Dr. Ashburton Thompson, the President of the Board of Health. In this memorandum Dr. Thompson discusses the risks to the public from the sale of tuberculous milk and meat and the measures which should be adopted for safeguarding the public and for the elimination of tuberculosis from dairy stock. After stating briefly the powers already existing and the insufficiency of the extent to which they are exercised Dr. Thompson points the conclusion that "it is the interest of every person concerned of the public—the dairyman, butchers, agents, and all other middlemen, back to the breeder—to take steps to eliminate tuberculosis from herds to prevent the disease itself." He proposes that the sale of every bovine animal, and of every pig, though ostensibly "with all faults," must nevertheless be conducted legally, subject to an implied agreement that every such animal shall withstand the tuberculin test applied under conditions to be fixed. "Gradually," he says, "under the necessity which is imposed upon them, breeders would weed their herds and in four or five years might and should be in a position to regard this legal condition with indifference, for it would by that time cease to operate against them. At the same date they would find that their prosperity had been materially enhanced and had become assured." Dr. Thompson then discusses the powers that would be required to bring the breeder into this most desirable position of benefiting the public and himself. He urges the provision of public slaughter-houses for the killing of home-consumed animals and claims the power to systematically test dairy herds with tuberculin and to slaughter reacting animals. He points out that already one of the large milk companies which has its own circle of suppliers in country districts under contract with it has made it a condition of contract that every beast found by its inspectors to be tuberculous shall forthwith be slaughtered, no compensation being paid to owners unless it is found after death that a mistake has been made and that the animal was not diseased. The general principles governing Dr. Thompson's recommendations appear to be sound. What is being done successfully in Denmark can, we presume, be done equally well in New South Wales, and the sure way to success is to make the breeder of cattle understand that by adopting certain measures he will derive benefit himself and will safeguard the public, but that laxity or neglect of these precautions will entail loss upon him.

SANITARY CONDITION OF THE WATER-SUPPLY OF BROOKLYN.

A REPORT has recently been published by the department of health of the city of Brooklyn relating to the water-supply. For some considerable time the fact that a portion of the watershed was in an unsatisfactory state has been well known. From a perusal of the report it appears that there has been no exaggeration in the statement often made that the polluted water of many of the ponds supplying Brooklyn is a standing menace to the health of the inhabitants. The chief source of the water-supply is derived from a number of small streams formerly dammed for use as mill-ponds. Some of these ponds deliver their water through pipes by gravity, while the remainder have their water lifted by pumps to the level of the pipes. From the investigations carried on in the past year the conclusion is arrived at that the water derived from these streams is in a decidedly insanitary state and that it is unhealthy both from a chemical and a bacteriological point of view. As Brooklyn—now a part of Greater New York—has a population of 1,180,000 persons and is steadily growing larger it is obvious that a better and an increased water-supply must be provided. The propositions submitted by the Board of Health with this end in view are as follows: (1) suspension of the use of the decidedly polluted ponds; (2) abatement of nuisances and rectification of insanitary conditions at all other points; (3) preservation of the unpolluted sources of supply in their present sanitary condition; (4) rigid sanitary supervision of the whole watershed with special attention to typhoid fever; (5) maintenance of the feeders, ponds, and reservoirs of the water-supply in a condition free from rank vegetable growths; (6) for the prevention of microscopical growths the covering of all reservoirs used for the storage of ground-water either alone or mixed with surface water—as an alternative, the direct pumpage of such waters to the consumers; (7) proper engineering facilities for the development of the present supply and its extension eastward to compensate for the abandonment of the polluted sources; (8) filtration of a part or of the whole of the present supply; and (9) the acquiring of an entirely new supply outside of the island. The problem presented by the present condition of the Brooklyn water-supply is a very complicated one, and the Board of Health recommend that the question should be further investigated not only on the sanitary but also on the engineering side, and that all the available evidence should be accumulated and placed in the hands of an independent expert or committee of experts. A systematic, comprehensive, and economical plan based on this evidence should be devised which shall provide for the future as well as the present; in fact, which shall so deal with the whole problem that the water-supply of Brooklyn may be ultimately placed on a thoroughly efficient basis.

A PORTRAIT OF SIR SAMUEL WILKS.

MANY of our readers will remember the fine portrait of Sir Samuel Wilks, President of the Royal College of Physicians of London, which was painted by Mr. Percy Bigland and was hung in the Royal Academy Exhibition of last year, where it was certainly one among the most important pictures of 1897. We have received from the editor of *Guy's Hospital Gazette*, through the publishers of the journal, Messrs. Ash and Co., an engraving of this portrait and consider the engravers to have been very fortunate in the manner in which they have executed their task. Mr. Bigland has himself supervised their work and the result is an excellent reproduction of a fine portrait. The distribution of copies is in the hands of Messrs. Ash and Co. and the price of proofs signed by the artist is one guinea. Sir Samuel Wilks's position and personality should make requests for copies very numerous.

THE MEDICAL SCHOOL OF CAMBRIDGE UNIVERSITY: AN IMPORTANT MEETING.

A MEETING was held on March 2nd, at the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, under the chairmanship of Dr. W. Howship Dickinson, to discuss the provision of adequate buildings for the medical school at Cambridge. The meeting was the outcome of Professor Clifford Allbutt's letter to the resident members of the Senate upon which we commented last week. The Right Hon. A. J. Balfour had announced his intention of being present but was unfortunately prevented from attending, and Sir John Gorst also sent a letter of apology. Dr. Dickinson, who was supported in the chair by Professor Clifford Allbutt, Professor Jebb, M.P., Professor Michael Foster, Dr. Alexander Hill (the Vice-Chancellor of the University), Mr. Herbert Page, Dr. Norman Moore, and other Cambridge medical and scientific men, pointed out that the purpose for which the meeting had been called was to discuss the absolute inadequacy of the present accommodation of the buildings of the Cambridge Medical School. There were now some 500 medical students and really no buildings in which they could be taught. The University had provided a site, but the school wanted £50,000 for the buildings and furniture. Professor Jebb, who represents the University in Parliament, in moving the appointment of a committee in London to take all needful steps for the advancement of the medical school, pointed out the enormous growth of that school and how the University, which had so many other pressing needs, was unable to meet all the demands of science and allied subjects. Professor Clifford Allbutt, the Regius Professor of Medicine, seconded the resolution and said that they wanted immediately £20,000 simply for the buildings. As for furniture and equipment, they would have to wait. The Vice-Chancellor then moved a resolution nominating the members of the committee, and Dr. Dickinson was appointed chairman of the committee. We are glad to see that a start has really been made to free the Cambridge Medical School from the hindrances which exist to the perfecting of its work. The science school at Cambridge is perhaps the best in England, but science cannot be taught in a set of scattered temporary buildings and with all sorts of makeshift appliances. Men trained in the medical school at Cambridge are teaching or practising in every region of the civilised world, and we are quite sure that the earnest appeal made by the speakers at the meeting on Wednesday last to Cambridge men will meet with a warm response.

THE CASE OF WILLIAM MANSELL COLLINS.

MR. MUIR MACKENZIE applied on Wednesday last to Mr. Sheil for a summons under Section XL. of the Medical Act of 1858 against William Mansell Collins, of Cadogan-place, for the false assumption of a medical title. Mr. Sheil held that there was nothing in the Act making it compulsory for a medical man to be registered, but added, in declining to grant the summons, that there should be such a provision. We hope that the General Medical Council will continue proceedings in spite of this check.

DEATH UNDER CHLOROFORM GIVEN FOR EXTRACTION OF TEETH.

ANOTHER fatality while chloroform was being administered for a dental operation appears to indicate that the practice of using that anæsthetic in minor surgery is still adhered to. The patient, a healthy man, aged twenty-five years, was given chloroform on Saturday, Jan. 29th, by Mr. Dubourg. Several teeth were removed; then as consciousness appeared to be returning more chloroform was given and other teeth were taken out. Towards the close of the operation and, as we gather from the report before us, after chloroform had again been given dangerous symptoms appeared and ultimately the man died although artificial respiration was practised and restoratives were applied. We are not told what posture the patient was in or the method of giving chloroform employed, but we may assume that the "open method" was used. It is extremely sad that the list of deaths under chloroform should be so long. In many of the cases the operations performed are of such a trivial kind as to make it matter for wonder that nitrous oxide gas is not given in place of a more powerful and dangerous anæsthetic.

ABSENCE OF NORMAL LEUCOCYTOSIS IN CANCER OF THE STOMACH.

AN increase in the number of leucocytes in the blood occurs after a meal. In 1890 Müller observed that this physiological leucocytosis was absent in five cases of cancer of the stomach. He therefore concluded that this fact was of value as a diagnostic test. His view has been confirmed by several observers, including Dr. J. A. Capps, who has published his results in the *Boston Medical and Surgical Journal* of Nov. 4th, 1897. He performs the test thus. The patient fasts for twelve hours and is then given a glass of milk, two eggs, and a sandwich of minced meat. The leucocytes are counted immediately before or after the meal and again three or four hours later. An increase of less than 2000 per millimetre is not considered sufficient to establish the existence of this form of leucocytosis since allowance must be made for errors. If an increase of from 1000 to 2000 is found the result is considered doubtful and the test is repeated. In a series of seventeen cases of cancer of the stomach leucocytosis during digestion was observed only twice. Comparing the most constant signs of gastric cancer with this he found that tumour was absent in four cases, hydrochloric acid was present in four, and lactic acid was absent in four. Thus leucocytosis proved the most reliable test. On the other hand, on applying the test in cases of other diseases he found that digestion leucocytosis was present in three cases of gastric ulcer and in two of cancer of other organs—liver and adrenals. It was absent, however, in three out of five cases of chronic gastric catarrh. This test, therefore, though apparently as reliable as the hydrochloric acid, is like the latter fallible both on the positive and negative sides.

THE POST OF DIRECTOR-GENERAL OF THE NAVAL MEDICAL SERVICE.

WE understand that Sir James N. Dick, K.C.B., who last month completed ten years' service as Director-General, is to retire at the end of the financial year and will be succeeded by Inspector-General Sir H. Norbury, K.C.B.

THE DEATH OF DR. MALCOMSON.

WE deeply regret to learn the sudden death of Dr. Malcomson, medical officer of health of Middlesbrough. The work involved in the occurrence of over 700 cases of small-pox during the last few weeks had seriously undermined his strength and there is reason to believe that it has been the cause of his death. The Corporation have at once secured a temporary health officer, and Dr. Reece, of the Local Government Board, has returned to Middlesbrough in view of the intelligence received from that borough.

A MEDICAL MAN AND HIS UNQUALIFIED ASSISTANT FINED FOR NOT NOTIFYING.

MR JAMES RALPH COLLYER and his unqualified assistant, Mr. Wadlow, have each been convicted of non-notification of scarlet fever. The principal was fined in respect of the children of Mr. Ireland, and the assistant in respect of the children of Mrs. Hurrell. The Bench in each case fined the defendants 10*s*. It was alleged in the course of the trial that Mr. Collyer's memory was defective and that he never attended cases alone, but was always accompanied by his assistant. Mr. Wadlow in his evidence said he had been twenty-five years an unqualified assistant and had acted as such in Manchester and other places. In both instances he seems to have diagnosed influenza, the cases being afterwards found by Dr. Jolly to be cases of scarlet fever as shown by peeling and other evidence. The case is interesting in several respects, but chiefly perhaps at the present moment in regard to the *rôle* of the unqualified assistant. It is amazing after the recent action of the General Medical Council to see the unqualified assistant playing the same part and assuming the gravest functions and we may add making the gravest mistakes as if the Council had issued no notice on the subject. Mr. Collyer will doubtless make his own explanation of his position, but as the facts stand they strikingly confirm the allegation of loss of memory on his part.

POISONING BY PRIVET BERRIES.

POISONING by privet is a very rare occurrence; indeed, it is not mentioned by some of the most eminent authorities on poisoning. Cases have, however, from time to time been reported. Thus, in 1853 three children ate some privet berries; two of them died after violent convulsions, and the third recovered. In 1857 thirty-seven children suffered from poisonous symptoms after eating freely of acorns and privet berries. The symptoms were a shrivelled appearance of the hands and face, cyanosis, intense thirst, and sickness; opisthotonos was a marked symptom in each case. All the children recovered. In 1866 a child died thirty-seven days after eating the berries, symptoms of gastro-intestinal irritation continuing more or less throughout. In 1872 two children after eating privet berries were attacked with the following symptoms: drowsiness, convulsive twitchings, loss of muscular power, severe vomiting, and purging. On Feb. 18th an inquest was held at York Town on the body of a female child, aged eight years, who died two days previously after a few hours' illness. On the 16th she complained of pain in the head and stomach. At dinner-time she seemed better, but whilst food was being prepared she gave a cry and became unconscious and death took place before the arrival of a medical man. The child's teeth were tightly closed, her tongue protruding and her hands clenched. At the post-mortem examination the heart, liver, and kidneys were found to be quite healthy. The lungs were congested. The stomach was also much congested with one patch of superficial ulceration about the size of a shilling. The medical men who made the examination were naturally puzzled as to the cause which produced these conditions. On inquiry it was found that the child had eaten privet berries. None of these were found in the stomach, but they had probably been discharged by vomiting. The symptoms were in accord with the previously reported cases to which we have referred and we cordially commend the coroner's remarks that he hoped the evidence as to the privet berries would be a caution to parents as to their danger. Children are very apt to partake of any berries which they may see growing on bushes and it is important that the poisonous nature of many of them should be generally recognised.

SCHOOL BOARDS AND VACCINATION.

THE National Anti-Vaccination League recently sent a letter to the London School Board of which the following is an abstract. The letter was one stating that "the Council desire to call the Board's attention to a grievance of long standing with reference to the exclusion of qualified persons from teaching in the Board's schools; to refer to the condition of vaccination and re-vaccination imposed upon persons well qualified to become teachers of children; to state that this is one of a series of disabilities from which unvaccinated persons suffer in this land of pretended enlightenment and liberalism; to point out that it is often boasted (rightly or wrongly) that civil disabilities are no longer imposed on account of belief or unbelief in religious matters; to say that, however this may be, it is certain that in matters medical there is no such liberty; and that they think that it is high time to protest against the infliction of a disability upon persons merely because they do not wish to submit themselves to be inoculated with cowpox disease, and to urge the Board to oppose the attempted exclusion of teachers, otherwise qualified, on the mere grounds that they have not submitted themselves to the infliction of an artificial disease and refuse to submit themselves thereto." The letter was referred to the School Management Committee, who recommended the Board to reply that "they do not desire that any further conditions as to vaccination beyond those required by the Education Department be imposed upon teachers entering their service and have expressed their desire to the medical officer of the Board." At the meeting of the Board on Feb. 24th this answer was put as a motion, but the Rev. William Hamilton moved an amendment as follows:—

> "That a representation be made to the Committee of Council on Education requesting their lordships to remove the question, 'Has he (or she) been successfully vaccinated?' from the form of certificate prescribed by the Education Department submitted to probationers and pupil teachers at admission and during their engagement."

The amendment was not carried but the motion was. The London School Board has done a good many foolish things, but it is not quite so fatuous as to agree with the so-called "National" Anti-Vaccination League, and we wonder that that body was silly enough to think that its letter would the Brooklyn water-supply is a very complicated one, and the Board of Health recommend that the question should be further investigated not only on the sanitary but also on the engineering side, and that all the available evidence should be accumulated and placed in the hands of an independent expert or committee of experts. A systematic, comprehensive, and economical plan based on this evidence should be devised which shall provide for the future as well as the present; in fact, which shall so deal with the whole problem that the water-supply of Brooklyn may be ultimately placed on a thoroughly efficient basis.

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Many of our readers will remember the fine portrait of Sir Samuel Wilks, President of the Royal College of Physicians of London, which was painted by Mr. Percy Bigland and was hung in the Royal Academy Exhibition of last year, where it was certainly one among the most important pictures of 1897. We have received from the editor of *Guy's Hospital Gazette*, through the publishers of the journal, Messrs. Ash and Co., an engraving of this portrait and consider the engravers to have been very fortunate in the manner in which they have executed their task. Mr. Bigland has himself supervised their work and the result is an excellent reproduction of a fine portrait. The distribution of copies is in the hands of Messrs. Ash and Co. and the price of proofs signed by the artist is one guinea. Sir Samuel Wilks's position and personality should make requests for copies very numerous.

THE MEDICAL SCHOOL OF CAMBRIDGE UNIVERSITY: AN IMPORTANT MEETING.

A meeting was held on March 2nd, at the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, under the chairmanship of Dr. W. Howship Dickinson, to discuss the provision of adequate buildings for the medical school at Cambridge. The meeting was the outcome of Professor Clifford Allbutt's letter to the resident members of the Senate upon which we commented last week. The Right Hon. A. J. Balfour had announced his intention of being present but was unfortunately prevented from attending, and Sir John Gorst also sent a letter of apology. Dr. Dickinson, who was supported in the chair by Professor Clifford Allbutt, Professor Jebb, M.P., Professor Michael Foster, Dr. Alexander Hill (the Vice-Chancellor of the University), Mr. Herbert Page, Dr. Norman Moore, and other Cambridge medical and scientific men, pointed out that the purpose for which the meeting had been called was to discuss the absolute inadequacy of the present accommodation of the buildings of the Cambridge Medical School. There were now some 500 medical students and really no buildings in which they could be taught. The University had provided a site, but the school wanted £50,000 for the buildings and furniture. Professor Jebb, who represents the University in Parliament, in moving the appointment of a committee in London to take all needful steps for the advancement of the medical school, pointed out the enormous growth of that school and how the University, which had so many other pressing needs, was unable to meet all the demands of science and allied subjects. Professor Clifford Allbutt, the Regius Professor of Medicine, seconded the resolution and said that they wanted immediately £20,000 simply for the buildings. As for furniture and equipment, they would have to wait. The Vice-Chancellor then moved a resolution nominating the members of the committee, and Dr. Dickinson was appointed chairman of the committee. We are glad to see that a start has really been made to free the Cambridge Medical School from the hindrances which exist to the perfecting of its work. The science school at Cambridge is perhaps the best in England, but science cannot be taught in a set of scattered temporary buildings and with all sorts of makeshift appliances. Men trained in the medical school at Cambridge are teaching or practising in every region of the civilised world, and we are quite sure that the earnest appeal made by the speakers at the meeting on Wednesday last to Cambridge men will meet with a warm response.

THE CASE OF WILLIAM MANSELL COLLINS.

Mr. Muir Mackenzie applied on Wednesday last to Mr. Sheil for a summons under Section XL. of the Medical Act of 1858 against William Mansell Collins, of Cadogan-place, for the false assumption of a medical title. Mr. Sheil held that there was nothing in the Act making it compulsory for a medical man to be registered, but added, in declining to grant the summons, that there should be such a provision. We hope that the General Medical Council will continue proceedings in spite of this check.

DEATH UNDER CHLOROFORM GIVEN FOR EXTRACTION OF TEETH.

Another fatality while chloroform was being administered for a dental operation appears to indicate that the practice of using that anæsthetic in minor surgery is still adhered to. The patient, a healthy man, aged twenty-five years, was given chloroform on Saturday, Jan. 29th, by Mr. Dubourg. Several teeth were removed; then as consciousness appeared to be returning more chloroform was given and other teeth were taken out. Towards the close of the operation and, as we gather from the report before us, after chloroform had again been given dangerous symptoms appeared and ultimately the man died although artificial respiration was practised and restoratives were applied. We are not told what posture the patient was in or the method of giving chloroform employed, but we may assume that the "open method" was used. It is extremely sad that the list of deaths under chloroform should be so long. In many of the cases the operations performed are of such a trivial kind as to make it matter for wonder that nitrous oxide gas is not given in place of a more powerful and dangerous anæsthetic.

ABSENCE OF NORMAL LEUCOCYTOSIS IN CANCER OF THE STOMACH.

An increase in the number of leucocytes in the blood occurs after a meal. In 1890 Müller observed that this physiological leucocytosis was absent in five cases of cancer of the stomach. He therefore concluded that this fact was of value as a diagnostic test. His view has been confirmed by several observers, including Dr. J. A. Capps, who has published his results in the *Boston Medical and Surgical Journal* of Nov. 4th, 1897. He performs the test thus. The patient fasts for twelve hours and is then given a glass of milk, two eggs, and a sandwich of minced meat. The leucocytes are counted immediately before or after the meal and again three or four hours later. An increase of less than 2000 per millimetre is not considered sufficient to establish the existence of this form of leucocytosis since allowance must be made for errors. If an increase of from 1000 to 2000 is found the result is considered doubtful and the test is repeated. In a series of seventeen cases of cancer of the stomach leucocytosis during digestion was observed only twice. Comparing the most constant signs of gastric cancer with this he found that tumour was absent in four cases, hydrochloric acid was present in four, and lactic acid was absent in four. Thus leucocytosis proved the most reliable test. On the other hand, on applying the test in cases of other diseases he found that digestion leucocytosis was present in three cases of gastric ulcer and in two of cancer of other organs—liver and adrenals. It was absent, however, in three out of five cases of chronic gastric catarrh. This test, therefore, though apparently as reliable as the hydrochloric acid, is like the latter fallible both on the positive and negative sides.

THE POST OF DIRECTOR-GENERAL OF THE NAVAL MEDICAL SERVICE.

WE understand that Sir James N. Dick, K.C.B., who last month completed ten years' service as Director-General, is to retire at the end of the financial year and will be succeeded by Inspector-General Sir H. Norbury, K.C.B.

THE DEATH OF DR. MALCOMSON.

WE deeply regret to learn the sudden death of Dr. Malcomson, medical officer of health of Middlesbrough. The work involved in the occurrence of over 700 cases of small-pox during the last few weeks had seriously undermined his strength and there is reason to believe that it has been the cause of his death. The Corporation have at once secured a temporary health officer, and Dr. Reece, of the Local Government Board, has returned to Middlesbrough in view of the intelligence received from that borough.

A MEDICAL MAN AND HIS UNQUALIFIED ASSISTANT FINED FOR NOT NOTIFYING.

MR. JAMES RALPH COLLYER and his unqualified assistant, Mr. Wadlow, have each been convicted of non-notification of scarlet fever. The principal was fined in respect of the children of Mr. Ireland, and the assistant in respect of the children of Mrs. Hurrell. The Bench in each case fined the defendants 10*s*. It was alleged in the course of the trial that Mr. Collyer's memory was defective and that he never attended cases alone, but was always accompanied by his assistant. Mr. Wadlow in his evidence said he had been twenty-five years an unqualified assistant and had acted as such in Manchester and other places. In both instances he seems to have diagnosed influenza, the cases being afterwards found by Dr. Jolly to be cases of scarlet fever as shown by peeling and other evidence. The case is interesting in several respects, but chiefly perhaps at the present moment in regard to the *rôle* of the unqualified assistant. It is amazing after the recent action of the General Medical Council to see the unqualified assistant playing the same part and assuming the gravest functions and we may add making the gravest mistakes as if the Council had issued no notice on the subject. Mr. Collyer will doubtless make his own explanation of his position, but as the facts stand they strikingly confirm the allegation of loss of memory on his part.

POISONING BY PRIVET BERRIES.

POISONING by privet is a very rare occurrence; indeed, it is not mentioned by some of the most eminent authorities on poisoning. Cases have, however, from time to time been reported. Thus, in 1853 three children ate some privet berries; two of them died after violent convulsions, and the third recovered. In 1857 thirty-seven children suffered from poisonous symptoms after eating freely of acorns and privet berries. The symptoms were a shrivelled appearance of the hands and face, cyanosis, intense thirst, and sickness; opisthotonos was a marked symptom in each case. All the children recovered. In 1866 a child died thirty-seven days after eating the berries, symptoms of gastro-intestinal irritation continuing more or less throughout. In 1872 two children after eating privet berries were attacked with the following symptoms: drowsiness, convulsive twitchings, loss of muscular power, severe vomiting, and purging. On Feb. 18th an inquest was held at York Town on the body of a female child, aged eight years, who died two days previously after a few hours' illness. On the 16th she complained of pain in the head and stomach. At dinner-time she seemed better, but whilst food was being prepared she gave a cry and became unconscious and death took place before the arrival of a medical man. The child's teeth were tightly closed, her tongue protruding and her hands clenched. At the post-mortem examination the heart, liver, and kidneys were found to be quite healthy. The lungs were congested. The stomach was also much congested with one patch of superficial ulceration about the size of a shilling. The medical men who made the examination were naturally puzzled as to the cause which produced these conditions. On inquiry it was found that the child had eaten privet berries. None of these were found in the stomach, but they had probably been discharged by vomiting. The symptoms were in accord with the previously reported cases to which we have referred and we cordially commend the coroner's remarks that he hoped the evidence as to the privet berries would be a caution to parents as to their danger. Children are very apt to partake of any berries which they may see growing on bushes and it is important that the poisonous nature of many of them should be generally recognised.

SCHOOL BOARDS AND VACCINATION.

THE National Anti-Vaccination League recently sent a letter to the London School Board of which the following is an abstract. The letter was one stating that "the Council desire to call the Board's attention to a grievance of long standing with reference to the exclusion of qualified persons from teaching in the Board's schools; to refer to the condition of vaccination and re-vaccination imposed upon persons well qualified to become teachers of children; to state that this is one of a series of disabilities from which unvaccinated persons suffer in this land of pretended enlightenment and liberalism; to point out that it is often boasted (rightly or wrongly) that civil disabilities are no longer imposed on account of belief or unbelief in religious matters; to say that, however this may be, it is certain that in matters medical there is no such liberty; and that they think that it is high time to protest against the infliction of a disability upon persons merely because they do not wish to submit themselves to be inoculated with cowpox disease, and to urge the Board to oppose the attempted exclusion of teachers, otherwise qualified, on the mere grounds that they have not submitted themselves to the infliction of an artificial disease and refuse to submit themselves thereto." The letter was referred to the School Management Committee, who recommended the Board to reply that "they do not desire that any further conditions as to vaccination beyond those required by the Education Department be imposed upon teachers entering their service and have expressed their desire to the medical officer of the Board." At the meeting of the Board on Feb. 24th this answer was put as a motion, but the Rev. William Hamilton moved an amendment as follows:—

> "That a representation be made to the Committee of Council on Education requesting their lordships to remove the question, 'Has he (or she) been successfully vaccinated?' from the form of certificate prescribed by the Education Department submitted to probationers and pupil teachers at admission and during their engagement."

The amendment was not carried but the motion was. The London School Board has done a good many foolish things, but it is not quite so fatuous as to agree with the so-called "National" Anti-Vaccination League, and we wonder that that body was silly enough to think that its letter would carry any weight. There is a great deal too much fuss made nowadays about conscientious views.

LORD SALISBURY'S ILLNESS.

The following is the history of the illness, happily not serious, from which Lord Salisbury has recently suffered. He took cold in the early part of last week, but continued to work unremittingly till the evening of Feb. 25th, when decided symptoms of influenza appeared, and there was a considerable rise of temperature. At first there was much bronchial irritation, but after two days gastro-hepatic derangement predominated. Lord Salisbury has steadily improved, but his convalescence has been slow in consequence of the excessive work to which he has been subjected. The temperature at the date of the last report was still not quite normal.

CULPABLE CARELESSNESS.

The consequences of neglect are sometimes not less cruel than those of deliberate injury. This is certainly true of a case recently investigated in Bootle police-court, in which two young children were left alone in a room containing a fire while their parents went "shopping." The result was that both children were severely burned, one fatally. This was the second such accident in this family. The coroner, Mr. Brighouse, commented on this deplorable occurrence in terms of appropriate severity and advised that the parents should be brought under the notice of the Liverpool Society for the Prevention of Cruelty to Children. Parental negligence is, unfortunately, not a new offence. It has been reserved, however, for our own time to recognise its criminal character. With regard to this there can in many cases be no difference of opinion. The motive is evidently bad and the act which follows from it is a glaring illegality. Every case, however, is not thus pronounced, otherwise the punishment inflicted would be as severe as frequent. Neglect within the terms of the Act for the Prevention of Cruelty to Children has practically come to be regarded as implying a wilful evasion of duty. The case we have referred to affords no proof of such evasion. It is rather an instance of gross thoughtlessness. Still the result is as bad as it can well be. It might have been prevented with ordinary care which ought to have been used and was not and this assertion amounts to a condemnation. Censure in the coroner's opinion was under these conditions an insufficient corrective unless it was strengthened by some form of legal compulsion. We believe that every person who understands anything of the meaning of responsibility will admit the justice of this view.

ALCOHOLIC SOMNAMBULISM.

In a recent number of the *Neurologisches Centralblatt* a paper by Professor Francotte, of Liége, is given in abstract. The paper originally appeared in the *Journal de Neurologie et d'Hypnologie*, of Brussels, and had special reference to the medico-legal relations of the somnambulism which is met with as a result of alcoholism. Somnambulism regarded as the condition in which during loss of consciousness coördinated actions are carried out of which there is no recollection afterwards, is met with not only in hysteria, epilepsy, and the hypnotic state, but also as a result of alcoholic indulgence. Professor Francotte relates the following case of a man who was arrested for disorderly conduct in a public place. He could not be induced to answer questions or even to speak and appeared to be quite demented. There was no sign of intoxication, but next morning at the medical examination he confessed that at a place far distant from that at which he had been arrested he had imbibed a large quantity of alcohol. He had completely lost recollection of what had occurred during the next forty-eight hours. He confessed to other excesses in alcohol and there was marked tremor of the hands and of the tongue. A sister had been the subject of mental disease. Professor Francotte, after citing several examples, concludes that there is a species of alcoholic somnambulism, in which the patient behaves to all appearance in a normal way but without consciousness, or at least without having any recollection of what he has done. In reality, however, during such a time certain slight peculiarities of conduct are present which may easily escape the observer. The condition manifests itself only in degenerate individuals or at least in those who have inherited some psychical weakness, and as it is one which implies the absence of responsibility, unless it is intentionally induced, it is of great medico-legal importance.

The Ninth International Congress of Hygiene and Demography, under the patronage of H.M. the King Alfonso XIII. and H.M. the Queen-Regent, will, as we have already announced, be held at Madrid from April 10th to 17th. Sir Douglas Galton, K.C.B., F.R.S., has been appointed chairman, Professor W. H. Corfield, M.A., M.D. Oxon., hon. treasurer, and Dr. Paul F. Moline, hon. secretary of the British Committee. Official receipts for tickets of membership may be obtained from Professor Corfield, 19, Savile-row, on payment of £1, and the Spanish railway companies will allow 50 per cent. to members of the Congress. All papers must be sent to the Secretary-General, Dr. Amalio Gimeno, by March 15th. Excursions to Spain at low prices have been organised by the Voyages Pratiques de Paris, Rue de Rome.

The Irish Medical Schools' and Graduates' Association will hold its annual dinner on Thursday, March 17th (St. Patrick's Day), at the Café Monico, at 7.15 P.M. A large attendance is expected to meet the principal guest of the evening, Admiral Lord Charles Beresford, C.B., M.P. Mr. P. J. Freyer, 46, Harley-street, W., is honorary secretary of the dinner committee.

At the next meeting of the Incorporated Society of Medical Officers of Health, to be held at the offices of the Board of Works for the St. Giles' district, 197, High Holborn, London, W.C., on Friday, March 11th, at 8 P.M., a paper will be read by Dr. J. Wright Mason on "Secondary Scarlatina and 'Return' Cases."

The report of the Departmental Committee appointed by the Duke of Devonshire to inquire into existing systems for the education of defective and epileptic children has been issued as a Blue-book. The report contains certain points of medical interest to which we shall call attention at an early opportunity.

The Bishop of London, one of the Vice-Presidents, has consented to preside at the annual general meeting of Governors of the Dental Hospital of London to be held at the hospital, Leicester-square, on Thursday, March 17th, at 5.30 P.M.

Mr. Edward Nettleship has given £250 to the Royal London Ophthalmic Hospital for the purpose of providing apparatus and appliances for the laboratory and museum in the new hospital now being built in the City-road.

The Speaker of the House of Commons has promised to take the chair at a dinner at the Hôtel Métropole on April 30th in aid of the building fund of the Royal Westminster Ophthalmic Hospital.

PETROLEUM LAMP ACCIDENTS.

IN accordance with the instructions issued by the Public Control Committee of the London County Council the chief officer, Mr. Alfred Spencer, has issued a further report on the subject of Petroleum Lamp Accidents and their prevention. The report has recently been printed by order of the Public Control Committee. The previous report was issued two years ago and reference was made to it in the report of THE LANCET Analytical and Sanitary Commission on Dangerous Paraffin Lamps which appeared in our columns of Jan. 4th, 1896. It is interesting and instructive to compare the conclusions of Mr. Spencer in the previous report and in the one before us.

In his report printed in 1895 Mr. Spencer, referring to certain experiments, says on page 11 that "the most valuable result is the confirmation of the view that lamps and stoves can without much difficulty or expense be so constructed as to give almost absolute safety *no matter what kind of oil is used*. Several of the lamps experimented with, including some of the cheaper kinds, successfully passed through all the tests and although in most of the lamps which were tested defects in construction were found these defects could in nearly all cases readily be obviated and the lamps be made practically safe. When it is remembered that in these tests the conditions of danger to which a lamp is liable in actual use were exaggerated the conclusion follows *that security from accident is given by a well-constructed lamp*." Further on in his summary of conclusions Mr. Spencer says "that the prohibition by statute of the sale of unsafe lamps would be another means of putting an end to lamp accidents, as both experience and experiment have proved that *mineral oils such as are now in common use can be safely burnt in properly constructed lamps*." In a paragraph which follows he remarks, it is true, that the prohibiting of the sale of unsafe oil, if that be practicable, would be almost immediately successful in stopping the great bulk of lamp accidents and for that reason (that is, because it would take some time to replace unsafe lamps) is preferable. "*The difficulties in the way of effecting this may, however, be insuperable, while there appears to be comparatively little difficulty in regulating the construction of lamps*." Again, on page 7, he says: "Lamp manufacturers must supply the lamps which the public want, and the reason that safe lamps have not been largely made is because there has been little demand for them, the public attaching much greater importance to the appearance of a lamp than to its safety. I am convinced that many lamp manufacturers would welcome the prohibition of dangerous lamps; they can make safe ones just as readily, and they recognise that the cessation of lamp accidents would increase the demand for lamps. The question of the loss in connexion with dangerous lamps already made and unsold is a more difficult one, but many of them could be made safe at small expense."

Referring now to the evidence placed at the disposal of the Select Committee of the House of Commons which was appointed to inquire into and report upon the sufficiency of the law relating to the keeping, selling, using, and conveying of petroleum and other inflammable liquids, and the precautions to be adopted for the prevention of accidents with petroleum lamps, Mr. Spencer in a summary of this evidence endeavours in his recent report (page 12) to indicate some of the views of the principal scientific witnesses on the question of raising the flash point and he now thinks that "a perusal of the large mass of evidence on this subject would leave the impression on an impartial observer that *raising the flash point would be the best way of preventing lamp accidents*." (The italics all through are our own.) Consequently in the conclusions in his recent report Mr. Spencer is led to say that "the evidence is conclusive that if the higher flash point (100° F.) had been retained very few of the long series of fatal and other lamp accidents in London and elsewhere could have occurred." The mistake has arisen, he considers, by the adoption in the Act of 1879 of a flash point of 73° F. as applied to the safety of oil during transport, handling and storage rather than to the oil while burning in the lamps. In this conclusion he may be right, but why did he fail to point this out in his report two years ago in which he very distinctly states that oil of 73° F. flash point could be burnt with safety in a properly constructed lamp?

The question is whether legislation can more effectually and conveniently deal with the construction of lamps or with the quality of the oil. In both cases considerable difficulties must arise. For instance, in the former case lamps of unsafe construction would take some time to eliminate from our midst, while there is considerable doubt as to whether a substitute of equal merit, convenience, and cost could be obtained in oil flashing at 100° F. or a higher point. The majority of the lamps now in use are certainly not constructed to burn oil of a high flash point. The wick soon cakes and a most disagreeable smell is evolved. It would appear, therefore, that whichever course be adopted the construction of the millions of lamps now in use will have to be modified. In that case no argument can be urged, it seems to us, more in favour of raising the flash point of oil than of enforcing the employment of specially constructed lamps. We are inclined to the view that lamps constructed on safe lines—that is to say, which will burn oil of 73 °F. flash point satisfactorily—is the only practicable course for legislation to adopt. We are convinced, as Mr. Spencer was but apparently is not now, that lamps can be so constructed as to burn oil of 73° F. flash point quite safely. It must be remembered that lamps are in use by a very great number of the community who can afford to use well-designed lamps and yet, notwithstanding all the accidents that are reported, few if any have been shown to occur in these instances. We lay great stress upon this fact because it is the evidence of experience. However closely we may consult the statistics of lamp accidents we cannot find any serious accidents having occurred in houses where lamps of good design are likely to be employed, and it must be borne in mind that the great middle class are large consumers of oil.

We must still await a definite pronouncement upon these points and the difficulty of coming to a right conclusion is evident from the fact that a Select Committee of the House of Commons which was appointed to inquire into the subject early in the session of 1896 has not yet concluded its labours.

THE LONDON UNIVERSITY COMMISSION BILL.

THE BILL.

THIS Bill is entitled "An Act to make further provision with respect to the University of London." The first clause enacts that there shall be a body of Commissioners styled the University of London Commissioners.

This clause also provides for the appointment of a secretary to the Commissioners and of new Commissioners in case of a vacancy occurring. Under it powers are given to the Commissioners to employ and pay persons whose services are required to carry out the Act.

The second clause fixes the duration and proceedings of the Commissioners, whose powers shall continue until the end of 1898. The Privy Council on the application of the Commissioners can prolong the powers until the end of 1899, but no longer.

The third clause defines the powers and duties of the Commissioners as follows:—

1. The Commissioners shall make statutes and regulations for the University of London in general accordance with the scheme of the report hereinbefore referred to, but subject to the modifications specified or indicated in Part I. of the schedule to this Act, and to any other modifications which may appear to them expedient after considering the changes which have taken place in London education of a university type since the date of the said report and any representations made to them by or on behalf of the Senate or Convocation or any fifty graduates of the University of London, or by or on behalf of any body or person affected.

2. In framing such statutes and regulations the Commissioners shall see that provision is made for securing adequately the various matters specified or indicated in Part II. of the schedule to this Act.

3. The statutes or regulations, whether they are made by the Commissioners or by the Senate as hereinafter provided, shall not authorise the assignment of money for any purpose in respect of which any privilege is granted or disability imposed on account of religious belief. Provided that they shall not prevent the University from allocating funds, on such conditions as it thinks fit, for the payment of any person appointed or recognised by the University as a University teacher, or for his laboratory expenses, or for apparatus to be used by

him, notwithstanding any conditions attached to any office held by him in any school of the University.

4. Statutes and regulations made under this Act shall have effect notwithstanding anything in any Act of Parliament, charter, deed, or other instrument.

The fourth clause provides for the approval of any statutes and regulations made by the Commissioners. When any statute or regulation has been made by the Commissioners a notice of its having been made and of the place where copies of it can be obtained is to be published in the *London Gazette* and the statute or regulation shall be laid as soon as may be before both Houses of Parliament and shall not be valid until it has been approved by the Queen in Council.

Either House of Parliament may stay proceedings on any statute or regulation by praying the Queen to withhold her assent within forty days of the statute or regulation being laid before that House; while "the Senate or the Convocation of the University of London or any other person or body directly affected by any such statute or regulation may, within three months after the notification thereof in the *London Gazette*, petition Her Majesty in Council to withhold her approval of the whole or any part thereof." The Privy Council will decide on the merit of such petitions.

By the fifth clause, after the expiration of the powers of the Commissioners, the senate of the University shall have power to make statutes and regulations for altering or supplementing any of the statutes or regulations made by the Commissioners subject to the same conditions of approval as prevailed for the statutes and regulations of the Commissioners.

The Act is to be cited as the University of London Act, 1898.

THE SCHEDULE.

The following is the schedule which is referred to in the third clause of the Bill as modifying in some directions the report of Lord Cowper's Commission, in general accordance with which the new scheme has been constructed:—

PART I.

Provisions to which effect is to be given.

In framing statutes and regulations the Commissioners shall give effect to the following provisions:—

The Senate.

1. The Senate shall consist of the Chancellor and of fifty-five other members, appointed as follows:

Four by the Crown.

Seventeen by the Convocation, of whom the chairman of Convocation shall be one and the remaining sixteen shall be elected by the registered graduates in their separate faculties in such proportions as the Statutory Commission shall determine.

Two each by the Royal Colleges of Physicians and Surgeons.

Four by the Inns of Court and two by the Incorporated Law Society.

Two each by University and King's Colleges.

One by the Corporation of London.

Two by the London County Council.

One by the Council of the City and Guilds of London Institute.

Sixteen by the faculties.

2. The Senate shall be the supreme governing body and executive of the University. All University property shall be administered by the Senate and (except as hereinafter specified) the Senate shall have the entire conduct of the University and all its affairs and functions provided always that—

(*a*) No religious test shall be adopted and no applicant for a University appointment shall be at any disadvantage on the ground of religious opinions.

(*b*) No procedure to a higher degree shall be allowed without examination or other adequate test, nor shall any honorary or *ad eundem* degree be conferred unless the Senate in exceptional cases think fit to confer such a degree on a teacher of the University.

(*c*) No disability shall be imposed on the ground of sex.

3. There shall be three standing committees of the Senate—

(1) The Academic Council, being a committee for internal students of the University.

(2) The Council for External Students, being a committee for those students of the University, whether collegiate or non-collegiate, who are not internal students of the University.

(3) A standing board to promote the extension of University teaching.

The Chancellor, the Vice-Chancellor, and the Chairman of Convocation shall be *ex-officio* members of all the above committees.

The functions of these three committees shall be advisory.

The Academic Council.

4. This Committee shall consist of the sixteen members of the Senate appointed by the faculties, the three *ex-officio* members, and a senator or senators selected by the Senate to make the number of members up to twenty.

The Council for External Students.

5. This Committee shall consist of the sixteen members of the Senate appointed by Convocation, other than the Chairman of Convocation, the three *ex-officio* members, and senators elected by the Senate to make the number of members up to twenty-eight.

The Board to Promote the Extension of University Teaching.

6. This committee shall consist of the three *ex-officio* members and senators elected by the Senate.

The Convocation.

7. Convocation shall include, in addition to those members specified in the said report, future graduates possessing a degree higher than that of Bachelor.

Teachers of the University.

8. The teachers of the University shall be—

(*a*) Professors, assistant professors, readers, and lecturers directly appointed as officers of the University; and

(*b*) Members of the teaching staffs of public educational institutions situate within a radius of thirty miles from the University buildings who have been recognised as teachers of the University.

The Commissioners shall determine who are in the first instance to be recognised as teachers of the University.

Internal Students.

9. Internal students of the University are students who have matriculated at the University and who are pursuing a course of study approved by the University in a school or schools of the University or under one or more of the recognised teachers of the University.

Faculties.

10. The Commissioners shall determine in the first instance what the faculties are to be and what teachers are to be members of the respective faculties.

The number and distribution of the faculties may be altered from time to time by the Senate.

The faculties will consist of:

(1) The professors, assistant professors, readers, and lecturers appointed by the University; and

(2) Such other teachers of the University as may be admitted to a faculty from time to time by the Senate.

Members will be assigned to their respective faculties by the Senate and no person shall be eligible to vote in an election in more than one faculty at the same time.

Board of Studies.

11. Boards of studies shall be constituted for the subjects of University study.

The members of each board of studies shall be appointed by the Senate from—

(*a*) Members of a faculty who teach or examine in the board's subjects.

(*b*) Other teachers of the University who teach the board's subjects.

The Senate may also appoint such other persons, not exceeding one-fourth of the total number of the board, as they may think fit.

Adequate representation on each board shall be secured for teachers of the University not belonging to any school of the University.

A teacher of the University may be assigned to more than one board.

Examinations.

12. Unless the Senate, either generally by regulation or as to a particular subject by order, otherwise, determine, separate examinations shall be held for internal and external students respectively and each certificate and diploma shall state whether the candidate has passed as an internal or as an external student; but the degrees conferred

shall represent the same standard of knowledge and attainments. Internal students shall be admissible to the examinations for external students if they prefer to graduate on those terms. The draft of any such regulation shall be communicated to Convocation.

In all examinations the Senate shall if practicable appoint in each subject at least one examiner who is not a teacher of the University.

PART II.

Matters for which Provision must be made.

1. The adequate protection of the interests of all classes of students, whether external or internal, collegiate or non-collegiate.

2 The recognition as teachers of the University of duly qualified teachers and lecturers, giving instruction of a university type in public educational institutions situate within a radius of thirty miles from the University buildings, whether such institutions be schools of the University or not.

3. The inclusion under proper regulations as internal students of the University of students who have matriculated at the University, and who are pursuing a course of study approved by the University under one or more of the recognised teachers of the University.

4. The due representation on the Senate and the Academic Council of all subjects of study and all sections of teachers of the University.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE thirteenth meeting of the Royal Commissioners was held in committee room A at the House of Lords on Monday, Feb. 28th.

The whole of the sitting was occupied by the examination of Mr. W. H. Dickinson, chairman of the Water Committee of the London County Council, who handed to the Commissioners a long "confidential report" which formed the basis of his examination. The time was taken up chiefly in the elucidation of the policy of the London County Council with regard to the water-supply, and it was seen that this was modified according to the composition of that body, which was subject to change as the result of a new election. A large number of papers were put in and of these some were not read *in extenso*.

Mr. DICKINSON stated that he had been chairman of the Water Committee of the London County Council for three years. In the year 1889 the Council had no power to promote Bills in Parliament. In the year 1890 the Council communicated with the water companies to inquire if they were prepared to negotiate as to the sale of their undertakings, and investigations were made as to the sources of supply with a view to learning if they were adequate in quantity and good in quality. A communication was made to Lord Salisbury with regard to the water-supply and it was announced that a Royal Commission would be appointed to inquire into the matter. Lord Balfour was appointed chairman and the ultimate result of the inquiry was the issue of the report which is usually called by his name. In the year 1891 the Corporation of the City of London promoted a Bill which was referred to a committee presided over by Sir Matthew White Ridley. The report given by this committee made six important recommendations, which were as follows:—

1. That powers should be granted to the London County Council to expend such further sums as may be reasonably necessary, in order that they may examine thoroughly for themselves, as the responsible municipal authority of London, the whole position of the metropolitan water-supply, and come to a conclusion as to the policy which, for financial and other reasons, it is desirable to adopt.

2. That, if they shou'd so resolve, they should have power to promote a Bill or Bills in Parliament for the purpose of constituting themselves the responsible water authority for London, acting through a statutory committee, appointed either wholly by themselves or partly in conjunction with the Corporation of the City of London, as suggested to your committee on behalf of both bodies. Such statutory committee to comprise a certain number of members possessing special knowledge and qualifications, not necessarily members of the body or bodies appointing.

3. That the London County Council, if constituted the water authority, should be required to purchase, either alone or in conjunction with such of the authorities of the outside areas as may be arranged, the undertakings of the eight water companies (except possibly certain lands of the New River Company) by agreement, or, failing agreement, by arbitration, within a fixed period.

4. That, subject to any such arrangements, the new water authority should take over the duties and obligations which the present water companies now have towards the consumers of water in the districts outside the boundaries of the county of London but within the limits of supply of the present companies.

5. That in the event of purchase by the new authority power should be given to that authority, and to the authorities of the outside areas, to negotiate for the purchase by the latter (*a*) of so much of the works of distribution as is appropriated to the district of such local authority and of the right to a supply of water in bulk from the new authority; or (*b*) possibly of some of the sources of supply which with their works of distribution it might be found practicable and advantageous to sever from the general scheme.

6. That those local authorities which, like Croydon, Richmond, and Tottenham, are situated within the metropolitan water area but have their own independent water-supply should, in the event of the purchase of the water companies by the new water authority, be guaranteed in the exercise of their present rights.

The London County Council of that time were of opinion that the recommendations numbered respectively 1, 2, 4, and 5 were in accordance with their views, but they could not accept the recommendation numbered 3. In any scheme of purchase it appeared to them that the legal position of the water companies should be carefully investigated and that purchase should not take place simply in accordance with Stock Exchange quotations. Sir Thomas Farrer (now Lord Farrer) made a report in which he gave it as his opinion that it would not be worth while to buy the undertakings of the companies at the price of £30,000,000 and then to spend from £10,000,000 to £20,000,000 more for a fresh water-supply, and the London County Council were unwilling to accept the condition that they should purchase these undertakings by agreement or arbitration within a fixed period. Mr. Dickinson pointed out that since 1880 a large capital outlay had been made by the companies on pumping arrangements, filter-beds, mains, and on the extension of reservoirs. The funds for doing this had to be provided by the companies and the outlay had not led to a corresponding increase of income.

In answer to the CHAIRMAN the witness said that there were difficulties in estimating the actual money value of the properties of the water companies and that an arbitrator would not find the matter an easy one. With regard to the amount of dividends paid the overcharges which had been made by the companies before the decision in the case of Mr. Dobbs made a considerable difference to their incomes, and with regard to other charges it might be proved also that the consumers paid too much. In the case of the water-supply there was no legal monopoly possessed by any company and the Council did not think that it would be well to buy the concerns of the companies on ordinary arbitration terms. A Bill was introduced by the London County Council to prevent the water companies from increasing their charges when the London property was revalued. This Bill was supported by twelve metropolitan members, but it was blocked and did not pass.

The witness was examined with reference to a memorandum which he had written in 1894, and which had been printed for the use of members of the London County Council to guide them in adopting a wise policy. He thought that now this memorandum did not carry much weight, but the CHAIRMAN considered it of value and read some of the conclusions to which the witness had then come. In the memorandum Mr. Dickinson said that a sufficient amount of water was not to be found under London, and that the Thames was a source of danger in its polluted state. For the requirements of the future the part round London, the "outer ring," was likely to increase in population at a much higher rate than London itself, and would therefore require a larger proportional increase of water. The London County Council therefore should not incur the risk of buying the undertakings of the companies, it would be better to leave them to carry out their obligations for the present and not take them over before the year 1931 and then the supply should be taken over at the price of the actual value of the materials and plant.

Major-General SCOTT asked witness if he now expected to get the water companies for a less sum than £30,000,000.

Mr. DICKINSON was not willing to give an answer on this point and the CHAIRMAN said he had purposely avoided any such question. In the purchase of the companies the witness thought that an arbitrator should receive special directions as to the questions he should take into consideration in estimating the value of the water businesses. The adequacy of the supply, the condition of the plant, and the powers possessed by the companies should also be taken into account and also the fact that when some of the companies were started they were permitted to do so in order that competition between rival undertakings would lead to a reduction of the price charged for water.

Mr. CRIPPS, Q C., was not aware that there had been at any time actual competition between the different water companies. He did not think that they could now be compelled to undersell one another.

Mr. LE BOCK PORTER asked whether water consumers could not compel the Southwark and Vauxhall Water Company to supply them with water if they lived in the district of that company.

Mr. DICKINSON pointed out that in the case of Battersea if the West Middlesex Water Company carried out their statutory power and supplied that part of the metropolitan area the charges paid by the consumers would be smaller than they are at present. The witness stated that in his opinion in arbitration cases customs had grown up which were not applicable to the purchase of such undertakings as the London water companies and it was on this account that he thought it was necessary that an arbitrator should have special instructions given him with regard to the things which he should take into account in his estimate of the value of the various undertakings. He did not think that the supply of water from the Thames and Lee would be permanently satisfactory with regard either to the quantity or quality, and that it would therefore be better to obtain a supply from some pure source from which it would flow by gravitation to London. The water of polluted rivers was capable of conveying the infection of cholera. The Usk and Llangorse districts would form good sources of supply.

In answer to the Chairman, Mr. DICKINSON said that he did not think that the London County Council could carry out this scheme independently of purchasing the present water undertakings, and he agreed with Mr. Cripps in thinking that it would not be possible to pass a Bill to enable them to obtain a supply from Wales unless at the same time the present undertakings were purchased. In 1897 Sir B. Baker and Mr. Deacon were employed to make an examination of the scheme which Sir Alexander Binnie had planned and they made a favourable report of it. The London County Council had expressed their views on the future water-supply of London in the following resolutions:—"1. That it is in the interests of London that the requisite augmentation to its supplies of water to meet the needs that may ultimately be felt should be derived from some source other than the rivers Thames and Lee. 2. That the valleys of the Usk, the Wye, and Towy, with their tributaries, furnish a suitable area from some part of which supplies might be derived. 3. That the Usk and Llangorse section of the Welsh scheme should be undertaken in the first instance."

The next meeting will take place on Monday, March 7th. The place of meeting has not at present been arranged.

THE DIAGNOSIS OF GONORRHŒA.

A CASE involving an unusual point was heard on Feb. 25th in the Probate, Divorce, and Admiralty Division of the High Court of Justice before the President, Sir F. Jeune. It was a petition by a wife for a decree *nisi* for a divorce on the ground of adultery and cruelty. The husband answered denying the allegations, but the case was originally taken as undefended and a decree *nisi* pronounced. A rehearing was granted on the ground of surprise and the evidence was now taken *de novo*.

On behalf of the petitioner the adultery and cruelty were sought to be proved by calling two medical men who had attended the parties and who pronounced both to be suffering from gonorrhœa. Mr. Purdie, who was the first practitioner consulted by the husband, stated that he had been suffering at least ten days when he came to him. He had no doubt that it was gonorrhœa, though he did not use a microscope. He agreed that the true character of the disease could only be determined microscopically, but the existence of a microbe had not been distinctly proved and experts were divided in opinion with regard to it. In cross-examination he said that urethritis was an inflammation of the urethra the treatment for which was the same as for gonorrhœa. It might be induced by connexion with a woman who was not cleanly or who was suffering from leucorrhœa. The microscope was the only mode of distinguishing between the two diseases.

Mr. Claremont, who examined the respondent some days after Mr. Purdie, said that he was then suffering from gonorrhœa in an acute stage. Witness had no doubt it was caused by contagion. When witness told respondent that he was suffering from gonorrhœa he denied it. Cross-examined, he said that the question of the origin of gonorrhœa *de novo* was quite unsettled. It was more contagious than simple urethritis. The latter frequently arose from contact with a woman suffering from leucorrhœa. The symptoms of urethritis and gonorrhœa were more or less the same. Except for the amount of the inflammation and the amount of the discharge there was no external difference in the symptoms of gonorrhœa and urethritis.

The respondent, a man aged sixty-five years, denied on oath the adultery and stated that he became unwell a few days after having had connexion with his wife. The petitioner was sixty-three years of age, and during the whole time of his married life (a few months) he had had intercourse with her on two occasions only and his illness followed directly afterwards. He did not suspect his wife's chastity, but he believed that without having the gonorrhœa she gave him the disease from which he suffered. Medical evidence was then called to disprove the allegation that the respondent was suffering from gonorrhœa.

Dr. W. A. Dingle said that from the appearances of a patient, as well as by going into the history of the case, it might be possible in ordinary cases to say whether he was suffering from gonorrhœa, but there was no absolute certainty without microscopical examination. The microscope would show whether or not the microbe of gonorrhœa was present. Urethritis might be produced by having connexion with a woman suffering from leucorrhœa. He believed also that the simple act of connexion in an old man who had not had sexual intercourse for some years and who had taken nourishing food prior to so having connexion might produce urethritis.

Mr. de Mério, surgeon to the French Hospital, deposed that he treated about 100 patients a week for gonorrhœa. He did not think that any medical man could speak with certainty as to the existence of gonorrhœa without microscopical examination to discover the presence of the bacillus of the disease. Leucorrhœa in women would set up urethritis in men, the symptoms of which were similar to gonorrhœa.

The President: What is the difference between the symptoms of the two diseases?

Mr. de Mério said that in gonorrhœa there was much more inflammation and discharge and it was much thicker. In urethritis the discharge was much less thick nor was it coloured green and yellow as in gonorrhœa. He saw the respondent after he was cured and from his replies he came to the conclusion that he had not suffered from gonorrhœa.

The President, in giving judgment, said it was necessary for the petitioner to make out that the disease from which she and the respondent suffered was of a venereal character. The evidence which had been given did not show conclusively that the disease from which the respondent suffered was gonorrhœa. Without wishing to blame Mr. Claremont he regretted that he did not take steps to ascertain more clearly that the respondent was suffering from gonorrhœa, although of course at that time no one thought the determination of the question of vital importance; the conduct of the respondent was moreover inconsistent with that of a guilty man. He dismissed the petition with costs against the wife, she having separate estate.

ST. JOHN AMBULANCE ASSOCIATION: HOME HYGIENE.

A DEPUTATION of the honorary surgeons of the Metropolitan Corps of the St. John Ambulance Brigade, headed by Mr. Osborn, the chief surgeon, waited upon Sir Herbert Perrott, the chief secretary of the St. John Ambulance Association, on Feb. 18th, with reference to the circular on Home Hygiene recently issued by the Central Executive Committee of the Association.

The deputation was introduced by Colonel BOWDLER, the

Deputy Commissioner. and the objections to the circular were stated by Mr. OSBORN, Dr. BLACK JONES, and Mr. HOWARD.

The CHIEF SECRETARY, in reply, said that he was very pleased to meet the deputation of the honorary surgeons, as it afforded an opportunity for talking things over. With regard to the scheme itself it was brought forward in the first instance by a medical man and had received the approval of the medical men on the Central Executive Committee; in fact, that part of the scheme referring to the special lecturers and the elementary certificates was drawn up by the medical sub-committee. He did not know whether it would be taken up by laymen or not, but he did not expect that in the first year there would be more special lecturers appointed than could be counted on the two hands. Home hygiene was now required to be taught in the evening continuation schools and it was thought that there would not be sufficient medical men who would give lectures at the small fee. He could positively assure the deputation that the committee would never allow lay lecturers in first aid and nursing. He would ask Dr. Jones to lay his technical objections before him in writing so that he could put them before the Central Executive Committee. He was also certain that medical lecturers would be preferred to lay lecturers. The standard of examination lay entirely with the Examining Board and he was certain that it would be a most thorough test.

THE BATTLE OF THE CLUBS.[1]

FRIENDLY SOCIETIES AND THEIR MEDICAL OFFICERS: A CLEAR PRONOUNCEMENT.

IN the issue of the *Friendly Societies Recorder* for Feb. 19th is a sound and sensible article by Dr. C. E. Baddeley, of Newport, Salop, on the Relation of Friendly Societies to their Medical Officers. We desire to congratulate the editorial management of the *Recorder* on the fairness that has prompted the publication of the paper. Dr. Baddeley discusses and answers the question, What amount of work and expense the reasonable demands of a friendly society entail upon its medical officer? Of course he says there will be great differences depending upon whether the district is a scattered one or not. A medical man's fees are not all clear profit, for the following expenses have always to be met: (1) dispensary and surgery, with rates, taxes, lighting, firing, water, &c., although sometimes these are provided by the society; (2) a dispenser, unless the medical officer is allowed regular hours at the dispensary; (3) drugs, bottles, and sundries; (4) instruments; and (5) professional assistance and payment of a locum tenens in case of absence. Of course, the majority of medical men have to incur these expenses for the carrying on of their profession whether they are the medical officers of a friendly society or not, but they have to be paid for before any real profit is arrived at, so the friendly society ought to bear its share in lessening the taxes on profits. Another item of expense, and that a very heavy one in a scattered district, is horseflesh or other means of locomotion. Dr. Baddeley calculates the expenses as at the very least £100 per annum.

Next comes the question of pay. Taking as a basis the return of the Registrar of Friendly Societies Dr. Baddeley comes to the conclusion that at least 3 per cent. per annum are constantly sick. Suppose that these three require seeing every third day it amounts to the same thing as seeing 1 per cent. every day. In a society of 500 members on this basis five will require to be seen every day. Every member contributes 4*s.* per annum—i.e., the 500 members pay in all £100. Therefore, the society has £100 to spend in a year—i.e., practically 5*s.* 6*d.* per diem; and 5*s.* 6*d.* per diem for seeing five patients a day comes to a trifle over 1*s.* per visit. This would be the sum received even if the whole of the fees were paid over to the medical officer, but there must always be some deduction for the working expenses of the society, although this may be a small item. It is argued that the law of supply and demand comes in and that if one medical man will not do this work for this pay there can always be found another who will. Unfortunately this is too true, but the work may be well done or badly done. Friendly societies should be willing to pay a fair price for a good article and in Dr. Baddeley's opinion a society may very well consider the element of quality in estimating the commercial value of a medical officer.

Dr. Baddeley next considers the question of sufficient remuneration and concludes that for the medical officer to get even the smallest profit members ought to pay 5*s.* per annum. He arrives at this sum in the following way:—

> "Let us for a moment consider an ideal friendly society (such as does not exist) where all the members are located in a number of adjacent streets, where everyone is a member, and pays 5*s.* per annum as his or her medical contribution, and the medical officer dwells in their midst. How many members will be required to give the medical officer a reasonable profit for his work and how much work will he have to do daily for such a number? I am assuming now that the medical officer provides dispensary, &c. The figures I am now going to put down, it will be obvious to all, are too low, but I take round numbers as easy of calculation and sufficient to point a moral.

"Preliminary expenses—	£	*s.*	*d.*
"Dispensary rent £25, rates £2 10*s.*, taxes £1, fire £1, water £1	30	10	0
Dispenser (indoor)	75	0	0
Drugs £20, bottles and corks £10	30	0	0
Sundries	10	0	0
Surgical and medical appliances	10	0	0
Professional assistance, &c.	10	0	0
"Total	£165	10	0

> "To meet such a demand the contributions of 662 members would be required and there is no provision made for house rent, taxes, &c., for the medical officer. Assuming these to amount to the modest sum of £50 an additional 200 members are required to provide it."

Travelling expenses will be at the very least £10 per annum, this meaning another 40 members, making 902 members in all, to provide for working expenses. But then the medical officer must have some small income for clothing, food, and the like; putting this at the very modest sum of £200 per annum this will require another 800 members. So that for a man to earn a clear profit of £200 a year by doing very hard work and after spending five years of time and £1000 in money he must have 1702 possible patients to be responsible for. On the 1 per cent. per diem basis he will have to pay seventeen visits a day, and taking fifteen minutes a visit, which includes the time taken up in getting from one patient to another, he will work four and a quarter hours per diem. Allow one hour for meals during working hours and the total is five and a quarter hours. Then, too, he is liable to be called upon at any hour of the day or night. True, if the numbers of members increase the income increases too; but so does the work, and even if we take Dr. Baddeley's impossibly favourable combination of circumstances the medical man may attain an income of £450 per annum for an eight hours' day, but this eight hours will be spread over every hour of the day and night.

Dr. Baddeley next proceeds to answer the question—Why can a man always be found to take work of this kind?—and gives the following reasons: (1) ignorance; (2) to fill up gaps in his private practice, which is commercially unsound; (3) to obtain an introduction to people who may eventually become private patients; and (4) to keep out another practitioner. This Dr. Baddeley considers is not only against commercial morality but is also commercially unsound. Dr. Baddeley hopes for an arrangement on a mutually satisfactory basis to be arrived at. Certainly his excellent paper goes some way towards clearing the ground for such, but we fear that the class of persons belonging to friendly societies do not as a rule recognise the responsible and arduous nature of a medical man's work. As we have said before we are quite certain that no single man who belongs to a friendly society would undertake to look after the drains, lighting and plumbing of a house, to say nothing of 1702 houses, and to run the chance of being dragged out of his bed any and perhaps every night for the remuneration of a penny a week per house, he to find his own tools and material, and why should a medical man be expected to look after people's bodies, which are more complicated structures than a house, for the same sum?

THE BATTERSEA PROVIDENT DISPENSARY.

Canon Erskine Clarke, the president of this dispensary, sends us a copy of the report for 1897, which report, in the opinion of the committee, shows a very satisfactory state of affairs in that the number of members entered on the books during the year exhibits an increase over that of any previous year. The dispensary appears to be doing good work upon lines that should benefit the poor without cheating the medical man. *O si sic omnes!* Of £3244 spent £80 was placed to the credit of the Reserve Fund, £406 was spent on Drugs and Instruments, £116 on Domestic and Establishment charges, £187 on Rents, and £224 on Official Salaries. £1536 were paid to the Medical Officers (not including £293 as Confinement Fees) and £563 to the Dispensers. We have disregarded shillings and sundry small items in this abstract from the receipt and expenditure account for the year. The rules for benefit members only recognise two classes of beneficiaries—a class whose average weekly income is under 30*s.* and a class whose average weekly income is under 50*s.*—so that in a manner a wage-limit is imposed. All contributions to the funds of the institution derived from weekly payments are distributed annually among the medical officers after the current expenses have been defrayed and these current charges form, in our opinion, but a moderate percentage of the expenditure.

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[1] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from THE LANCET Office, price 1*s.*

THE MANCHESTER AND SALFORD UNITED FRIENDLY SOCIETIES' COUNCIL.

This body, which met recently in Manchester, would seem to possess among its component delegates gentlemen who do not share the views of Dr. Baddeley as to the remuneration of the medical officers of medical aid societies and we are certain that to work *under* these persons would be a very different thing for a practitioner from working *with* Canon Erskine Clarke and his committee. Brother J. B. Hargreaves, a Rechabite, maintained, we learn from the *Manchester Courier*, that the medical officers were well paid and that "the friendly societies had greatly assisted them to build up their practices," forgetting that the resignations of medical officers as soon as they can get something better to do can hardly be adduced as proofs of the enjoyable nature of the appointment given up. Brother Matley said, in contradiction of Mr. Hargreaves's assertion that the medical officers were well paid, that "his doctor remarked to him that the fees paid did not exactly pay him, but the money was sure." Brother Pedder suggested that the term medical *service* should be substituted for medical *aid*, as he considered that medical men were paid for the services they rendered and "if they said not, let them advance their reasons." We refer Mr. Pedder to Dr. Baddeley's article as well as to many articles in our own columns. He need not remain in ignorance of the legitimate objections of the medical profession to medical aid associations one minute longer than he chooses.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL INSPECTORS OF THE LOCAL GOVERNMENT BOARD.

Upon an Outbreak of Enteric Fever at Wadebridge, in the Rural District of St. Columb Major; upon the Sanitary Condition of the Place; and upon Administration by the St. Columb Major Rural District Council, by Dr. G. S. BUCHANAN.[1]—Wadebridge is a small town on the River Camel, some six miles above its mouth at Padstow on the north coast of Cornwall. In the autumn of 1897 this town, which with the village of Egloshayle on the opposite side of the Camel has a population of about 2000, suffered heavily from enteric fever. No fewer than fifty cases and nine deaths occurred in Wadebridge and Egloshayle, while elsewhere several cases, some of which were fatal, appear to have been due to infection contracted in Wadebridge. The severity of the outbreak was still more manifest when the distribution of the houses invaded by fever came to be studied. Dr. Buchanan found as a result of house-to-house inquiry that in a locality in Wadebridge which he terms the "Trevanson-street area," comprising a group of thirty-seven dwellings, fever had occurred in as many as twenty-two, whereas in the rest of Wadebridge and Egloshayle only eleven out of some 480 dwellings had been invaded. The distribution of these dwellings and the number of cases in each are illustrated in a map which accompanies the report. Dr. Buchanan attributes this heavy incidence of fever within "Trevanson-street area" to specific contamination of the ground water which is drawn from the four wells situate close to one another within this area. The principal reasons for this conclusion were three. Firstly, there was negative evidence which tended to exclude any wholesale operation of agencies of infection other than water, and on the other hand there was positive evidence that the area of supply of these four wells coincided with the area severely affected. Secondly, in all but four instances each of the fifty persons attacked was ascertained either to have been living within the Trevanson-street area or to have drunk water from one or other of the Trevanson-street group of wells at the date or dates on which infection was presumably contracted. Thirdly, within the Trevanson-street area only fifteen houses escaped fever. Of these, the inhabitants in three instances were old people who might be considered unlikely to contract the disease; the occupants of other two dwellings always boiled their water; while in seven other dwellings which escaped the occupiers had obtained all drinking-water from wells outside Trevanson-street area altogether. The opportunities of contamination of water supplied by these four wells seem to have been numerous. Dr. Buchanan shows that infection of this water shortly antecedent to and during the first weeks of the outbreak may well have been occasioned by direct soakage of sewage from a rubble drain which passes near each of the wells and which during this period was receiving infectious matters from a water-closet in a house where one of the earliest cases of fever occurred. And in any case, it would appear, the soil which is drained by these wells was so befouled that the enteric fever organism, once introduced, must needs have found abundant opportunities of multiplying therein.

The history of the sanitary administration of Wadebridge by the local authority of the place, the St. Columb Major rural district council, is one of gross neglect. From the facts given in this report it seems open to doubt whether this district council performs any sanitary duties whatever. In this district there is no notification of infectious diseases, there is no isolation hospital, there are no by-laws and no adoptive acts are in force. In the case of Wadebridge, which there appears no reason to consider the only part of the St. Columb district in which sanitary matters are neglected, there is no public water supply, notwithstanding the known unwholesomeness of nearly every well in the town; the sewers are mere rubble drains soaking into the rock wherein the wells of the place are sunk; and there is no system of public scavenging. All these and other unwholesome conditions have been allowed to persist despite the repeated advice of an able medical officer of health and despite numerous representations made for years by the Local Government Board and by the Cornwall County Council. A conspicuous instance of indifference to the public health of the district is afforded by the refusal of this council to entertain the question of giving Wadebridge a wholesome public water-service even when residents in the town had been to the trouble and expense of drawing up a detailed scheme for such a supply and of obtaining expert opinion upon its purity and sufficiency. Fortunately for Wadebridge it appears likely that this town, in combination with the adjacent village of Egloshayle, will shortly become a separate urban district and its inhabitants will then have an opportunity of inaugurating the extensive series of sanitary works which the neglect of the present authority has made necessary. That the new council should select "the best men available to fill the offices of medical officer of health, surveyor, and inspector of nuisances" seems very essential. It would be surprising if Wadebridge ratepayers did not resent the loss of the money which in the past has been given to the St. Columb Major rural district council under the name of "sanitary rate." Nevertheless, when they have the sanitary administration of the town in their own hands we may hope that they will not be found to grudge the expense of securing for their district that wholesomeness which at present it so conspicuously lacks.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Chesterfield Urban District.—This district, which possesses, according to a recent School Board census, a population of 24,493, yielded during 1897 an infantile mortality of no less than 220 per 1000 births, a result due in the main to diarrhœal diseases. But this heavy death-toll has not been without its redeeming features, as it seems that the spirit of philanthropy has been instrumental in providing a lady adviser, as she may not inaptly be termed, whose duty it is to visit all houses in which births have taken place and there to give advice on infant feeding and on domestic hygiene. Dr. Meredith Richards, in referring to this matter, observes that while ignorance and foolishness are rampant there is little evidence of wilful neglect. There were 59 cases, with 10 deaths, of enteric fever during 1897, and although suspicion attached in one case to shellfish from Cleethorpes and in another to mussels Dr. Richards regards the pollution of the soil by privy-middens and personal infection as the most probable causes of this prevalence of the disease in Chesterfield. One case of enteric fever to which reference is made illustrates well what obvious limitations there must be to the information to be derived from notification. A patient presenting apparently some ill-defined symptoms developed general peritonitis, and on a post-mortem examination being made it was clear that the man in question had been suffering from enteric fever for some three weeks previously. He had been working up to within ten days of his death and he only took to his bed on the day preceding this event. Had this man not had perforation it is not improbable that the fact of his having suffered from enteric fever would have escaped notice. Surely in our etiological investigations we must leave a margin for the undiscovered and we must not allow ourselves to believe that a spot map of the notified cases tells us all the story. Another instance of the relative value of notification as it is at present carried out is furnished in Dr. Richards's report. Through the agency of the school attendance officer the medical officer of health was made aware of 64 absentees, and, on visiting these, 25 cases of scarlet fever were discovered. Probably but few of these cases would have been notified through the ordinary channels. We may refer, too, to certain cases of diphtheria as teaching a somewhat similar lesson. Two cases of this disease occurred among the infants attending a certain class in one of the schools. Dr. Richards forthwith examined the throats of all the children in this class; three children had slightly abnormal throats, but none of them complained of indisposition. As a result of bacteriological examination diphtheria bacilli were found in one of the throats, and the child being excluded from the class no further cases occurred. It would have been interesting could all the throats have been examined, as it is not unlikely that the bacillus would have been found in throats other than those presenting a slightly abnormal appearance. It is true, however, as Dr. Richards observes, that bacteriological examination is of the greatest value in circumstances such as these where children have been exposed to the risks of specific infection.

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[1] London: Eyre and Spottiswoode, East Harding-street, E.C.; John Menzies and Co., Edinburgh and Glasgow; Hodges, Figgis, and Co., Dublin. 1898. Price 9d.

Cardiff Urban District.—Dr. Edward Walford has recently presented to his sanitary authority a concise report on the use of antiseptics in food, with reference more particularly to boric acid. After briefly discussing the powers conferred by the Sale of Food and Drugs Act and the difficulties encountered in its application, Dr. Walford points out that as much as from 15 to 30 grains of this drug may be consumed per diem by a bottle-fed baby if it is true, as is alleged, that a solution of 1 in 1000 of boric acid is required to keep milk sweet for forty hours; and this amount is, as he observes, much in excess of the maximum dose for infants. Dr. Walford also quotes Mr. C. E. Cassal, F.I.C., to the effect that an infant taking a quart of milk per diem may absorb as much as 28 grains of boric acid, and it is in connexion with infants that Dr. Walford sees the greatest risk from the use of antiseptics in food, the infant being as it were continuously dosed with by no means minute quantities of the preparation, whatever it may be. In the compilation of the report under notice much use has been made of "THE LANCET Special Commission on the Use of Antiseptics in Food," which appeared in our issue of Jan. 2nd, 1897; but the author has also addressed a circular letter to the medical officers of health and the clerks of the thirty-three large towns, with a view to ascertaining what action other sanitary authorities have taken. Out of ninety replies which Dr. Walford has received only three state that proceedings have been taken. Two convictions were obtained at Birmingham in cases where there were respectively no less than 60 and 65 grains of boric acid per gallon of milk, and the Monmouthshire and Glamorganshire County Councils have also instituted proceedings. As was shown in our Special Commission there is a scarcity of evidence as to the precise effects upon health of boric acid in food, but it is by no means unlikely that this absence of evidence is due in no small degree to the fact that the subject has not in the past received adequate attention; and it may be observed that according to the Select Committee of the House of Commons, which reported upon this subject in 1896, the sale of articles to which antiseptics have been added is prohibited in France, Germany, Italy, Spain, Brazil, and the Argentine Republic. Whether the example of these countries should or should not be followed in its entirety, there would appear to be a nearly unanimous opinion that when antiseptics are used the nature and amount of such substances should be distinctly set forth by the vendor and there should be little difficulty in carrying this opinion into effect. It appears to us that the Medical Department of the Local Government Board might usefully make this subject a matter for one of their scientific investigations.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6568 births and 4500 deaths were registered during the week ending Feb. 26th. The annual rate of mortality in these towns, which had been 20·7 and 20·4 per 1000 in the two preceding weeks, rose again last week to 20·9. In London the rate was 21·9 per 1000, while it averaged 20·3 in the thirty-two provincial towns. The lowest rates in these towns were 12·6 in Croydon, 12·9 in Derby, 14·5 in Bradford, and 15·8 in Oldham; the highest rates were 24·7 in Liverpool, 25·1 in Gateshead, 26·0 in Bolton, and 30·2 in Wolverhampton. The 4500 deaths included 504 which were referred to the principal zymotic diseases, against 497 and 464 in the two preceding weeks; of these, 217 resulted from measles, 112 from whooping-cough, 69 from diphtheria, 38 from "fever" (principally enteric), 34 from scarlet fever, and 34 from diarrhœa. No death from any of these diseases was recorded last week in Plymouth; in the other towns they caused the lowest death-rates in Portsmouth, Preston, Norwich, and Halifax, and the highest rates in Gateshead, Birkenhead, Bristol, and Leicester. The greatest mortality from measles occurred in London, Wolverhampton, Brighton, Birkenhead, Bristol, and Leicester; and from whooping-cough in Newcastle-upon-Tyne, Bolton and Gateshead. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 69 deaths from diphtheria included 46 in London, 5 in Cardiff, and 3 in Liverpool. No fatal case of small-pox was registered during last week either in London or in any other of the thirty-three large towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2674, against 2964, 2871, and 2781 on the three preceding Saturdays; 199 new cases were admitted during the week, against 209, 232, and 233 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 468 and 438 in the two preceding weeks, further declined to 416 last week, and were 124 below the corrected average. The causes of 52, or 1·6 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Leicester, Bradford, Leeds, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Huddersfield, and Newcastle-upon-Tyne.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the four preceding weeks from 17·4 to 20·4 per 1000, further rose to 20·5 during the week ending Feb. 26th, but was slightly below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 14·5 in Greenock and 17·4 in Dundee to 30·3 in Paisley and 37·4 in Perth. The 619 deaths in these towns included 20 which were referred to whooping-cough, 17 to diarrhœa, 16 to measles, 10 to scarlet fever, 6 to "fever," and 3 to diphtheria. In all, 72 deaths resulted from these principal zymotic diseases, against 72 and 90 in the two preceding weeks. These 72 deaths were equal to an annual rate of

2·4 per 1000, which slightly exceeded the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 21 and 25 in the two preceding weeks, declined to 20 last week, of which 11 occurred in Glasgow, 4 in Edinburgh, and 4 in Greenock. The 16 deaths referred to measles showed a slight further increase upon recent weekly numbers, and included 14 in Glasgow and 2 in Edinburgh. The fatal cases of scarlet fever, which had been 6 and 12 in the two preceding weeks, declined again to 10 last week, of which 7 occurred in Glasgow, and 2 in Perth. The 6 deaths referred to different forms of "fever" exceeded by 3 the number in the preceding week and included 5 in Glasgow; and of the 3 fatal cases of diphtheria 2 were recorded in Edinburgh. The deaths from diseases of the respiratory organs in these towns, which had been 126 and 91 in the two preceding weeks, rose again to 117 last week, but were less than half the number recorded in the corresponding period of last year. The causes of 34, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 34·9 and 28·5 per 1000 in the two preceding weeks, rose again to 31·2 during the week ending Feb. 28th. During the past eight weeks of the current quarter the death-rate in the city has averaged 31·5 per 1000, the rate during the same period being 22·1 in London and 18·8 in Edinburgh. The 209 deaths registered in Dublin during the week under notice showed an increase of 18 upon the number in the preceding week, and included 9 which were referred to the principal zymotic diseases, against 17 and 11 in the two preceding weeks; of these, 4 resulted from diphtheria, 4 from "fever," and 1 from diarrhœa, but not one either from small-pox, measles, scarlet fever, or whooping-cough. These 9 deaths were equal to an annual rate of 1·3 per 1000, the zymotic death-rate during the same period being 2·7 in London and 1·4 in Edinburgh. The fatal cases of diphtheria, which had been 2 and 1 in the two preceding weeks, rose again to 4 last week. The deaths referred to different forms of "fever," which had been 7 and 4 in the two preceding weeks, were again 4 last week. The 209 deaths registered in Dublin last week included 27 of infants under one year of age, and 73 of persons aged upwards of sixty years; the deaths of infants showed a slight further decline from those recorded in recent weeks, while those of elderly persons showed a considerable further increase. Eight inquest cases and 6 deaths from violence were registered; and 91, or more than a third, of the deaths occurred in public institutions. The causes of 10, or nearly 5 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

THE under-mentioned Staff-Surgeons have been placed on the Retired List of their rank: Robert McIvor, M.D.R.U.I., and George Joseph Fogerty.

The following appointments are notified: Staff-Surgeon Vidal G. Thorpe to the *Northampton*. Surgeons: George T. Broatch to the *Wallaroo* and Edward H. M. Sherry to the *Royal Arthur*, additional.

ARMY MEDICAL STAFF.

Surgeon-Captain McFoley assumes Medical Charge of troops at Scarborough, vice Brigade-Surgeon H. Knaggs placed on sick list.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Surgeon-Major Baker (Bombay), Residency Surgeon and *ex officio* Assistant to the Political Resident in Turkish Arabia, on furlough, are replaced at the disposal of the Government of Bombay. Surgeon-Major Magrath, A.M.S., is appointed to hold collateral charge of the Civil Surgeoncy at Sewebo, vice Surgeon-Major Lloyd, V.C. Surgeon-Lieutenant-Colonel Hormasji Masani (Bombay), has been permitted by the Secretary of State for India to retire from the service, subject to Her Majesty's approval.

VOLUNTEER CORPS.

Artillery: 4th Lancashire: Surgeon-Lieutenant J. C. M. Given, M.D. Lond., to be Surgeon-Captain. *Rifle:* 2nd Volunteer Battalion the Duke of Cornwall's Light Infantry: John Cawful Mackay, M.D. St. And., to be Surgeon-Lieutenant. 4th (Stirlingshire) Volunteer Battalion Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Major M. Benny, M.D. Edin , to be Surgeon-Lieutenant-Colonel.

THE HEALTH OF THE EUROPEAN TROOPS IN WESTERN AFRICA.

According to the Army Medical Report for 1896 the average strength of the non-commissioned officers and men serving in Western Africa was only 53, but there were 165 admissions to hospital, equal to a ratio of 3113·2 per 1000, which exceeds the corresponding rate in the previous year by 369·0. Of the admissions 102 were for remittent fever and 2 for dysentery. There were 3 deaths (including 2 invalids who died after leaving the command), 2 from remittent fever, and 1 from dysentery. The average strength of the officers was 26 and there were 63 cases of illness, including 39 of remittent fever, 3 of ague, and 4 of debility, the ratio, 2423 1 per 1000, being above that recorded for the preceding year by 152 8. There were no deaths, but 9 officers were invalided, 6 on account of remittent fever, 2 for debility, and 1 for boils.

THE DEBATE ON THE ARMY ESTIMATES.

Considering the times in which we are living and with the wars and rumours of wars which greet us daily in the newspapers it was not very opportune for Mr. Labouchere to back up his amendment to reduce the army by urging that the Government was asking for a war army in time of peace, although he coupled it with an expression of his opinion that their policy of expanding the empire was leading to conscription. Whatever may be the case as regards the fighting part of the army members of the medical services have everywhere been pretty fully occupied of late and the sooner an accession is made to their strength the better.

The epidemic of measles on board the cadet training ship *Britannia* at Dartmouth still continues. Three shore hospitals have been established.

Correspondence.

"Audi alteram partem."

"TRANSMISSION OF SYPHILIS TO THE THIRD GENERATION."

To the Editors of THE LANCET.

SIRS,—I quite agree with Dr. Shaw-Mackenzie (*vide* THE LANCET, Jan. 29th) that "Fergusson's theory to be fully appreciated should be read in its entirety," but I cannot acquiesce in his opinion that Fergusson's observations are in any way "conclusive." On the contrary, it seems to me that Fergusson, so far from proving that the attenuation of syphilis in Portugal was due to the hereditary transmission of immunity, has not even proved that such attenuation existed. His assertion that syphilis in Portugal had become exhausted rests upon two points of personal observation:

1. *That the disease in its primary state is curable in Portugal without mercury.* It is hardly necessary to remark that it is the internal administration of mercury that is meant here. Such a statement, made at a time when no distinction was drawn between soft and hard sores, must be valueless. It is well known that even syphilitic primary lesions heal without the use of mercury, and Fergusson by an indiscriminate use of mercury debarred himself from observing the natural course of the disease. From his own words, moreover, it is clear that the malignancy which the primary lesion in Portugal exhibited in the Portuguese as well as in the British was due to phagedæna. The ulcers that made him "shudder to look at" frequently resulted in the "most melancholy of all mutilations." That phagedæna was curable in the Portuguese without mercury is not surprising; that it was not so in the British is a mere

surmise of Fergusson. He says: "I need scarcely say that this new organisation of disease in the stranger cannot be combated by such means as the natives employ to cure themselves. They would be utterly insignificant and ...... mercury offers the only chance of salvation." This "new" organisation does not differ from the "old" one in the nature of the primary lesion. But that the ordinary —i.e., non-mercurial—means "would be" insignificant in the British soldier is a mere conjecture. Every English soldier had to be treated by his regimental surgeon, who in his turn had to carry out Fergusson's "general order enjoining the use of mercury" in cases of venereal sores whether syphilitic or not. Therefore the course which these malignant sores would have taken in the British soldier without mercury must necessarily remain unknown. Where the indiscriminate use of mercury is made compulsory conclusions as to its curative effect are impossible. Only one case is given in detail of a British soldier affected with a chancre which was contracted in Portugal. It clearly shows to what extent his interpretation of cases was biassed, not only by the erroneous opinions of his time, but by his own preconceived ideas. An officer has "four days after connexion the whole penis enormously swelled, of a deep red colour, malignant ugly chancres on *different* parts of the prepuce and *two* on the glans penis, the appearance of which I can compare to nothing but the holes made by a rusty nail in a piece of mahogany or logwood. The catastrophe if left to nature, ere mercury was in fact at hand, or a few doses of bark, wine, and opium *would have* inevitably sealed his fate; but I caused him to be copiously blooded, applied the coldest acetous lotions to the part, purged him most freely with neutral salts, and enjoined every part of the antiphlogistic regimen ...... in a few days all the sores were in a state of the healthiest suppuration." This patient evidently suffered from soft, multiple, phagedænic sores appearing four days after connexion. He had not syphilis—as far as the history of the case goes—and the administration of mercury which was dictated by "the patient's fears" and Fergusson's "responsibility" was unnecessary. Fergusson being a staunch believer in the all-conquering power of mercury in all sorts of venereal sores was prevented from making the experience which the Portuguese surgeons probably had made already—viz., that many venereal sores heal quite as well, if not better, without mercury. Fergusson's indignation about some medical officers belonging to the "German regiments of our service" who "pertinaciously, even officially, refused to prescribe mercury, asserting that it was not necessary to the cure," contains a strong element of the humorous. "Such alarming conduct, as being referable only to the most brutal ignorance, of course met with no quarter." If this attempt at insubordination was made in the treatment of chancres, as in all probability it was—in particular of such chancres as the one described above — there is method in this "most brutal ignorance" from which I am afraid the German medical men of to-day have not yet emerged and into which most of *us* have relapsed. At the time when I studied at the Universities of Würzburg and Vienna German medicine had in many respects grown out of this state of savagery. Still, most surgeons, and that in districts like Vienna where syphilis was not in a dying condition, would have refused "pertinaciously, even officially," to give mercury in the case of a chancre unless it was indurated and accompanied by indolent hard glands, and even in these latter cases the overwhelming majority of them would have waited for the appearance of general symptoms before the internal administration of mercury. On this latter point difference of opinion still exists, but in cases like that of the officer which has been given above—and it is to such cases that Fergusson's observations chiefly refer—most men would, then as now, have been guilty of the "alarming conduct" which Fergusson describes, even to disobeying their senior officer and incurring the risk of martial law. Altogether the utterances of this meritorious military surgeon are more remarkable for military determination than for medical discrimination. Still more remarkable is the pathological conclusion which he draws from this "brutal ignorance" and about which he has "no doubt"—viz., that in the "districts where they (these German surgeons) were bred, the disease ...... had become as weak as the syphilis of Portugal, and their experience had never opened to them a more extensive field." Argumentation of this kind is out of reach of reasonable discussion. "Another fact," Fergusson continues, "which at the time I could not comprehend, would appear to corroborate this. The venereal disease in some districts of the Russian Empire prevails to a shocking degree amongst the peasantry. ...... It happened to me to visit ...... Moscow ...... when the Prince Gallitsin was choosing a surgeon to an hospital ...... for syphilitic patients. The contest ran high between the advocates for, and opposers of, mercury." All I can gather from this communication is that the "contest between the advocates for and opposers of mercury" may "run high"—i.e., that the same so-called ignorance may exist where "venereal disease prevails to a shocking degree" and that therefore the conclusion drawn from that "ignorance" in German surgeons on the attenuation of syphilis in certain districts of Germany is reduced *ad absurdum* by Fergusson himself. I may add that no such self-exhaustion of syphilis has ever been observed in any part of Germany as far as I have been able to ascertain from reliable sources. The second piece of observation upon which Fergusson's statement rests is:

2. *That the anti-syphilitic woods, combined with sudorifics, are an adequate remedy for constitutional symptoms, the quantity of mercury being always insignificant and often altogether omitted.* Apart from bone affections, in which the Portuguese also gave mercury, the only constitutional symptom to which this observation of Fergusson relates is the throat affection, and we are told that the Portuguese "attack it topically with mercurial apozems or stimulating mercurial gargles." The throat affections referred to by Fergusson are those by which the "disease shows itself when the constitution is tainted"—i.e., secondary symptoms which, like all secondaries, are characterised by a tendency to spontaneous resolution. That they will disappear under local mercurial applications combined with anti-syphilitic woods and sudorifics and that they frequently disappear without any treatment and within a remarkably short time is an observation so frequently made everywhere, and so often corroborated by the most confirmed mercurialists, that it cannot be adduced as a characteristic feature of attenuated syphilis. With regard to bone lesions we are told that "dreadful examples of exfoliations and loss of parts sometimes occur," but that they "by no means constitute a large proportion of the affected"—a somewhat vague statement. But all estimates as to the frequency of tertiary symptoms must be fallacious, unless the distinction between syphilitic and other sores is clearly drawn. To this it may be objected that as the distinction was not made with regard to the English, the relative scarcity of tertiaries in the Portuguese compared with the frequency of venereal sores has still to be accounted for. But the relative scarcity—in itself badly enough established—is easily explained by the prevalence of soft, in particular of phagedænic soft sores, amongst the Portuguese. For the correctness of this explanation Fergusson's own declarations furnish ample proof.

I therefore maintain that the observation that phagedænic soft chancres which Fergusson was in the habit of "curing" by mercury could be cured without this drug—that this observation was misinterpreted by him as *attenuation* of syphilis while the proper conclusion would have been that there are many venereal sores which require no treatment by mercury and are not followed by general symptoms. If Fergusson's observations do not prove that syphilis in his time existed in Portugal in an attenuated form it is idle to discuss whether this would-be attenuation has to be explained by hereditary immunity or by "other causes," of which Fergusson admits at least three—viz., "respective organisation," which he "allows to be good as far as it goes," "climate," and "mode of life," which latter, as regards the English is always "incautious and frequently intemperate." In this respect I have nothing to add to what I have already said in the third part of my paper on the "Transmission of Syphilis to the Third Generation"—viz., that the hereditary transmission of syphilitic immunity is a remote possibility and that the attenuation of syphilis, whenever it takes place, is effected by the improvement in hygienic, preventive, and therapeutic measures. In the same way the so-called malignancy of syphilis amongst the poor Russian Jews has to be attributed rather to the misery and insanitary conditions in which they live than to the "virginity of the soil." This latter explanation is given by Epstein; it is rejected by Neisser, and *not* adopted by him as Dr. Shaw-Mackenzie seems to believe. Lesser, recently referring to a further example of endemic syphilis (in the Marshall Islands), remarks that in endemic syphilis sexual intercourse plays only a subordinate part as the means of propagation, that in fact syphilis ceases to be a sexual disease. But this only happens in isolated, secluded, and uncivilised parts of the world. With the growth and spread of civilisation the frequency of extra-genital infection declines. The attenuation of syphilis is well accounted for in the words of Joh. Benedictus: "Ratio est in promptu, quia homines nunc sibi melius cavent ab infectis, vel quia medici docti melius cognoscunt nunc causam morbi, et melius applicant remedia quam tempore anteacto."

I am, Sirs, yours faithfully,

Welbeck-street, W., Feb. 7th, 1898. GEORGE OGILVIE.

"CHARGES TO PATIENTS IN ISOLATION HOSPITALS."

To the Editors of THE LANCET.

SIRS,—Your annotation in THE LANCET of Feb. 26th criticising my paper on "Charges to Patients in Isolation Hospitals" is to me most interesting and novel. At a time like this when there are very few local authorities who do not reckon an isolation hospital as one of their assets it is of the highest importance that this question should be thoroughly thrashed out. May I therefore add a little to my side of the case? My statement that the isolation hospital is the property of the ratepayers is termed "misleading." I confess that I am at a loss to see how this can be so, broadly speaking, for in a short time the ratepayers of this borough will probably be called upon to pay a rate of threepence in the pound according to the rateable value of their dwelling-houses, &c., for isolation hospital purposes. About one penny of this rate will pay off a portion of the principal and interest on money borrowed for the erection of the hospital and twopence will go to pay the current expenses of maintenance of the nursing staff, patients, &c. For a period of thirty years the ratepayers will go on paying their penny in the pound and for as long as the hospital lasts—providing the law remains the same—they will continue to maintain the staff, &c. On these counts I maintain that, broadly speaking always, the isolation hospital is quite as much the property of the ratepayers as are the public parks, public buildings, streets, sewers, and so on. I am one of those who think that it encourages a healthy public spirit to let the public know that such things are their property.

A much more serious statement on the part of your critic, however, is that the public should prove fitness for admission to such hospitals and especially their inability to secure isolation at home. Plainly and shortly I regard this as an inversion of the best way of looking at this question. The cases in which isolation at home can be carried out are extremely few — very much fewer than those who have not had experience of attempts to carry it out would perhaps credit. Even when it is apparently being carried out with every rigour and precaution there is always the danger of some emergency—nay, some domestic triviality even—occurring which undoes in a few moments the efforts of many weeks. I cannot call to mind more than one or two cases in an experience of about six years where even in large houses I could honestly say that efficient isolation had been carried out. The *inability* to secure isolation at home, to me at least, therefore would require but little proof, but experience has taught me to demand detailed and practical proof of the ability to provide and maintain it.

The whole question under discussion turns on this—that the individual is removed to an isolation hospital much more for the good of his immediate neighbours and of the community at large than for his own personal good. He is "unclean," and therefore for the good of the community, "He shall dwell alone; without the camp shall his habitation be."

In conclusion I would like to point out that though there may be a very remote possibility of this procedure I am advocating leading a few degenerate individuals into a state of demoralisation and encouraging pauperism there is another side even to that. As Professor Wynter Blyth pointed out in his address to the Sanitary Institute Congress in 1896, many individuals who have been well and properly treated in isolation hospitals would probably, if treated or allowed to remain in their homes, have been added to the chronic invalids of the population and would drift gradually into poverty and then into pauperism. Is it not better to pay a few pence more for the maintenance of an isolation hospital and keep up the health and working capital of our country than to pay those same few pence for the maintenance of the useless "flotsam and jetsam" population of our workhouses? I apologise for the length of my letter, offering as my only excuse the great importance of the subject. I hope some others of your readers will give us their ideas. Thanking you in anticipation for your insertion of my letter,

I am, Sirs, yours faithfully,

MEREDITH YOUNG, M.D. Edin., D.P.H. Vict.

Crewe, March 1st, 1898.

*** We are happy to print Dr. Meredith Young's letter, but we remain of our former opinion. A ratepayer cannot (to reduce the matter to a logical absurdity) elect to take his meals whenever he likes in the workhouse.—ED. L.

THE DUTIES OF THE PRESIDENT OF THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—I find that some misunderstanding prevails in reference to Mr. Carter's statements that the President of the General Medical Council ought not to have been approached by myself (since Dec. 22nd, 1897) on questions affecting the business of the General Medical Council and that he is disabled by illness from attending to the same. Permit me to point out that these statements are contrary to the fact.

In the first place, as regards the President's inability to deal with matters laid before him, it is the fact that he retains the business of the Council in his hands, that the Registrar takes his instructions from him, and that quite lately, in response to a request that he would summon a committee appointed to recover if possible certain moneys due to the Council and wrongfully impounded by the police, he (the President) wrote me under date Feb. 15th, 1898, a letter couched in forcible and undesirable terms. The profession must clearly understand that so long as a President of the General Medical Council retains office the sole power of convening certain committees and dealing with urgent business rests with him and him only. That I have been obliged to apply to him for these objects is the inexorable effect of the Standing Orders and his retention of office. If Mr. Carter's statement were true, then to prevent the public business of the Council stagnating for six months it would of course be necessary for the President to resign an office the duties of which he could not fulfil.

I am, Sirs, yours faithfully,

Cavendish-square, Feb. 28th, 1898. VICTOR HORSLEY.

THE UNIVERSITY OF LONDON COMMISSION BILL.

To the Editors of THE LANCET.

SIRS,—I shall be extremely obliged if you will publish the annexed copy of resolution of the Court of Assistants in THE LANCET and which has not been previously forwarded for the following reasons: the omission of the Society from the Senate has come as a surprise, the Lord President having intimated that he would fully consider the question, and it being generally understood that the Royal Colleges and the main body of medical teachers throughout the metropolis are favourable to their inclusion.

I am, Sirs, yours faithfully,

March 1st, 1898. JAMES R. UPTON.

Resolution passed at a Court of Assistants of the Society of Apothecaries held on Feb. 8th, 1898:—

That the Society of Apothecaries of London having considered the provisions of the London University Commission Bill of 1897 are of opinion that the omission of the Society from the Senate of the proposed University, thereby taking away the place assigned to the Society by the report of the Cowper Commission, is eminently unsatisfactory and that the Bill unless amended in this respect will fail to meet the requirements of medical education in London.

"THE REGISTRATION OF MIDWIVES BILL."

To the Editors of THE LANCET.

SIRS,—Although I am of opinion that legislation is necessary to protect the poor from the results of ignorance on the part of midwives, yet I think the present Bill should be stoutly opposed and for the following reasons:—1. Because it will not prevent unregistered women from acting in the capacity of midwives. 2. Because it does not prohibit midwives registered under the Act from assuming the title of Licentiate in Midwifery. 3. Because the proposed constitution of the Midwives Board is objectionable from every practitioner's point of view—that is to say, it will be a body with the constitution of which the general practitioners of this country will have no voice. We cannot for one moment allow the two Royal Colleges and the Society of Apothecaries to exercise powers of nomination, neither can we see the necessity of giving so much representation to the Privy Council. 4. Because the provision made for the local supervision of midwives is impracticable. How in the name of common-sense is a medical officer of health of a large town to exercise supervision over all midwives practising in it?

It is clearly manifest that if we are to oppose this Bill we must without delay, both individually and collectively, appeal to our representatives in Parliament. And, further, I think we should take opportunities of making known our views in the lay press. I am, Sirs, yours faithfully,

Cardiff, Feb. 26th, 1898. T. GARRETT HORDER.

To the Editors of THE LANCET.

SIRS,—Without any desire to cavil with Mr. Humphreys there is one expression in his letter to which I beg to take exception. It runs thus: "Is it not, however, for those who disagree with its provisions to put their views clearly before Parliament and to leave the question to its decision rather than to incur the responsibility of causing further delay in a matter in which delay means the sacrifice of many lives and exposure to much unnecessary suffering?" Now, Sirs, at the outside the scheme of registration is clearly an experimental process and Mr. Humphreys is begging the whole question by stating that the delay implies the sacrifice of lives as there is not a particle of evidence in support of such a statement. It is no doubt the fact that a melancholy death takes place occasionally in the hands of an untrained midwife, but that these are exceedingly rare every practical man knows, and it is surely difficult to conceive how any Parliamentary measure, however skilfully tinkered up, which revolutionises obstetric practice by offering a premium on quackery can in the long run compensate for the loss of a life here and there under the present system; and, indeed, if there is any assumption with regard to the delay of legislation, to my way of thinking, it is on the score of the longer the delay the better.

I am, Sirs, yours faithfully,

Peckham, Feb. 26th, 1898. CLEMENT H. SERS.

‘NOSTRUMS.”

To the Editors of THE LANCET.

SIRS,—While such differences of opinion are held by distinguished members of the medical profession anxious to promote the best interests of the profession as to the meaning of the present Medical Act there can be but little hope of getting a new Medical Act passed. It will surely take an absolute unanimity of object and opinion in our profession to bring about such a result. Both the disputants, however, are agreed that the sale of "nostrums" and patent medicines as at present permitted is a gross evil; with this opinion every medical man in the kingdom will agree, so that upon this subject at least we have unanimity. Is it not possible, therefore, to bring pressure to bear upon the Legislature to deal with this question?

I had the pleasure when addressing the students at St. Mary's Hospital in 1896 of dealing with this subject. In proposing a vote of thanks Sir William Broadbent suggested as a partial remedy that each nostrum should have printed upon the bottle the ingredients and the exact quantities of the drugs. May I make a suggestion—viz., that the Presidents of all the medical corporations and societies should in the name of their respective bodies approach the Board of Trade as a deputation urging such remedies for the existing state of things as they in their wisdom may arrive at after deliberate consultation?

I am, Sirs, your obedient servant,

Feb. 27th, 1898. MORTON SMALE.

P.S.—I will with pleasure send a copy of my address to anybody who would care to have it.

"DEATHS WITHOUT OBVIOUS CAUSES."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 19th you published an annotation bearing the above title. I met with such a case a short time ago. A woman, aged forty-five years, was admitted to the Belfast Royal Hospital on Feb. 5th suffering from a varicose ulcer on the left leg just above the ankle. The ulcer was progressing favourably under treatment, but on the 13th the patient suddenly felt an attack of slight dyspnoea with pain at the heart; this lasted for about thirty seconds when she expressed herself as feeling quite well; in ten minutes she was again seized with the same symptoms and died inside a minute. On a most careful post-mortem examination made by Dr. Lorrain Smith, lecturer on pathology, Queen's College, Belfast, no cause for death could be discovered. There were no signs of phlebitis nor could any traces of clot in the pulmonary vessels be found and all the organs were in a healthy condition. During the week the patient was in hospital she appeared to be a very healthy woman and she was kept at absolute rest in bed till she died.—I am, Sirs, yours faithfully,

ALEX. MONTGOMERY, M.B. R.U.I.,
Feb. 28th, 1898. Resident Surgeon Belfast Royal Hospital.

TOTAL ABSTINENCE IN ASYLUMS.

To the Editors of THE LANCET.

SIRS,—The annual meeting of German alienists took place last September in Hanover and I beg leave to call the attention of THE LANCET to two subjects which cannot fail to interest the English medical profession.

1. This meeting after an exhaustive discourse by Professor Jolly, of Berlin, and on the motion of the learned professor, passed unanimously a resolution directed principally against a criticism contrary to facts on the part of the Reichstag in January, 1897, having reference to the actual condition of German asylums. This resolution is as follows: "This meeting concurs in the proposal adopted at the sitting of the Reichstag for regulating in conformity with the laws of the empire the supervision [illegible] lunatic asylums. But this meeting considers it a duty to point out once more that the most important reform consists in the establishment of independent boards of supervision directly subordinate to the minister and at the head of which stands a specialist occupying that post at headquarters."

2. The subject of alcohol in lunatic asylums was exhaustively discussed by Professor Hoppe, of Allenberg, who concluded his discourse by expressing the opinion that alcohol should not only be kept out of the reach of drunkards by establishing in asylums a so-called drunkards' department but should be kept altogether out of asylums, milk or lemonade being substituted for it. "If alcoholists," contended Professor Hoppe, "were not to be allowed to have alcohol then the other patients should also not be allowed to have it, as otherwise it would be impossible to make alcoholists practise total abstinence."

The greater portion of the alienists present were in favour of Professor Hoppe's views; and some of these alienists, amongst others Professor Forel, of Burgboelzli, and Professor Mooli, of Berlin, have already introduced the system of total abstinence into the respective asylums of which they are the medical superintendents.

I am, Sirs, yours faithfully,

Villach, Feb. 24th, 1898. DIRECTOR SCHLANGENHAUSEN.

THE TREATMENT OF BURNS AND OTHER SURFACE WOUNDS.

To the Editors of THE LANCET.

SIRS,—The surface wounds of a lower animal, such as a dog, heal as a rule very much better than those of a man, particularly when the former has not and the latter has the advantage of experienced surgical aid. I do not know that a dog has a like advantage as regards deep wounds such as those caused by a bullet, a lance, or a sword. Certainly I think that a man deeply wounded and tended by a surgeon has a better chance of speedy recovery than a dog with a similar wound that receives no skilled aid; but not so in the case of superficial wounds. As regards deep wounds, even if the man receives no skilled aid and if his tissues have not been poisoned by alcohol, he yet recovers as quickly as the dog, as witness Turks and Afridis wounded on the battlefield. Apparently, therefore, the human being is not less capable of speedy recovery than the brute. Why, then, his slow convalescence from superficial wounds? I think the explanation is to be sought in the mistaken efforts of the surgeon.

When a dog receives a superficial wound—such as a burn or a scald—he merely licks and keeps it clean; when a surgeon has charge of a man similarly hurt he places on it a variety of surgical dressings. But if we insert a piece of the best of surgical dressings under the skin violent inflammation ensues. Usually we have suppuration, which continues till the foreign body is voided in the discharges. At the best inflammation leads to encystment. But when the skin is destroyed, as in the case of a burn, to these very subcutaneous or subcuticular tissues, which are so intolerant of foreign bodies, we are in the habit of applying foreign bodies—i e., surgical dressings. Surely no more unscientific procedure can well be conceived. Is it not evident that in this particular the dog is our superior in surgical science and that, like him, we should strive to keep the wounds under our care free from foreign bodies—discharges, bacteria, surgical dressings, &c.? Is it not abundantly evident that when superficial wounds heal in man, particularly civilised man, they do so not in consequence of but in spite of the aid given him by helpers, professional or otherwise?

In view of these considerations I venture to place before the profession a method of treating surface wounds so simple and obvious that I think it must have been tried before, though I cannot lay hands on any authority. It is possible, however, since I have found this method highly successful, that it is not in general use because some small but essential details may formerly have been omitted. At most it is but a modification of the "open" system. Briefly, I do not place the surgical dressings on the wound but on a light wire cage or support, which thus, while permitting them to afford protection, prevent them acting as foreign bodies. The wire support is easily manufactured. If the wound be on a flat surface—as on the chest—a stout wire of suitable length is bent into such a shape that when placed over the wound it surrounds the latter but rests everywhere on uninjured tissue. On this wire as basis is woven a wide network of lighter wire, so that a shallow dish of wirework shaped somewhat like the wound, but larger, results. If the wound be on a limb a cylinder of similar wirework is made in two longitudinal parts, which are hinged together, so that the cylinder may be easily applied to, or removed from, the limb. The circumference of the shallow dish and the ends of the cylinder are padded by wrapping some soft material—carbolised wool, for instance—round the thick supporting wire. When in place the apparatus may be covered by any dressings the surgeon chooses and it is retained in place by strapping or bandages.

On one detail of the treatment it is necessary to insist with the utmost emphasis, the surface of the wound *must* be kept absolutely clean. It should be gently sponged daily, twice, thrice, or oftener if necessary, with some mild antiseptic fluid such as boracic or weak (1 in 40) carbolic lotion. Otherwise the discharges, coagulating on the surface, form a cake under which pus is retained and which proves in experience more hurtful than any other foreign body. In order as much as possible to prevent the discharges drying and so caking I usually cover the supporting cage with wet lint and the whole with waterproof. If in spite of precautions the lymph does cake it may be softened by soaking in olive oil and then removed.

The advantages claimed for the above method are the following. 1. It is rational, whereas the methods generally in use are pre-eminently irrational. Hitherto our advance in surgical procedure has been in the direction of substituting for irritating applications others less irritating but still harmful. For example, we have substituted antiseptic for septic dressings and one surgeon has for ordinary antiseptic applications substituted metal plates. The present method seeks to abolish altogether the use of foreign bodies as *applications* while retaining them for purposes of protection. 2. The apparatus is very easily made, as may be proved by any one possessed of sufficient wire and a pair of pliers. It is, moreover, easily sterilised by boiling or immersion in an antiseptic fluid. 3. The wound is very quickly, easily, and painlessly dressed. No longer has the wretched patient—and the attendant—to endure the agony accompanying the recurrent stripping of adherent dressings from an inflamed and exquisitely sensitive surface, as, for example, a large burn. 4. The dressing requires no particular skill and therefore this method is especially suitable to the poor when suffering, for example, from varicose ulcers. 5. Wounds heal with a quickness as delightful to the surgeon as to the patient. No longer do superabundant granulations arise; deep ulcers rapidly fill up to the level of the skin; the whole surface takes on a healthy aspect in preparation for the zone of young skin which advances uninterruptedly from all sides till the process is complete; no longer do healed surfaces "break down" as is so commonly the case when dressings are applied directly to the surface; and seldom, so far as I have been able to observe, do thick cicatrices occur, the contraction of which is so frequent a cause of deformity. These thick cicatrices result from the formation of fibrous tissue due, doubtless, in severe cases partly to considerable tissue destruction but more generally to the mere irritation induced by the presence of foreign bodies. They do not occur in deep wounds when there is no great tissue destruction and from which collections of pus and other foreign bodies are from the first absent; and they rarely, if ever, follow the surface wounds of animals, which I have seen of huge size abroad (e.g., the saddle-galls of horses). I take it, in fact, that the formation under dressings of a thick layer of fibrous tissue, or of tissue which subsequently becomes fibrous, is a process of the same order as that by which a foreign substance within the body becomes encysted and is thus separated by a tissue more resistant from others less resistant. 6. The method is almost ideally aseptic. It must be remembered that the bacteria of putrefaction have their habitat not in healthy tissues but in dead organic matter. The living tissues are germicidal. The present method aims at the quick and effectual removal of the nidus; under methods ordinarily pursued the discharges are banked up on the wounds for varying periods and are made antiseptic by poisons which, since they are inimical to the life of the bacteria, must generally be inimical to the life of the tissues. 7. Lastly, the whole treatment is very much less disagreeable than ordinary methods to the patient. The sufferer no longer feels a gradually increasing sensation of heat, pain, and discomfort as the discharges accumulate beneath the sopping dressings, nor does he behold the nauseating mess usually found when the dressings are removed. In the absence of irritation little pus is formed and the exudation is mainly serous.

I have made high claims for this "cage" method of treating surface wounds. But I shall be only too glad if surgeons will submit it to the severest tests possible. Let them, for instance, treat thus old and foul varicose ulcers which have defied all other methods of treatment or wounds which have repeatedly broken down. Or let them cover the whole of a wound with such an apparatus as I have described, but under the cage on part of the wounded surface let ordinary surgical dressings be placed. Then let the difference of behaviour between that portion of the wound which is in contact with an irritating foreign body (i.e. the surgical dressing) and that portion which is not so affected be observed. Even when small the portion covered by dressings will be the last to heal. Or let vaccination vesicles, which are ordinarily treated in accordance with rational principles without dressings, be covered with "protective," the commonest of surgical dressings. The surgeon will receive an instructive object lesson as I did on an occasion when I unwittingly performed an unhappy experiment. I vaccinated a man who was about to enter one of the public services. He subsequently complained that the vesicles interfered with his work, and, thoughtlessly, I covered them with protective, whereupon the surrounding area underwent severe inflammation.

If the above experiments be tried I think surgeons will come to the conclusion that surgical dressings when applied to wounded surfaces are anachronisms, relics of barbarous times when even more pernicious dirt—i.e., matter in the wrong place—was applied to such surfaces. We now strive to remove foreign bodies from deep wounds; we should strive to remove them from surface wounds also. Messrs. Allen and Hanburys, of Plough-court, Lombard-street, will keep a stock of surgical cages, and will manufacture them to order.

I am, Sirs, yours faithfully,

Southsea, Feb. 17th, 1898. G. Archdall Reid.

DR. WILLIAM PLAYFAIR'S RETIREMENT FROM KING'S COLLEGE.

To the Editors of THE LANCET.

SIRS,—Although it is not a question of any moment perhaps you will allow me to say that I am not retiring from King's College on account of the age limit as you state—I should have nearly four years to run to reach that—but because, having completed a quarter of a century's service as Professor of Obstetrics, I think it is now high time to make way for others.

I am, Sirs, yours faithfully,

Grosvenor-street, W., Feb. 26th. W. S. PLAYFAIR.

THE ADMINISTRATION OF ANÆSTHETICS.

To the Editors of THE LANCET.

SIRS,—Dr. Hewitt in his lecture published in your issue of Feb. 19th refers to the danger of the muscular spasm which frequently characterises the second stage of chloroform anæsthesia. I have for many years asserted and frequently demonstrated that a free dose of ether with the chloroform just previously to this period almost invariably prevents this spasm and so removes the most frequent source of danger. Such a remedy appears too simple to gain a hearing with specialists in anæsthetics, but so fully persuaded am I of the value of a dose of ether at this particular period that I do not allow chloroform to be given for me without it, and I should be very pleased if a gentleman with Dr. Hewitt's opportunities and experience could be found to test the value of the practice. I am, Sirs, yours faithfully,

Liverpool, Feb. 28th, 1898. F. T. PAUL.

"DOSAGE IN ANÆSTHETICS."

To the Editors of THE LANCET.

SIRS,—I shall not take up your valuable space with a controversial letter upon the above question, which was discussed at the meeting of the Society of Anæsthetists on Feb. 17th, but simply state facts. I have administered chloroform by the "open method" or, to use the more expressive if less correct term of Professor Waller—viz., the "slapdash method"—in over 740 cases without a fatality. I may say the ages of the patients varied from one week to eighty-seven years. Might I add that all forms of heart mischief were mingled with these cases, from congenital to advanced aortic. If the attention be fixed upon the patient rather than upon the inhaler, and if we recognise that there is an equal responsibility in administering an anæsthetic for a simple operation as for a prolonged operation, then we might hope for a diminution in the number of deaths from anæsthetics. I am, Sirs, yours faithfully,

Bedford General Infirmary, Feb. 28th, 1898. S. J. ROSS.

THE USE OF A SPLINT AFTER REMOVAL OF THE BREAST.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 5th is described a splint used by Mr. Edward Cotterell after removal of the breast to prevent the usual stiffness and discomfort which ensues if the arm is bandaged to the side in the usual way. It may interest some of your surgical readers to know that the same result can be obtained without the use of any special apparatus. I saw the notice of the use of a rectangular splint by Mr. Cotterell in the report of the November meeting of the Medical Society of London, and as I had to operate for carcinoma mammæ a few days later it struck me that no splint was necessary. I therefore bandaged the breast with a many-tailed bandage, but kept the arm at right angles to the body and let it lie on a pillow encircled with a broad sling made from a pillow-case, the two ends being fastened by a strong safety-pin to the head of the bed. The result was all that could be desired; the wound healed by first intention and the patient was able to do her hair at the end of a fortnight. I have used the same method in two cases since then with equally satisfactory results. In all three cases the axilla was cleared out, but none of the pectoralis major was removed. The only difference in bandaging the breast was that the axilla was well padded with dressings and the shoulder-strap of the bandage was brought under the axilla of the side operated on and pinned to the bandage behind the opposite shoulder.—I remain, Sirs, yours faithfully,

PRIESTLEY LEECH, M.D. Lond., F.R.C.S. Eng.,
Honorary Surgeon to the Royal Halifax Infirmary.

Halifax, Feb. 24th, 1898.

AN EXPLANATION FORTHCOMING.

To the Editors of THE LANCET.

SIRS,—"V. M. S.," in the letter headed "An Explanation Required," published in THE LANCET of Feb. 26th, p. 607, is hardly correct in his statement that volunteer medical officers received different treatment from that of combatant officers in the matter of the Jubilee medal. Only commanders of units received the medal, which of course meant that the bulk of the officers did not receive it. A bearer company was considered as the medical unit, and the officers in command of each did receive the medal. The medal given to the St. John Ambulance Association is the bronze medal similar to that given to the police and a very different thing altogether. I am, Sirs, yours faithfully,

Feb. 26th, 1898. V. M.

To the Editors of THE LANCET.

SIRS,—I am glad to see that you have inserted a letter in THE LANCET of Feb. 26th on the subject of the absolute exclusion of the officers of the Volunteer Medical Staff from all participation in the distribution of the Queen's Jubilee Medal. I suspect the chief grounds upon which this apparent slight to medical officers of volunteers is determined arises from the fact that few if any of us (outside the Volunteer Medical Staff Corps) happened on Jubilee Day to be in actual command of an "unit." My own case will perhaps serve as an illustration. I was ordered to act as the senior medical officer of my brigade, which was made up of companies from each battalion comprised in it. The captains commanding the separate companies in some instances received the medal, but notwithstanding that in addition to being in medical charge I had the stretcher sections of the various battalions under my command my application for the medal was refused. On the other hand, the chief staff officers of the brigade on duty were granted it. A few weeks later in the season these various regimental stretcher bearers were formed into a "bearer company" and as such I commanded them at Aldershot. It appears that had I held such a command on Jubilee Day I should have received the medal, a bearer company being considered an "unit." The duties I performed and the command I exercised were practically identical on each of these occasions, but a slight technical difference obtained in that on Jubilee Day I commanded a group of separate stretcher sections, whereas at Aldershot the same were formed into and termed a "bearer company." The reception of the medal would have been a gracious and welcome recognition, in my case, of more than thirty years' service passed in the Volunteers.

I am, Sirs, yours faithfully,

A SURGEON-LIEUTENANT-COLONEL HOLDING THE V.D.

Feb. 26th, 1898.

LIVERPOOL EYE AND EAR INFIRMARY.—The annual report of this infirmary stated that in the out-patient department the new eye cases numbered 6403 and the new ear cases 2190. The number of minor operations performed on out-patients was 1098; 815 patients have occupied beds, as against 765 during the previous year, the number of important operations on this class of patients being 601, as against 549 in 1896. The financial condition as regards the subscription list is still unsatisfactory, but on the other hand the amount received from donations and legacies was above the average and the treasurer reported a credit balance of £112. The mortgage debt on the building remains at £1000. The contributions from the Hospital Saturday and Sunday Funds amounted to £456. Mr. Richard Hobson has offered to contribute £100 towards the extinction of the mortgage debt provided an effort were made within six months to obtain the remainder of the money.

HOSPITAL ABUSE.

(BY OUR SPECIAL COMMISSIONER.)

XIV.—GLASGOW.[1]

Reduction of the Death-rate and Increase of Hospital Accommodation. — A Threefold Increase of Hospital Patients.—Charity Hospitals and Municipal Hospitals.—Sixpenny Doctors. — Gross Abuse. — Indifference and Apathy of the Profession.

THE position of the medical profession at Glasgow is not encouraging. The medical men who hold office in the service of the hospitals say nothing. Whatever may be the evil of hospital abuse it does not affect them. In other towns I have found a greater disposition on the part of the leaders of the profession to take up the cause for its own sake though their personal interests were not at stake. The competition of the hospitals renders the position of the general practitioners more and more precarious and yet they cannot move in the matter unless the leaders of the profession lend a helping hand. In the meanwhile there is the fiercest competition for even the smallest appointment that happens to be vacant. This, of course, tends to make those who are in office very prudent and they refrain from complaints as they know that they could so easily be replaced by others who are longing for their posts. On the other hand, while the prevalence of disease is decreasing the facilities for obtaining advice and medicine gratuitously are increasing. No wonder, therefore, that the general practitioner finds his position becoming more and more desperate. The death-rate has been reduced within a fraction of 23 per cent. during the last forty years and at the same time hospital accommodation has immensely increased, to say nothing of benefit societies or provident medical clubs. During the ten years 1855–64 the proportion of the total deaths per 1,000,000 of the population amounted to 30,050, and during the ten years 1834–94 it was reduced to 23,175. The decrease in this period of forty years is equal to 51 per cent. in zymotic diseases, to 37 per cent. in phthisis, and to 12 per cent. in miscellaneous diseases. There is an increase of 3 per cent. in other lung diseases. The general death-rate shows a decrease of 23 per cent., as already stated. Extensive sanitary measures have largely contributed to bring about this good result, but increased and improved hospital accommodation has also helped to reduce the death-rate. This is notably the case in regard to the municipal hospitals for the treatment of infectious diseases. Formerly such cases were taken to the general hospitals. The first of these hospitals, the Royal Infirmary of Glasgow, was opened in December, 1794. It then contained 150 beds and Dr. J. B. Russell, senior medical officer of health, in his Sanitary History of Glasgow tells us that during the first five years of its existence 14 per cent. of the patients treated suffered from "fever." In 1816 the beds were increased to 230 and in 1818 no less than 60 per cent. of the patients were suffering from "fever." A temporary and extra hospital of 200 beds had then to be erected and a similar measure was taken in 1827. The number of fever cases increased; booths were erected, abandoned factories were turned into temporary hospitals, till at last in 1865 the first municipal fever hospital was opened in Parliamentary-road. From that time henceforth the treatment of fever cases was gradually removed from private practice and from the ordinary hospitals and confined to the municipal hospitals and a second institution of this description was provided at Belvidere. Thus we find that during the course of the thirty years 1865–94 no less than 16,796 cases of fever were received at the Parliamentary-road Municipal Hospital and 56,320 cases of fever and 1179 of small-pox at the Belvidere Municipal Hospital. This reaches a total of 74,295 patients treated in a great measure at the public expense.

At first there was considerable difficulty in dealing with non-pauper cases, but the local authority finally resolved "that all classes of the citizens suffering from infectious diseases should be treated in hospitals without any charge being made therefor." That these municipal fever hospitals have rendered most efficient service in checking the spread of epidemic disease cannot be denied; but however admirable these institutions may be from many points of view the figures given above clearly indicate that they must have materially decreased the amount of work remaining for the general practitioner. The fact that it is not only pauper patients that are taken to the fever hospitals must tend to diminish the sources of revenue on which the general practitioner was formerly able to rely. Doubtless it can be maintained that the interests of the general practitioner must be sacrificed when opposed to the general good of the community; but all that I at present seek to demonstrate is the fact that these interests have been sacrificed. Also I would add that if in respect to epidemic or infectious diseases there is a good reason for thus disregarding the material interests of the profession this reason does not apply with the same force to ordinary and non-infectious complaints and the increase of hospital accommodation does not extend only to cases of infectious disease.

After the Royal Infirmary a Lock Hospital was opened in 1805. It is the only hospital in Glasgow which has beds in excess of its requirements. There is room for more than 60 in-patients and it often happens that half the beds are empty. The Eye Infirmary was started in 1824 and the Maternity Hospital in 1834, and it now accommodates 34 in-patients. In 1861 these four hospitals possessed 770 beds or about 2 beds for every 1000 of the population. A Skin and Ear Dispensary was started in 1861, which subsequently became the Skin Hospital, with 20 beds attached to the Western Infirmary. Then the Ophthalmic Institution, which has now 35 beds, was opened in 1869 and the Ear Dispensary and Hospital was founded in 1872. But for the treatment of general diseases and injuries there was no important addition to the number of beds for the first eighty years after the opening of the Royal Infirmary in 1794. When, however, the University was removed to Gilmorehill it became necessary to have a hospital in the immediate neighbourhood of the schools. Therefore the Western Infirmary, containing 400 beds, was built. During the ten years 1871 to 1880 about 500 new beds were added to the hospitals of Glasgow and the proportion was 2·7 beds per 1000 of the population in 1881. The Sick Children's Hospital with 70 beds; the Victoria Infirmary with 150 beds; and the Samaritan Hospital for Women with 28 beds were created in the following decade. Altogether 340 beds were added to the hospitals from 1881 to 1891, bringing up the total to 1750 or 3·1 per 1000 of the population. Since 1891 the increase in the number of beds has about kept proportion with the increase of the population and the total number of beds available now is about 1770, but to this may be added 459 beds in convalescent homes which have gradually sprung into existence since 1865. Then there is an institution with 85 beds for infirm children founded in 1874 and a home for incurables with 115 beds opened the following year, bringing the total number of beds provided by medical charities to 2429, or 4·2 beds per 1000 of the population.

During the same period of years there has also been a great increase of medical charities which do not provide for indoor patients. There are numerous medical missions, nursing associations, public dispensaries, and the dental hospital. Then the number of beds provided by the Poor-law authorities should not be omitted and these amount to 1048. The municipal fever hospitals now have 902 beds, making a total of 1950 parochial or municipal beds for illness. Then there are 1234 beds for the insane. Thus, if we take the parochial hospitals and asylums, the municipal hospitals and the medical charities we get a grand total of about 5600 beds or 9 5 beds per 1000 of the population. If we deduct the 280 beds of St. Joseph's Home for the Infirm on the ground that it is scarcely a medical institution we have 9 beds per 1000 of the population of 1895, estimated at

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[1] The previous articles on this subject were published in THE LANCET on the following dates: (1) Sept. 26th, 1896, Plymouth and Devonport; (2) Oct. 10th, 1896, Exeter; (2 *concluded*) Oct. 17th, 1896, Exeter; (3) Oct. 31st, 1896, St. Thomas's Hospital, London; (4) Nov. 14th, 1896, Liverpool; (4 *continued*) Nov. 21st, 1896, Liverpool; (4 *concluded*) Dec. 12th, 1896, Liverpool; (5) Jan. 2nd, 1897, Manchester; (5 *continued*) Jan. 9th, 1897, Manchester; (5 *concluded*) Jan. 23rd, 1897, Manchester; (6) Feb. 6th, 1897, Leeds; (6 *concluded*) Feb. 13th, 1897, Leeds; (7) April 17th, 1897, Coventry; (8) May 1st, 1897, The Royal London Ophthalmic Hospital; (9) May 8th, 1897, France, United Action and Legislative Action; (10) May 15th, 1897, Leicester; (11) June 5th, 1897, Nottingham; (12) July 31st, 1897, Birmingham; (12 *continued*) Aug. 14th, 1897, Birmingham; (12 *continued*) Sept. 4th, 1897, Birmingham; (12 *continued*) Sept. 18th, 1897, Birmingham; and (13) Oct. 30th, 1897, Southampton.

587,000, or 6·6 per 1000 of the population of the extended boundaries of the city, which is set down at 840,000.

In the face of these figures it is impossible to deny that there has been a formidable increase in the numbers of in-door patients, yet it is generally acknowledged that it is in respect to the in-patients that the least abuse exists. The position of affairs with regard to outdoor patients is more serious. Nevertheless, the medical profession at Glasgow cannot be said to be moving in the matter. Two medical men at Glasgow, Dr. Erskine and Dr. D. Campbell Black, have been prominent in their denunciations of these abuses; but they have met with little support from the profession at large. This lack of support may in a measure be due to the fact that these two gentlemen not only denounced hospital abuse but also advocated the municipalisation of all hospitals. Many medical men desire to reform the hospitals, but those who think such reforms should lead to the abolition of the voluntary system are far less numerous. Dr. Campbell Black, for instance, in a pamphlet entitled "The Medical Environment," says, when alluding to workhouse infirmaries, to lunatic asylums, and to fever hospitals: "The State, however, having taken the place of voluntary charity, the *raison d'être* of hospitals as *charitable* institutions disappears with one *coup* and their revenues should be forfeited and applied to some other purposes of public utility." Then he adds: "I know, further, that if in the animal world an organ ceases to functionate it atrophies and disappears, and I believe that correspondingly in the social world two organisations professing to achieve the same end cannot run side by side without mutual interference and injury." Dr. Black has further publicly argued that though advertising is considered most unprofessional voluntary hospitals are in reality run for the purposes of advertisement. "I know *not one* medical institution in Glasgow," he adds, "whose parentage has not been personal medical enterprise." Then the voluntary hospital, when once established, instead of being under public control, falls into the hands of a clique who take care to keep dangerous rivals at a distance. These rivals in their turn are obliged to found other hospitals for themselves and thus there is a wasteful competition between charities and hospital abuse naturally ensues. To illustrate this theory Dr. Black says: "Let me give an instance or two of men who did so who became thereby illustrious and dignified medical science. When James Syme found the doors of the Edinburgh Infirmary barred against him by that envy, jealousy, and exclusiveness which find such fertile soil in the medical temperament he opened Minto House as an hospital, compelled recognition of his genius, and vanquished tyranny. Spencer Wells founded the Samaritan Hospital in London and few names are held in higher professional esteem in his own particular walk. Lawson Tait founded the Hospital for Women in Birmingham and he is certainly not the least distinguished of living gynæcologists. Morell Mackenzie founded the Throat Hospital in London and made himself a world-wide reputation." But with the multiplication of hospitals financial difficulties must arise and the Glasgow Royal Infirmary had a deficit of more than £9000, the Western Infirmary one of more than £5000, and the Victoria Infirmary one of close on £2000 To increase their claims on the public a long list of cases treated must be published and if abuse was prevented this list would be curtailed. Then each charity has to pretend that it is the charity of all others which should be supported. "The Royal Infirmary now publishes a weekly statement of the cases treated to give point to its eleemosynary sob for coin; but it takes care to conceal from the public how many of the people treated, both within its walls and at its outdoor department, should have been treated by struggling juniors in the profession or to what extent it is engaged in robbing the profession and demoralising and pauperising the artisan and middle class. 'My dearly beloved bruddren,' said the nigger evangelist, 'de cause ob religion am de cause ob dis church, and de cause ob dis church depends on de passon's salary. De elders will now pass de contribution boxes!'"

In proof of the prevalence of abuse Dr. Black states in his pamphlet that he has treated at the Royal Infirmary a retired lawyer. At the Western Infirmary, which he qualifies as "one of the most abused institutions of the kind in the country," a man appeared with a respectable-looking woman whom he left there as a patient with the injunction that the "lady" was to receive "every attention." The patient was the mother of a police commissioner of one of the most prosperous districts of Glasgow. A boy was admitted to the same hospital for a resection of the knee-joint on a recommendation from a Glasgow magistrate who was a close relative of the patient and visited him in a carriage-and-pair. Dr. Black assured me personally that he had been reprimanded when he found fault with such abuse. If the newspapers were watched it would be found that they recorded the deaths at hospitals of persons in a good position. Thus about four months ago the death at the Western Infirmary of a retired business man was mentioned. His address was given. It was in Vincent-crescent, where probably £50 a year is charged for rent for the houses. At the Eye Hospital there was a rich man who had come from New Zealand. A Highland parish minister died in the Infirmary. The working classes, many of them earning £2 and £3 a week, thought they had a right to gratuitous treatment because they were made to subscribe a penny a week to the hospitals. Yet there were any number of men in the profession who were willing to take clubs at 2*s.* 6*d.* per annum per member. If a man could not pay half-a-crown per year he should be treated as a pauper. Not only were needy and junior medical men ready to accept such terms, but there were even some professors who did not scorn to take a 2*s.* 6*d.* club. The general practitioner was in a deplorable position. There were fully-qualified men who gladly visited patients in their own houses for a fee of only sixpence and there were several sixpenny dispensaries in existence.

Why, it will be asked, should workmen resort to a charity for medical advice when it costs so little to pay for such advice? One of the principal reasons is that the workmen do not look on the hospital as a charity. It is an institution for which they are not only compelled to pay, but they pay more than they would have to give to a private practitioner. The voluntary nature of the payment and the charitable character of the hospital is but a theory and so far as the workmen are concerned in no wise a fact. If a workman refused to subscribe he would displease his employer and his fellow workmen, so he gives a penny per week, and this makes 4*s.* 4*d.* per annum, when there are any number of medical men who would be glad to attend to him for 2*s.* 6*d.* a year. Why should the workman pay the larger sum if it gives him no claim? But it is not the workmen alone who imagine that they have a claim on the hospitals. As the secretary of the Charity Organisation Society observed to me, when householders subscribe a certain sum they think they have a right to send all their servants to the hospital, and Dr. Black quotes an announcement published in the *Glasgow Herald* of the death at the Western Infirmary of a patient who for many years had been "the faithful body servant" of an eminently respectable K.C.B.

Another reason for the rush upon the hospitals is the belief that superior advice can be obtained there. If the following passage from Dr. Black's pamphlet were more widely read this impression might in part be dispelled:—

"During my own incumbency of office as a dispensary physician to the Glasgow Royal Infirmary I have gone through the form of professionally seeing patients at the rate of sixty an hour! The prescribing and diagnosis were much after the time-honoured fashion of Dotheboys Hall. My conscience was not hurt by this snap-shot prescribing, as there was certainly nothing the matter with two-thirds of the cases, while the remaining third consisted of cases of hunger, chronic bronchitis, and various forms of struma; and occasionally a robust countryman who happened to be passing would be attracted by the urgent invitation outside to come in and be medically treated and responded as a matter of sheer civility. While so large a number as this was often seen it should be explained that few fresh prescriptions were written, but as the deluded people would break their hearts if they got no medicine (they subscribed to the institution and asserted claims) the old prescriptions were stamped so that a fresh supply might be obtained. If the patient was wanting in inclination or the courage to consume the 'medicine' thus obtained it was exchanged for money or drink with some less wise but more courageous valetudinarian."

This is certainly as bad as the "scamping" work of a medical aid association or a benefit club. These institutions often tend to degrade the practitioner because he has too many patients for it to be possible to treat them properly.

But Dr. Black further points out that "the objection to medical aid associations is that they treat people above the grade of the artisan class. If it be professionally 'infamous' to do so through these associations it is surely equally 'infamous' to treat this class in hospitals as is being constantly done. The difference is this: on the one hand it is the *poorer* members of the profession who are the culprits, on the other it is the *rich*."

(To be continued.)

THE PLAGUE IN BOMBAY.

(FROM OUR SPECIAL CORRESPONDENT.)

Death-rate.—Private Hospitals.—Quarantine Camps.

THE weekly return of mortality for Bombay gives over 2000 deaths—a rate equal to about 130 per 1000 per annum. This exceeds the highest point touched last year, but the city is now full of people—the birth-rate showing about the normal average—whereas last year the exodus was estimated at no less than 300,000 people. Comparison with the mortality chart of last year suggests that the present recrudescence is about a fortnight later in the season than the corresponding period of the first epidemic and that another week or two may be calculated before the mortality will show a course of decline. Fortunately this decline may be expected to be rapid.

With thirty private and three public hospitals for plague patients Bombay ought to be well provided for. The public hospitals might be considerably improved in many ways, but their general administration is very satisfactory. It is very different, however, with the numerous private institutions. While the *raison d'être* of their permitted existence—viz., to facilitate the removal of plague cases from the homes of the people—is to a certain extent admitted the management of many of these hospitals is worse than indifferent. They are subject to occasional inspection, but the immediate treatment of the patients is entirely under the control of the native medical attendants. As some of these men are extremely ignorant and careless and one at least has had no medical training whatever the patients are badly looked after at many places. Some few are clean, well managed, and properly treated. Most of these hospitals are simply ordinary houses utilised for the purpose and they are consequently placed in most insanitary surroundings, especially with regard to fresh air and sunlight. The rules seem to be extremely lax and therefore the advantages offered for isolation and otherwise preventing the spread of the disease are entirely lost sight of. Their existence satisfies to a certain extent caste prejudices and there would probably be much greater trouble in removing cases if these institutions were not available. That is about all that can be said in their favour. The patients would certainly be much better off if they were camped out in the open air even under the same indifferent management. The camps for the "evicted," for "contacts," and for quarantine of travellers are much more satisfactory. The people on admission are disinfected, their belongings are sterilised, and they are kept under healthy conditions for a required period of ten days. The rules, however, are not strictly carried out and consequently strict isolation is not always obtained. But the provision for life under healthy conditions and the removal from houses which are dark, dirty, unventilated, and stinking are decided advantages. Many thousands have benefited by these measures.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Southern Hospital.

THE report read at the annual meeting of the Manchester Southern and Maternity Hospital held on Feb. 25th is not very cheerful. Within a little over a quarter of a century this hospital has grown from a small dispensary to a hospital with fifty-two beds in constant use, while in addition there are a large out-patient department for women and children and an extensive maternity home-patients' department "carried on by trained midwives under the strict supervision of the honorary medical staff." It was the first hospital in Manchester to supply in-patient accommodation for maternity cases and it is still the most important lying-in hospital in the north of England. It is also a school of obstetrics and gynæcology largely made use of by the medical students of the Owens College and has afforded training for midwives and monthly nurses. Its services are not confined to Manchester but extend over a wide area, including the towns of Lancashire and Cheshire where special hospitals do not exist. But lack of funds has decided the committee to put certain restrictions on the admission of women and to close twelve of the children's beds till more prosperous times come round. That this is advisable is evident from the fact that for the last few years the hospital has been spending about £1000 a year more than its income. This sort of proceeding is no doubt a weakness into which hospital committees are too apt to be led, but the excuse in this case was the promise, subject to an amalgamation with St. Mary's Hospital, of £70,000 from the Lewis trustees to build a new hospital, and the committee had every reason to believe that the conditions would be fulfilled. The breakdown of the negotiations injured both hospitals, but the Southern Hospital was not so well able to bear it as was St. Mary's Hospital, and during this period of anticipation and suspense "the small capital of the hospital has been nearly absorbed." The failure of the amalgamation scheme does not lie at the doors of the Southern Hospital, and if it is not permissible to speak of justice in its treatment we may still regret that it has suffered from undeserved misfortune. As Dr. A. W. Ward, the ex-Principal of the Owens College, said, "The state of things was simply a lamentable one" and "it would be only by strenuous and individual effort that they could maintain the efficiency of the institution." This effort will surely be made.

The Royal Infirmary and the Corporation.

At the meeting of the Manchester City Council on Feb. 16th, the scheme for the sale of a large portion of the ground surrounding the infirmary for £286,000 was the subject of a long discussion. Sir John Harmood moved: "That the report of the Special Committee *re* Royal Infirmary" and the recommendations contained therein "be approved and adopted." It was decided in the end that the report should be referred to the committee for further consideration and report. There was evidently a strong feeling against the scheme and in favour of the purchase of the whole site, if it could be arranged for, utilising it for business premises — according to one intelligent and utilitarian speaker—with the view of building an art gallery and free reference library. This would be far preferable to the mutilation contemplated in the special report.

Proposed Enlargement of Monsall Fever Hospital.

The Monsall Fever Hospital, it may be remembered, was recently taken over by the corporation from the Manchester Infirmary. For some time past a sub-committee of the Sanitary Committee of the corporation has been considering the question of increased accommodation for infectious cases and they recommend the addition of several wards, an isolation ward, an erysipelas ward, and also a considerable enlargement of the administrative department. The cost is estimated at about £27,000. In view of these changes and to give the necessary space for the isolation of the patients—so as to protect the hospital as well as the public—and to provide a recreation ground for the patients a purchase of about 13¼ acres of land on the northerly side of Monsall has been made for the sum of £8108. There is at present accommodation for about 390 patients. The scheme has been virtually accepted by the Sanitary Committee and will probably be sanctioned by the Council.

Manchester Medical Social Union.

An association of which the membership is confined to qualified medical men who have been educated at the Owens College has been recently formed with the title of the Manchester Medical Social Union. The first of a series of social meetings was held on the evening of Feb. 22nd Dr. Judson Bury presided and said "the union came to supply a long-felt want in the profession." The evening was devoted to a musical and literary entertainment. All good wishes may be offered to the new society, for friendly gatherings of this kind are among the best antidotes to the jealousy and the isolation into which competing members of the same profession are often in danger of falling. Considering, however, that the *alumni* of the Owens College form only a section of the qualified medical men in Manchester the assumption of so comprehensive a title as that of the Manchester Medical Social Union, the membership of which is so limited, seems somewhat inappropriate, pointing rather to exclusiveness. A title indicating its connexion with the College would have been more accurate and quite inoffensive. Though somewhat different in aim and character from the Medico-Ethical Association and the Medical Guild all tend in the main to the same end, to strengthen the sense of brotherhood and of a common interest among the scattered members of the medical profession which in these days of almost constant assault on its rights and privileges has become not only desirable but necessary. Their annual reports show that both the latter have been doing good work, while the younger society may be congratulated on the progress which it is making and on the position it has already attained.

Feb. 28th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Royal Hospital for Sick Children.

THE thirty-ninth annual meeting of this hospital was held on Feb. 22nd. The annual report showed a considerable increase in the number of patients treated in the wards and in the dispensary during the past year. In the year ending Dec. 31st, 1896, there had been 1101 patients treated in the wards of the hospital and at the dispensary during the same year the medical and the surgical patients had numbered 7455 and 5885 respectively. During the year just closed the number of patients treated indoors had reached 1240, while the medical out-patients numbered 9583 and the surgical 5331, with, in addition, 59 vaccinations. There had thus been an increase of 1671 cases during the past year. The ordinary income had been £5665 10*s.* 8*d.* and the ordinary expenditure £6310 13*s.* 4*d.*, there being a deficit of £645 2*s.* 8*d.* There had been an increase in the annual subscriptions but a decrease in church collections. In making acknowledgment of benefits received the directors expressed their gratitude to Sir Squire Bancroft, who had given a reading in aid of the hospital funds, and to Colonel Bathgate, who had presented for the Bathgate ward twenty-four hospital cots. They also pointed out the deep obligations under which they lay to the honorary secretaries, Messrs. Henry and Scott, for their services, which had extended over a period of forty years. In moving the adoption of the report the chairman pointed out that the cost of maintenance per child had been reduced from £5 7*s.* 9*d.* to £5 0*s.* 4*d.* The total cost of the new hospital had been £52,277 and the accounts in connexion with the building were now all paid. They were now, however, dependent on the annual subscriptions for the further maintenance of the hospital. The size and airiness of the new hospital seemed to have a very beneficial effect on the patients. They were now admitting infants under two years of age, these children forming the most serious of their cases.

Appointment to the Royal Infirmary, Edinburgh.

At the meeting of managers on the 31st ult. Mr. Alexander Miles, M.D., F.R.C.S. Edin., was appointed an assistant surgeon. Mr. Miles is at present surgeon to Leith Hospital and is looked upon as one of the most promising of the younger surgeons connected with the Edinburgh School.

The Scottish Universities and their Graduates.

The movement in favour of obtaining for the authorities of the Scottish universities the power to exercise discipline over their respective graduates is at last taking definite shape. The most active steps in this direction have been promoted by the University of Glasgow and at a recent meeting of the University Court it was reported that the other three universities had forwarded the names of their representatives appointed to act on a joint committee in connexion with this question and Sir William Gairdner was authorised to take the steps necessary to call this committee together. If the aim of the committee is attained Scottish medical graduates will be brought into the same relation to their degree-granting bodies as at present obtains between Licentiates in medicine and surgery and the corporations from which they hold their Licences. Thus graduates equally with Licentiates will be liable to be censured or to have their names removed from the University List for proved misconduct, whilst at present the holder of a university degree retains and can use his degree even though his name has been removed from the Register by the General Medical Council.

Glasgow Microscopical Society.

At a meeting of this society on Feb. 10th Dr. William Snodgrass, Senior Demonstrator of Physiology in the University, lectured on the Glandular Structures of the Alimentary Canal. The lecture, which was delivered in the University class-room, was illustrated by chemical experiments and by numerous diagrams and microscopic specimens. The President, Mr. W. Rankin, M.B., presided.

Aberdeen Dispensary.

During 1897 10,139 cases were treated, being an increase of 83 on the year 1896. 2850 patients were attended at their homes, an increase of 21, and the number of visits shows an increase of 598 over the previous year. The number of medical students who paid for admission to the general practice of the dispensary was 60, an increase of 27. The amount of subscriptions to the general funds was only £118 17*s.* 6*d.*, but owing to donations and legacies the total income exceeded the ordinary expenditure by £843. A deficiency of £127 10*s.* 11*d.* on the maternity department will, however, have to be made good out of the general funds.

Aberdeen University Medical Society.

At the concluding meeting of the present session several interesting papers were read. The office-bearers for next session are: Hon. President, Professor Cash. Presidents, J. A. Stephen, M.A., and J. A. Mavor, M.A. Secretary, L. P. Stephen, M.A. Recording secretary, G. A. Finlayson, M.A. Treasurer, H. Fraser. A committee of six was also appointed.

Academic Honours for Medical Men.

The University of Aberdeen propose to confer the honorary degree of D.D. on the Rev. James Shepherd, M.A., M.D. Aberd., medical missionary, Oodeypore, India; and that of LL.D. on Dr. William Osler, M.D., F.R.C.P. Lond., Professor of Medicine in the Johns Hopkins University, Baltimore, U.S.A.

March 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Royal College of Surgeons in Ireland.

THE most important examination for the Fellowship of this College that has been held for years terminated by conference on Feb. 28th. There were no less than fourteen candidates, eleven of the junior grade—that is, of less than ten years' standing—and three of the senior rank. Of the junior four were rejected while one retired. At the senior and final examination one lady, four well-known hospital surgeons, and one gentleman from New Zealand passed. Dr. Robert Woods, F.R.C.S. Irel., has resigned the position of secretary to the Council of the College, but will discharge the duties of the office until the date of the new election on the first Monday in June.

The Waterford District Lunatic Asylum.

The Lord Lieutenant has recently appointed Dr. Oakshott, senior assistant medical officer to the Cork Asylum, to the position of medical superintendent of the Waterford Asylum in the place of Dr. Ringrose Atkins deceased.

The Ulster Hospital for Women and Children.

At the annual meeting of this hospital held on Feb. 22nd it was reported that the attendance in the women's department was 1564 and in the children's 9391. 72 women and 177 children were admitted into the wards. In submitting the medical report the secretary, Dr. Cecil Shaw, said that nothing short of a properly equipped maternity with six beds would meet the urgent needs of the neighbourhood. The hospital, he said, was situated in the midst of an enormous working-class population, many of whom are so poor and in such bad sanitary surroundings that it was impossible for either medical man or nurse to do their work satisfactorily while the patients remain in their own homes. He hoped that a successful effort would be made at no distant date to add this much-needed ward to the hospital. There is a balance to the credit of the hospital of £77 1s. 11d. to begin the year with. The late Mrs. Henderson, mother of the present Lord Mayor of Belfast (who presided at the annual meeting), left £300 to the hospital.

The New Irish Local Government Bill.

The Bill which has been introduced by Mr. Gerald Balfour (Chief Secretary for Ireland) will, if passed, make great changes as far as the medical profession is concerned. County councils are to be established and they, through a committee appointed by them, will take over the charge of the lunatic asylums. The present plan of appointing governors is to cease and the board of control in Dublin will be abolished. In cases where one asylum does for two counties then a joint committee will be appointed by the two county councils to take over the asylum. One-fourth of these asylum committees may not be members of the county council. The Lord Lieutenant must approve of the arrangements made by the county councils for the management of asylums and lunatics now confined in the workhouses will be transferred to the asylums. The Lord Lieutenant has to concur in the appointment or removal of the resident medical superintendents of the asylums. In future, coroners, who will not be qualified if appointed to be elected or to be a county or district councillor, are to be chosen by the county councils. With reference to the Poor-law system district councils will take the place of the dispensary committees, which will cease to exist, and these district councils will be the rural sanitary authority. *Ex-officio* guardians will be done away with and the district councils will act as guardians of unions. In each union half the salary of a trained nurse will be paid by an Imperial grant.

Public Health Prosecution.

On Feb. 25th a man was brought before the Belfast magistrates and fined £2 (subsequently reduced to £1) for refusing to give up clothes to the sanitary authorities for the purpose of disinfection, an outbreak of typhus fever having occurred in his house. It was said that there had been six cases of the disease.

The Belfast Royal Hospital.

At the quarterly meeting held on March 31st it was reported that during the past three months 545 intern and 5674 extern patients had been treated. The balance due on Jan. 1st by the hospital was £1350 11*s*. Since the beginning of the financial year the indebtedness of the hospital has increased £1000 14*s*. 6*d*., equal to about £6 10*s*. 10*d*. per day. In moving the adoption of the report the secretary pointed out how creditable the subscriptions from the working-classes were, reaching £2415 1*s*. 1*d*. in the year, to which they had increased from £256 17*s*. 7*d*. in 1878; while, on the other hand, the church collections had decreased from £562 11*s*. 5*d*. in 1878 to £405 8*s*. 6*d*. at present. There are 163 houses of worship in Belfast and yet in only 66 of these were collections made for the hospital funds. As the secretary so well said, "Why have we not an annual Hospital Sunday collection on a particular Sunday in the year in all our churches? Surely if the heads of the different churches were to put their heart into this great and noble work we should soon have a real 'Hospital Sunday,' when all would be prepared to give to this good cause."

The Belfast District Lunatic Asylum

At a special meeting of Governors held on Feb. 28th a report in reference to the financial adjustment of the relations between the county of Antrim (and Carrickfergus) and the Belfast district was considered and—with the exception of certain clauses—passed, but the members of the county Antrim grand jury declined to vote and there were no representatives present from the city council. The new Local Government Bill (if passed) will so completely alter the present government of the asylums that it is probable no further changes will be made and everything in connexion with these institutions is at present regarded as being in a transitional condition pending Imperial legislation.

Dr. Haran, who had been house surgeon to Barrington's Hospital, Limerick, has been appointed medical officer to the British East Africa Protectorate. Prior to his departure for his new sphere of duties he was entertained by the staff of the hospital and reference was made to the efficient and assiduous manner in which he had at all times carried out the instructions of the visiting staff.

Dr. Hinkman was last week unanimously elected house physician to the Cork Mercy Hospital.

March 1st.

PARIS.

(From our own Correspondent.)

Acetate of Thallium in the Treatment of the Nocturnal Sweats of Phthisis.

At the meeting of the Academy of Medicine held on Feb. 22nd, Professor Combemale, of Lille, mentioned that he had administered this drug in the form of pills of ten centigrammes in cases of excessive sweating. In thirty patients, either tuberculous or affected with some other disease, who suffered from profuse nocturnal sweats one only was not at all benefited and one other was slightly relieved without being completely cured. Those patients who suffered from large cavities and were very cachectic were most benefited, for contrary to other anti-sudorifics the acetate of thallium produces its greatest effect in very cachectic patients, and those suffering from leucocythemia are also much benefited. In old cases of tubercle which are drying up or in those in which softening is just beginning the drug has not the least effect. Old cases of bronchial dilatation and of chronic bronchitis, which suffer from sweating as much as tuberculous patients do, also derived benefit from theacetate of thallium. The daily dose is from ten centigrammes up to in some cases twenty centigrammes. It must not be given for more than four days in succession, for its effects are very lasting and persist for from eight to ten days, but refractory cases show no improvement even after eight days. The drug ought to be given about an hour before the time when the profuse sweating generally begins. In three cases complete alopecia followed the use of the drug. In from two to eight days the patients lost all their hair, but it is to be remembered that they had already begun to lose their hair and had taken from 80 to 110 centigrammes of acetate of thallium in the course of a month. On the other hand, tuberculous patients under the same conditions whose sweating had been arrested by two doses did not suffer from this sudden loss of hair. Professor Combemale concluded that this accident need not be feared except after prolonged use of the drug or too frequent doses.

Non-Saccharine Diabetes.

At the meeting of the Medical Society of the Hospitals held on Feb. 18th, MM. Achard and Weil made a communication on this subject. In constitutional diabetes, which is generally called fatty or arthritic or gouty diabetes, glycosuria is not nearly such an important symptom as it is in pancreatic diabetes. Often, in fact, there is hardly any sugar in the urine and the other elements of the disease, such as polyuria, polydipsia, and voracious appetite, are also but little marked. For these reasons diabetes must be considered not as a disease of one particular organ, such as the liver, the pancreas, or the kidney, but as an expression of a general disorder the place of which in the table of diseases is just as important as the mere symptom of glycosuria. Glycosuria undergoes great fluctuations in this particular form of diabetes. Sometimes it disappears altogether under various influences and the general disturbance of the organism persists all the same. On the other hand, the general disturbance which can persist after the disappearance of the glycosuria always precedes it. Ordinarily the discovery of sugar in the urine is made by pure accident, and after this discovery as before the general condition remains the same, the diabetic patient preserving the appearance of robust health. MM. Achard and Weil think that the malady being thus started, or at least its plan being laid down, before the establishment of glycosuria, one is forced to agree in the possibility of such a thing as *diabete fruste*—that is to say, a constitutional diabetes without glycosuria—a morbid condition which might be compared to Bright's disease without albuminuria. But how is the malady to be diagnosed in the absence of sugar in the urine? MM. Achard and Weil consider that the answer to this problem is to be found in the glycolitic power of the tissues. This proof consists in introducing glycose into the organism without allowing it to pass through the liver—that is to say, by injecting it under the skin and observing if it is excreted in the urine. Like all other sugars glycose injected under the skin brings on polyuria and azoturia, but the injection is quite harmless and well borne by the patient if it be deeply made and with strict aseptic precautions. It is quite easy to introduce ten grammes of pure glycose in twenty cubic centimetres of solution divided into two portions of ten cubic centimetres each, which are injected into the thighs. This dose in a normal person brings about no glycosuria. MM. Achard and Weil have verified these results in forty patients who were either healthy or suffering from various diseases. When a diabetic patient was submitted to this test there was a transitory augmentation in the secretion of sugar. In five patients who presented conditions recalling those found in diabetes with sugar but who had not habitual glycosuria — a disease which the investigators called *diabete fruste*—the test showed the existence of an insufficient glycolytic power in the tissues. It is possible that this incomplete form of diabetes always remains incomplete in certain patients and that the sum of its symptoms is never completed by the appearance of sugar in the urine, but it is reasonable to suppose in view of the facility with which a temporary glycosuria can be produced in such patients that the symptoms are but a prelude to the confirmed saccharine diabetes.

The Case of Dr. Laporte.

The appeal entered by Dr. Laporte has just come in before the Court of Appeal—i.e., on Feb. 25th. Dr. Laporte was present with his counsel, M. Henri Robert, and Professor Pinard was also present. As no witnesses are allowed to give evidence in this court, Councillor Ayrault, who read a long and scrupulously fair *résumé* of the proceedings in the court of first instance, and Councillor Pottier, the president, put a series of questions to Dr. Laporte in a very kindly manner, which was in marked contrast to that of the proceedings before the Tribunal. M. Henri Robert argued that the charge of negligence against his client had never been proved, and he concluded by demanding the rehabilitation of Dr. Laporte. The Deputy Procureur-Général also came to the same conclusions, although not upon the facts advanced by the counsel for the defence or upon the facts brought forward by Professor Pinard, but upon absolutely opposite grounds and arguments which will give great satisfaction to the medical profession. He considered that the injuries produced in the patient were due to Dr. Laporte, but he also considered that when the circumstances under which that unfortunate medical man had been obliged to operate were taken into consideration he was absolved from all blame. Judgment will be given in eighteen days from the hearing, but it is pretty obvious that it will be one to satisfy both Dr. Laporte and the profession in general.

March 1st.

ROME.

(FROM OUR OWN CORRESPONDENT.)

“‘Cross-Counter Therapeutics.”

UNDER this title I have given examples of the practice, as dangerous as it is “irregular,” of asking and receiving medical advice across the pharmacy counter. Mistakes on either side — the “patient” wrongly interpreting his symptoms, the “medical adviser” wrongly prescribing for them—I showed to be frequent, though not perhaps so appallingly tragic as that reported from Castellammare last summer,[1] when an overdose of aconitum napellus wrought the well-nigh instantaneous death of both parties to the transaction—the “patient” who asked to be prescribed for and the “consulting pharmacist” who, to do him justice, had “the courage of his prescription” and experimented on himself with the fatal dose. The Government, I am glad to say, is at last awake to the risks of the practice and is doing its best to minimise them in every possible way. One step it has taken which must react for the public good, not only in the above-indicated direction, but even in the legitimate business of the pharmacy where the medical man's prerogative is not usurped. Here in Rome, in the later months of last year, it had come to the knowledge of the Delegato Cortesi that the law had been systematically contravened by a number of leading pharmacists—the law, to wit, which makes it penal for such men to absent themselves from their places of business without leaving in charge proper representatives furnished with the diploma required by statute. The offending parties, after evidence duly laid and considered, were at the instance of the Public Prosecutor fined 100 francs (£4) each, while the unqualified representatives they had left in charge were fined 83 francs (£3 6*s.* 8*d.*) each. If, remarks a contemporary journal, this reprehensible and dangerous practice is so common in the capital, what must it not be in the provincial centres and country towns? And if the *rôle* of “consulting pharmacist” is so full of risk when performed by the head of the shop, what must it not be when undertaken in his absence by the “raw lad” whom he has illegally left in charge? The answers to these questions should be seriously weighed by the public—particularly by the travelling public so often tempted from a purblind “economy” to go past the duly qualified practitioner and commit health and life to the nearest pharmacist or as likely as not to his unqualified assistant.

Feb. 25th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Professor Stricker.

ON March 1st Professor Stricker, the renowned teacher of experimental pathology, will celebrate the twenty-fifth anniversary of his promotion to be ordinary professor. He has been the founder of experimental pathology in Austria, and has written a great many works and pamphlets, among which his treatise on the Theory of Inflammation is perhaps the most celebrated.

Pensions of District Medical Officers.

On Feb. 19th the Moravian Diet passed a law relative to the pensions of district medical officers as well as to those of their widows and children. A pension of 500 gulden (about £42) is secured by forty years' service; aften ten years a medical officer receives 40 per cent. and for each additional year 2 per cent. of the salary last drawn. A widow's pension is fixed at one-half the above-mentioned rates and the payment for each child is one-fifth of a widow's pension, with the restriction that the total paymente for the children shall not exceed the amount of a widow's pension. Whenever a medical officer has held his appointment for five years his widow becomes entitled to a pension, which is calculated as if he had served ten years.

Diagnosis of Gastric Disorders.

At the last meeting of the Vienna Medical College Dr. Hammerschlag read a paper on the diagnosis of diseases of the stomach, in which he said that the proper examination of the gastric functions was a matter of importance and should extend to both the movements and the secretion. The gastric juice varies according to the food which is taken and also according to the time of day; it is investigated by analysing the gastric contents collected after a test meal and amounting to 50 c.c. or 60 c.c. A quantity exceeding 100 c.c. or the presence of portions of food remaining from the previous day indicates an abnormal condition of the function of secretion. The production of hydrochloric acid may be either deficient or excessive; the latter condition admits of two alternatives, one of them being marked by an increase in the amount of the acid above its normal proportion of about 1·5 per cent., whilst in the other the total quantity of the gastric juice, but not its relative acidity, is augmented. These two abnormalities are termed respectively hyperchlorhydria and hypersecretion. The symptoms of hyperchlorhydria are pyrosis, sour eructation, gastric pain, and sour vomiting; it is distinguished from excessive formation of lactic acid by chemical analysis and by the power of digesting starch. Hyperchlorhydria occurs in a great many disordered conditions of the stomach, as, for instance, in neurasthenia, in gastric ulcer, and in cases of the excessive use of alcohol and tobacco. When the hyperchlorhydria is slight the pain is trifling and may be assuaged by alkalies, when there is an ulcer the pain is considerable, and when the disorder is of nervous origin the pain, unlike that due to an ulcer, is more influenced by mental emotion than by the food. In hyperæsthesia of the gastric mucous membrane, as met with in hysteria, chlorosis, and influenza, there is intense pain after meals; in ulcer there is also pain after the ingestion of fluids. The treatment consists in the use of a 2 per cent. solution of nitrate of silver, a small teaspoonful of which is taken before meals. Patients who suffer from gastric ulcer vomit but rarely, and never when the stomach is empty, but the gastric crises in cases of tabes are on the contrary attended by frequent vomiting on an empty stomach, by hæmatemesis, and by pains which continue for several days and are independent of the food. In intermittent or chronic hypersecretion there is persistent formation of gastric juice. The chronic form often occurs in ulcer and neurasthenia; it is characterised by a painful feeling of hunger, by the vomiting of sour liquid, and by the disappearance of the pains after food. It, moreover, interferes with the mechanical action of the stomach and leads to dilatation. The stomach after fasting is also found to contain a large quantity of fluid coloured green by biliverdin. Diminished secretion of gastric juice is characterised by dyspeptic symptoms, a feeling of oppression in the stomach, nausea, eructation, and anorexia; it has both an anatomical and a nervous etiology. In catarrh the secretion of mucus is increased and nervous dyspepsia is attended by neurasthenic symptoms. Deficiency of hydrochloric acid occurs in catarrh of long duration, in atrophy of the mucous membrane, in gastric neurosis, and in cancer. In the last case the lactic acid is increased in quantity.

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[1] THE LANCET, June 5th, 1897, p 1558.

Professor Schweninger.

On Feb. 12th the weekly paper *Die Wage* (i.e., *The Balance*) arranged a conference at which Professor Schweninger delivered an address before a popular audience. It is well known that Professor Schweninger is Prince Bismarck's medical attendant and it has been suggested that he owes his professorship to the fact that he succeeded in reducing the Chancellor's obesity. Those who have heard or read his address must acknowledge that it was not of much interest. He spoke on a great variety of subjects such as the late Pastor Kneipp, Professor Schenk's theory, &c., expressing opinions which might be held by a man who had been asleep for the last forty years. The principal charge which he brought against medical men was that their faculty of perception is so deficient that they are under the necessity of asking for details as to the history of an illness "instead of reading it from the eye of the patient." He also inveighed against the medical men of to-day who learn too much. The medical profession and the medical journals in Vienna have not been backward in criticising the proceedings.

The Fango Treatment.

The "fango treatment" consists in the therapeutical use of a kind of mud obtained from the five lakes of Bataglia, *fango* being the ordinary Italian word for mud. The substance in question forms a greyish-brown homogeneous mass which adapts itself to the body like a plaster-of-Paris bandage, it retains its heat for a longer time than any poultice does, and it has the advantage that it does not cause the rashes which are brought out by *Moor* (a kind of peat). It contains abundance of oxide of iron, salts of calcium and magnesium, silicic acid, and a little organic matter. In a paper on the application of fango read by Dr. Rufschnaiter at the last meeting of the Vienna Medical Society he stated that the affected part of the body is plastered with it and covered with a cloth. At the commencement its temperature ought to be 42° C. (106·6° F.) and may be increased to 54° C. The application lasts twenty minutes and produces copious perspiration without any increase of either the respiration or the pulse-rate and there are no symptoms of weakening of the heart such as result from bathing in water, but the temperature may rise 1·5° C. (2·7° F.). Analysis shows an increase of the nitrogen and the uric acid excreted and a diminution of the water in consequence of the diaphoresis. Fango may be applied over extensive surfaces without producing congestion; it acts as a diaphoretic, as a derivative in hyperæmia of the internal organs, as an anodyne in neuralgia and rheumatism, and as an absorbent in joint affections and chronic endometritis.

Feb. 27th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Free Dispensaries.

Two large dispensaries have done good and praiseworthy service during the past year in the most needy quarters of this cosmopolitan metropolis. Dr. Kools is the medical superintendent of the large dispensary in Koum Capou, which is crowded with perhaps the poorest classes of Armenians. This dispensary carries on its work very much like a "medical mission" in England. I have the report of the dispensary before me, which shows that 2299 people received medical advice and medicine in 1896, whereas no less than 6062 people have been attended to in 1897. The dispensary has carried on its work without any distinction of race or creed. The other free dispensary was opened last year in Pera, where a group of well-known Armenian doctors have freely and voluntarily given their services for the poor of the district. This is more like a parish dispensary; the medical superintendent is Dr. Tavitian.

The Imperial School of Medicine.

The School of Medicine is to be transferred to Haïdar Pacha. The construction of the new buildings was commenced last year, but it was interrupted because of lack of funds. The Sultan being informed of this fact has now given orders to the Sublime Porte to do all that is necessary to continue and complete the works at the earliest date possible. The Council of Ministers have considered the matter and have found sources for raising the necessary amount of money. The work of construction is to begin soon and will probably extend over a period of three years. This arrangement if accomplished will no doubt be of the greatest help and service to the Turkish medical student, as the premises of the new medical school will be in the immediate neighbourhood of the large hospital at Haïdar Pacha.

The Society of Medicine.

In the last general meeting of the above society the following gentlemen were elected as members of the Council for the present year:—Dr. Khorassandjian, president; Dr. Economides and Dr. Bitlis, vice-presidents; Dr. Adamides, general secretary; Hodora Bey and Mr. Apery, special secretaries; Mr. Stamadiades, librarian; and Mr. Christophorides, treasurer. The retiring president of the society, Dr. Kambouroglou, is the most popular surgeon in the empire and the new president, Dr. Khorassandjian, enjoys such a popularity as a general practitioner in all the parts of the country as has perhaps never been surpassed in the professional annals of this country. Upon the proposition of the retiring council Mavroyani Pacha was appointed an honorary member of the society.

Feb. 22nd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Marine Hospital Service as a National Quarantine Board.

THE Senate Committee on Public Health and National Quarantine in its report states: "In our opinion it is wise and necessary to retain the present system of quarantine under the management of the Marine Hospital Service, with its hospitals, quarantine stations, improved apparatus for the investigation of disease germs, and corps of officers, 25 per cent. of whom have experience in the prevention and treatment of infectious diseases and especially of yellow fever. It may be found expedient hereafter to expand the service into that of a department, but to do so now would mean the useless expenditure of money and the destruction of the only systematic antagonism to the invasion of contagious disease. While we believe that the quarantine jurisdiction should be retained we are clearly of the opinion that its powers should be enlarged and made more distinct and uniform. No timidity or adherence to technicalities should prevent the adoption of any measures which are necessary to exclude contagious diseases from our shores. The experience of past years, and especially of last summer, demonstrates the absolute and immediate necessity of so amending existing laws as to enlarge and concentrate the powers of the Marine Hospital Service so that the present sporadic and conflicting condition, in which there is constant friction and collision between Federal and State officials, shall be changed and the exclusive ultimate control be given to one authority."

The Source of the Yellow Fever Epidemic.

The committee of the Mississippi Legislature appointed to investigate the yellow fever of last summer has made its report. The committee finds that yellow fever prevailed during four months at Ocean Springs and that it was introduced into this country by a Mississippi family who had been temporarily in Guatemala and who came to the United States on the Central American steamer *Breakwater*. Their baggage was neither fumigated nor disinfected and they went directly to Ocean Springs, where one of them was taken sick with fever. Within a few days other cases of fever appeared in their immediate neighbourhood and from that time a disease of the same character prevailed at Ocean Springs until the end of the summer, although it was not diagnosed as yellow fever until September. The committee attributes the introduction of yellow fever to the fact that the quarantines of the Gulf States against the West Indies and Central America go into effect on May 1st, whereas the *Breakwater* brought the disease into the country in April before the quarantine was put into operation. This shows the necessity for early quarantine in order to assure protection. The committee also investigated the amount of damage done by the yellow fever scare and found it to be greater than estimated. The loss to business in the State during the prevalence of the scare was from 25 to 40 per cent. and property on Mississippi Sound has shrunk 30 per cent. in value because of the fever. The expense of the various quarantines in vogue was found to run as high as $5000 in many of the countries.

Cost of the Charities of the State of New York.

From the statistical tables of the thirtieth annual report of the State Board of Charities, the last published, it appears that the State and local institutions—that is, the public charities—held property real and valued at over $12 000,000, while that of the private charities was valued at $69,000,000. The total revenue of the public charities during the fiscal year was over $4,000,000 and that of the private charities over $17,000,000. The public charities at the close of the fiscal year had nearly 20,000 inmates and the private charities 48,000. These statistics include only such charities as are subject to the supervision of this board.

Laws relating to Medical Experts.

The New York Academy of Medicine appointed a committee to report what legislation, if any, should be secured regulating the selection of experts by the courts. The committee conclude that any measure looking towards a reform in the present methods of offering expert testimony should proceed along three distinct lines: (1) to establish a standard of excellence; (2) to secure the appointment of experts in any case by the presiding justice of the court so that the expert should have a judicial function and be free from bias; and (3) fees should be fixed by the court. The committee decided to recommend that persons desiring to practise as experts should be required to register with the regents of the university, presenting certain evidence of qualification, the applicant to specify what department of medicine he desires to appear in, either surgery, medicine, obstetrics, gynæcology, chemistry, pathology, nervous diseases, or insanity; to state that he has been in the practice of medicine for ten years and in that of the speciality for three years; to show that he has had special opportunities for research for three years in laboratory, hospital, dispensary, or asylum practice; to present a certificate of good moral character; and to have his qualifications sworn to and endorsed by two officers of the county medical society or association of the school to which he belongs and certified to by a justice of a court of record of the district in which he lives. The committee recommend the appointment of the experts by the judge of the court in which the case is tried, upon the application of counsel for either side or in the wisdom or the court. It recommends that the court should appoint three or more experts to act as judicial advisers. The experts are to be allowed to receive all information possible from counsel on both sides; they are to be allowed to examine material or patients; they are not to express any opinion to anyone excepting to each other, and their testimony is to be elicited by questions and cross-questions before the court.

Why most Immigrants land in New York.

Mr. Ernest Ingersoll in a paper on the Greater New York says: "The merchants of New York sent to the continent of Europe more ships than the merchants of other cities who traded mainly with Great Britain, so that this city was better known throughout Europe and her vessels were the handiest for emigrants from France, Germany, and Holland. Agents of the New York merchants and of the Government who were seeking and encouraging immigration could show that this port was the most advantageous landing-place for a man who was going out west, and the sea-captains explained that it was the safest and quickest port to make because the course lay south of the stormy, foggy region north of Cape Cod and the city was much closer to the open sea than Philadelphia or Baltimore. At any rate, immigration increased in favour of New York as time went on and the stream of in-coming people swelled until in the decade from 1884 to 1894 it amounted to about half a million of immigrants a year, 590,666 arriving in 1890 alone, not counting those from Canada and Mexico."

Feb. 18th.

Obituary.

JOHN HODGSON WRIGHT, M.R.C.S. ENG., L.S.A., J.P.

MR. HODGSON WRIGHT, the oldest practitioner in Halifax, and until a few months ago one of the most active, has just passed away. An attack of influenza last spring left him considerably debilitated and a cardiac neurosis of an anginal character developed, asserting itself after exertion, which it did finally at the meet of the Badsworth hounds to which he had ridden as a spectator and not as an active participator of the sport. Mr. Wright was born in Halifax in the year 1833 and leaves a father who, although ninety-three years of age, is still active. He was educated at Charing-cross Hospital and became M.R.C.S. Eng. in 1855 and L.S.A. in 1856. After holding several appointments in London hospitals he settled down to practice in his native town and soon became successful. In course of time he was elected surgeon to the Halifax Infirmary and speedily came into prominence, his services being in much request in the town and surrounding districts as an operator. After thirty years' faithful work as a member of the hospital staff Mr. Wright retired from the position of senior surgeon only a month before his death and was elected consulting surgeon. At the meeting of the infirmary board at which his resignation was announced it was unanimously resolved that a subscription be opened to raise a fund sufficient to procure a painting of Mr. Wright to be hung in the board room and a replica to be presented to himself, but his untimely death prevents the paintings being accomplished except from a photograph. Through the energy and public spirit of Mr. and Mrs. Wright the poor of Halifax have for many years past had four nurses to attend them in their homes and four years ago Mrs. Wright established a home for at least twelve incurable patients in the administration of which her husband took an active part. In the Crossley Orphanage, one of the largest institutions of its kind, he also took a great interest and acted as medical officer to it. He was very fond of sport and occasionally spent a day in fishing, shooting, or hunting. The high esteem in which Mr. Wright was held was much in evidence on the day of his funeral, when all shades and sections of the community were represented in the gathering which followed him to his last resting-place.

ARTHUR T. SAVAGE, B.A. CANTAB., L.R.C.P. AND S. EDIN., L.F.P.S. GLASG.

THE death of Mr. Arthur T. Savage is announced as having taken place at Olton, near Birmingham, on Feb. 26th, in his thirty-first year. He was the son of Dr. Thomas Savage, of Birmingham and was educated at Giggleswick Grammar School and Cambridge, where he graduated in arts. Subsequently he entered the medical profession and had just settled down to practice with every social advantage and opportunity for success. Of unobtrusive and quiet manners

Mr. Savage, by the simplicity of his life and gentle character, made many friends, giving every promise of a long and honourable career. Unfortunately the seeds of a former kidney trouble revived with acute symptoms and he succumbed after a few days' illness to an attack of Bright's disease in an intense form. He had married as recently as June last, which fact makes his death additionally sad.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Love, Professor of Physiology in the Atlanta Medical College.—Dr. Max Podack, *privat-docent* of Internal Medicine in Königsberg.—Dr. Johann Conrad Busch, a great authority on medical practitioners' social relationships and on the question of sick clubs in relation to their medical officers. He died at Crefeld at the age of fifty years.—Dr. Gottfried Lenhartz, first-class *Oberstabsarzt* in the Prussian Army and co-editor with Dr. von Lenthold of the *Militärärztliche Zeitung*.—Dr. Hasse, Medical Privy Councillor of Brunswick, whose book on Overwork in Schools and its Relation to Insanity has been greatly read and discussed by school sanitarians all over the world. He was in his sixty-eighth year and prosecuted his medical studies in Göttingen.—Dr. Wilhelm Moldenhauer, Extraordinary Professor of Ear and Throat Diseases in Leipzig, at the age of fifty-two years.—Dr. Saenger, formerly Professor of Midwifery and Gynæcology in Groningen, at the age of sixty-four years.

Medical News.

ROYAL COLLEGE OF SURGEONS IN IRELAND: FELLOWSHIP EXAMINATION.—The following candidates, having passed the necessary examination, have been admitted Fellows of the College:—

Mr. F. Conway Dwyer, B.Ch., M.D. Univ. Dubl.; Miss E. B. Eberle, M.B., B.Ch., Royal Univ. Ireland; Mr. R. Friel, M.B., B.Ch. Univ. Dubl.; Mr. G. Jameson Johnston, M.B., B.Ch., Royal Univ. Ireland; Mr. A. J. Smith, L.R.C.P. and S.I.; Mr. H. T. J. Thacker, M.B., B.Ch. Edin.; and Mr. L. Werner, M.B., B.Ch. Univ. Dubl.

The following candidates have passed the primary part of the examination for the Fellowship of the College:—

Mr. T. G. Stevens, L.R.C.P. and S. Irel., and Mr. D. Hadden.

UNIVERSITY OF CAMBRIDGE.—At the congregation on Feb. 24th the following were admitted to the M.B. degree:—

George Crichton Jackson, B.A., St. John's; Walter Reginald Wilson, B.A., Corpus Christi; James Graham Forbes, B.A., Christ's; Richard Mathias, M.A., Christ's; John McDonald McCarthy, B.A., non-collegiate.

The first four of these were also admitted Bachelors of Surgery.—The late Mr. Frank Chance, M.B., has left by will a large selection of his books to the University Library.—The voting as to the suspension of the Professorship of Surgery and the appointment of a Reader will take place in the Senate on March 10th.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. van Hoorn has been recognised as *privat-docent* of Dermatology.—*Berlin:* Dr. J. Pagel, *privat-docent* of the History of Medicine, has been granted the title of professor.—*Bonn:* Dr. R. Eschweiler has been recognised as *privat-docent* of Otology.—*Bordeaux:* Dr. André Moussons, *agrégé*, has been promoted to the Clinical Professorship of the Medical Diseases of Children; Dr. Hobbs has been appointed *professeur agrégé* of Medicine after a *concours*.—*Breslau:* Dr. K. Hürthle has been appointed Professor of Physiology in place of the late Dr. Heidenhain.—*Heidelberg:* It is intended next session to open a special department for Hydrotherapeutics in connexion with the medical clinic of the University. This will be the first department of the kind in any German university.—*Kharkoff:* Dr. Orloff, Extraordinary Professor of Clinical Surgery, has been promoted to be Ordinary Professor.—*Kieff:* Dr. Tomasevski has been appointed Professor of Syphilis and Dermatology in succession to the late Professor Stukovenkoff.—*Leipzig:* Dr. Perthes has been recognised as *privat-docent* of Surgery.—*Lille:* Dr. Carrière and Dr. Deléarde have been appointed *professeurs agrégés* of Medicine after a *concours*.—*Lyons:* Dr. Pic and Dr. Paviot have been appointed *professeurs agrégés* of Medicine.—*Montpellier:* Dr. Raymond and Dr. Vires have been appointed *professeurs agrégés* of Medicine.—*Paris:* Dr. Teissier, Dr. Thiroloix, Dr. Vaquez, Dr. Dupré, and Dr. Méry have been appointed *professeurs agrégés* of Medicine after the termination of a competitive *concours*.—*St. Petersburg (Medico-Chirurgical Academy):* Dr. W. Heinaz and Dr. W. Thiele have been recognised as *privat-docenten* in Surgery.—*Toulouse:* Dr. Frenkel has been appointed *professeur agrégé* of Medicine.—*Turin:* Dr. Carlo Forlanini has been appointed Professor of Medical Pathology.

YEOVIL HOSPITAL.—The annual meeting of Yeovil Hospital was held at the town hall on Jan. 12th, Major R. Aldworth presiding. The report stated that during 1897 there had been 112 admissions of in-patients with six deaths. The accounts which were submitted showed that the total receipts were £705 and that a balance of £9 remained in the hands of the treasurer. One of the medical officers, responding to a vote of thanks, said that there was no appliance in the town for conveying an injured person to the hospital and the necessity of an ambulance was referred to by other speakers.

CHESTER INFIRMARY.—The annual meeting of the governors of Chester Infirmary was held on Jan. 25th in the institution, Colonel Evans Lloyd presiding. The statistical report showed that the cases treated during 1897 were as follows: in-patients, 1284; out-patients, 4269; home patients, 2106; and district patients, 254; making a total of 7913. The daily average number of occupied beds throughout the year was 103. The ordinary income amounted to £5549 and the total ordinary expenditure to £5542. A new post-mortem room was built at a cost of £275. The Queen's long reign has been commemorated at the infirmary by painting, decorating, refurnishing, and reflooring one of the wards for females, which will in future be known as the "Queen's Ward." At the Convalescent Home there had been 251 admissions and one death.

COMPLIMENTARY DINNER TO DR. RAWDON.—On the evening of Feb. 26th Dr. Rawdon's medical friends entertained him at dinner at the Exchange Station Hotel, Liverpool, on the occasion of his retirement from hospital and private practice in Liverpool. Dr. Caton presided. The chairman and other speakers referred to Dr. Rawdon's long and honourable association with the Royal Southern Hospital, the Children's Infirmary, the Blue Coat School, and other charities. Mention was made of Dr. Rawdon's abilities as a surgeon and of the faithful and conscientious manner in which he had always devoted himself to the interests of his patients. He was complimented on his exceptional physical vigour and activity after a professional career which has almost reached forty years. The hope was expressed that he might enjoy the period of well-earned rest to which he is looking forward and which he proposes to spend in some rural part of the south of England. Appropriate vocal and instrumental music added to the interest of the evening.

HUNTERIAN SOCIETY.—The annual meeting of this society was held at the London Institution on Feb. 9th, the President, Dr. G. E. Herman, being in the chair. The following gentlemen were elected as office-bearers for the ensuing year:—President: Mr. J. S. E. Cotman. Vice-Presidents: Dr. S. H. Appleford, Dr. Frederick J. Smith, Mr. A. H. Tubby, and Dr. J. F. Woods. Treasurer: Dr. E. Charlewood Turner. Trustees: Dr. H. I. Fotherby and Mr. F. M. Corner. Librarian: Dr. T. Arnold Chaplin. Orator: Sir Hugh Beevor, Bart., M.D. Lond. Secretaries: Dr. Arthur T. Davies and Mr. J. H. Targett. Council: Mr. John Adams, Mr. A. Berrill, Dr. Bertrand Dawson, Dr. Fortescue Fox, Mr. A. W. Galloway, Mr. Hope Grant, Mr. W. A. Grogono, Dr. G. E. Herman, Dr. John W. Oliver, Dr. William Rawes, Mr. Henry J. Sequeira, and Dr. James H. Sequeira. Auditors: Mr. F. Gordon Brown, Mr. Hope Grant, Dr. F. Glover Lyon, and Dr. W. Rawes.—The society then adjourned to the theatre of the London Institution to hear the annual Hunterian Oration, which was published in THE LANCET of Feb. 19th, p. 510. At the conclusion of the Oration the President proposed a hearty vote of thanks to Dr. Horrocks, which was accorded with acclamation.—The annual dinner was held on Feb. 11th at the First Avenue Hotel, the President being in the chair. Sixty-six Fellows and guests were present.

Literary Intelligence.—The Calendar of the Victoria University for the year 1898 has just been issued and can be obtained in Manchester from Mr. J. E. Cornish, St. Ann's-square, and in London from Messrs. Macmillan and Co., price 1*s.*—The following new books will be issued very shortly: "A Manual of Bacteriology," by Dr. Hewlett, assistant in the Bacteriological Department at the British Institute of Preventive Medicine; "A Manual of General Pathology for Students and Practitioners," by Dr. Lazarus-Barlow, late Demonstrator of Pathology in the University of Cambridge; "A Manual of Dental Metallurgy," by Mr. Ernest A. Smith, Assistant Instructor in Metallurgy at the Royal College of Science, London. All three will be published by Messrs. J. and A. Churchill.

Royal Free Hospital.—The annual report of the Royal Free Hospital shows that there were 142 patients in the wards on Jan. 1st, 1897, and that 2020 were admitted during 1897, so that the total number of patients under treatment for the year was 2162, of whom 1798 were discharged, 214 died, and 150 remained in the wards on Dec. 31st, 1897. The daily average number in the wards was 143 and the average period of residence for each case was twenty-four days. There were also 18,578 out-patients and 16,549 casualties. The total expenditure for the year was £12,148 and the total income available to meet it was £10,138, so that there was a deficiency of £2010. The total number of students attending the London School of Medicine for Women, with which the hospital is associated, was 163 at the close of 1897; during the year 36 new students entered the school, of whom 31 are taking the full course of study. The festival dinner will be held at the Hotel Cecil on May 20th.

Epidemiological Society.—A meeting of this society was held on Feb. 18th, Professor J. Lane Notter, President, being in the chair. Surgeon-Captain Leonard Rogers, of the Indian Medical Service, read a paper on the Relation of Variations in the Level of the Ground Water to the Incidence and Seasonal Distribution of Malarial Fevers in India. On the conclusion of the paper, which will be published in The Lancet on an early date, Dr. Manton said that the mosquito theory was not, as Surgeon-Captain Rogers thought, a mere inference from analogy between such different organisms as the filaria and the plasmodium, for he had seen the latter in the stomach and in the tissues of mosquitos, but they were essentially intra-corpuscular organisms and could not escape except in the blood corpuscles. Mauritius was formerly free from malaria and many South Sea Islands presented all the necessary physical conditions but were exempt and would be so until some form of plasmodium and the corresponding species of mosquito, of which there were hundreds, were both introduced.—Dr. K. McLeod, Dr. Pringle, Dr. Bulstrode, and the President also made some remarks, after which Surgeon-Captain Rogers replied.

Society of Medical Officers of Health.—A meeting of this society was held on Feb. 11th, Dr. E. Seaton, the President, being in the chair.—Mr. E. Sergeant read a paper on the Inspection of Cowsheds, submitting to the society resolutions in favour of uniform regulations throughout the country on the basis of model by-laws to be issued by the Local Government Board. It was proposed that the execution of these orders should be committed to the county councils, who might appoint qualified inspectors, or at any rate that the county council should have the power of compelling the local authorities to exercise an effective supervision of the cowsheds, &c., within their districts. After referring to the numerous and severe outbreaks of typhoid fever and other fevers clearly traced to milk supplies he expressed the opinion that the aggregate mortality from minor outbreaks and untraced sporadic cases, the fatal diarrhœa of infants and mesenteric tubercle, all in one way or another connected with milk, was far greater than that from the more alarming epidemics. Tried by the tuberculin test 15 to 50, in some places even 75, per cent. of the cows in different districts of Lancashire were proved to be affected. In Manchester and Salford dairy companies had been formed on the Copenhagen model, guaranteeing their milk to be the product of cows that had stood the tuberculin test, but he was not aware of this having been done elsewhere.—The paper was discussed by Dr. F. Bond (Gloucester), Dr. J. S. Cameron (Leeds), Dr. Newsholme (Brighton), Dr. Armstrong (Newcastle), Dr. E. F. Willoughby, Dr. Groves (Isle of Wight), Dr. Legge and others, after which Mr. Sergeant replied, and the resolutions were put and carried *nem. con.*

Dr. A. Garrod Thomas, of Newport, Mon., has been made a Deputy Lieutenant for Monmouthshire.

Vaccination Grant.—Mr. H. P. Gilbert, L.R.C.P. Edin., M.R.C.S. Eng., of Aston Clinton, has received for the sixth time the Government grant for successful vaccination.

The Royal Buckinghamshire Hospital.—At the last meeting of the board of the Buckinghamshire General Infirmary it was decided that the institution should be called in future "The Royal Buckinghamshire Hospital."

Cornelia Hospital, Poole.—The annual report of the Cornelia Hospital, Poole, showed that during 1897 the subscriptions amounted to £341 as against £214 in 1896. The fees from patients amounted to £68. The total expenditure was £1001 and the deficiency of £592 was made up, as in past years, by Lady Wimborne. 178 patients were cured and relieved, 8 died, and 25 were in the hospital on the last day of the year.

Charing-cross Hospital.—The annual meeting of Charing-cross Hospital was held in the hospital buildings on Feb. 16th, Lord Wantage presiding. The council's report stated that at the end of last year the institution was in the greatest possible financial difficulties and the buildings were mortgaged for debt. A special appeal for £100,000 was accordingly made, one half of that sum being required for maintenance and the other half for the new out-patient department, the nursing home, and the wards for special cases, as well as for providing better accommodation for the medical staff. The receipts for the past year were £57,091, including £19,463 from legacies and £2006 from the Prince of Wales's Fund. During the year there were 2017 in-patients, 11,800 out-patients, and 11,700 casualties. It had been decided that an officer should be appointed to guard against possible abuse of the out-patient department.

Stockport Infirmary.—The annual meeting of the Stockport Infirmary was held in the institution on Feb. 9th, Mr. T. H. Sykes presiding. The report mentions that the present building, which was opened in 1833, has been enlarged on two occasions—namely, in 1871 and 1885. A further extension by the erection of an additional pavilion is in contemplation as a memorial of the Queen's long reign, and will involve an outlay of from £8000 to £10,000, towards which about £7400 has been already promised. During 1897 there were 645 admissions of in-patients, 609 discharges, and 37 deaths; in addition to which there were 1404 out-patients; 773 home patients, 1325 accidents and 865 minor cases. The total receipts for 1897 were £3769 and the total expenditure was £3719. The average cost of each in-patient was £4 2*s.* 5*d.* and the average cost per head per week (staff and patients) was 5*s.* 9*d.*

Royal Ear Hospital.—A successful performance of Mr. Pinero's domestic drama *Sweet Lavender* was given by the Pearl Assurance Musical and Dramatic Society at the Matinée Theatre, St. George's Hall, W., on Tuesday evening last in aid of the building fund of the Royal Ear Hospital. The interest in the charming little play was sustained throughout and all concerned in the performance are to be congratulated. The able acting of Miss Annie Linscotte as Lavender was greatly appreciated by the audience as was also that of Miss Amy Wilson in the *rôle* of the sympathetic Minnie. Mr. Herbert Rea's impersonation of the bibulous but virtuous Dick Phenyl was well conceived. The character of Horace Bream was perhaps a little over-acted by Mr. Willis Clarke, but all who remember Mr. Fred Kerr's excellent impersonation of the young American will recognise that Mr. Clarke had a difficult task. Mr. William Blake played Clement Hale, Lavender's lover, with feeling; while Mr. George O'Hagan as Dr. Delaney infused the proper amount of warmth into his impersonation of the kind-hearted Irish physician. The rest of the cast included Miss Alice Taylor as Mrs. Gilfillan, Miss Clara Evans as Ruth Rolt, Mr. Lauri Foster as Wedderburn, Mr. Edward Gaskin as Maw, and Mr. Stanley Hall as Bulger.

THE London Hospital has received from the members of the Stock Exchange the sum of £6527 10*s*, collected in response to a special appeal on behalf of the hospital.

CARDIFF SANATORIUM.—At the meeting of the Health Committee of the Cardiff Corporation held on Feb. 22nd the plans were inspected and afterwards passed for the extension of the sanatorium. Three pavilions will be erected and there will be accommodation for sixty extra beds, making a total of 132 beds for the sanatorium. The cost is estimated at £24,000.

BRECON INFIRMARY.—The annual meeting of the Brecon County and Borough Infirmary was held on Feb. 15th, under the presidency of the Rev. Prebendary G. Williams. It was mentioned that the late Mr. J. Evans had given £100 to the institution. The report stated that the "Infirmary Jubilee Fund," which was adopted as the county fund for commemorating the Queen's long reign, now amounted to over a thousand guineas. This fund will be utilised for the provision of increased accommodation and appliances for the infirmary.

ROYAL WEST OF ENGLAND SANATORIUM, WESTON-SUPER-MARE.—The annual meeting of this convalescent home was held on Feb. 19th under the presidency of Mr. F. J. Fry, J.P. The financial statement showed that the receipts for 1897, including a balance of £667 remaining from 1896, amounted to £4140, and the expenditure was £2786. The number of convalescent patients admitted during 1897 was 1481 (780 men and 701 women), of whom 690 were discharged recovered, 350 were discharged much improved, and 8 were dismissed for intemperance. There were 3 deaths during the year.

MEDICAL MAGISTRATES.—Mr. Thomas S. Floyd, M.D. Dub., of Claughton, Birkenhead, and Mr. William Cotton Cornwall, L.R.C.P., L.R.C.S. Edin., of Birkenhead, have been appointed to the Commission of the Peace for Birkenhead.—Mr. John Mitchell, M.D. Glasg., of Silloth, has been appointed to the Commission of the Peace for Cumberland.—Mr. Wm. S. Mavor, M.D. Durh., L.R.C.P. Lond., M.R.C.S. Eng., of Waltham Cross, has been appointed to the Commission of the Peace for the County of Hertfordshire.—Mr. James Dickinson, M.B. Lond., of Bridgetown, West Australia, has been appointed a Justice of the Peace for that colony.

ROYAL BATH HOSPITAL, HARROGATE.—The annual meeting of the Royal Bath Hospital and Rawson Convalescent Home at Harrogate was held within the institution on Jan. 27th, the Honourable H. E. Butler presiding. The report presented by the honorary medical officer showed that the total number of cases, inclusive of readmissions, treated in the Royal Bath Hospital during 1897 has been 914. In addition to the foregoing there were 216 patients, including readmissions, treated in the Rawson Convalescent Home. Since the last annual meeting Mr. Butler offered to contribute £5000 to the Home endowment fund provided that the charges made for treatment in the Home were reduced and the conditions have been accepted by the Governors, the reduction taking effect from the beginning of 1898.

PRESENTATIONS TO MEDICAL MEN.—On the occasion of the distribution of certificates to the successful candidates of the Midland Railway Ambulance Class at the Sandon Dock Station on Feb. 17th Mr. J. A. Hendry, M.R.C.S. Eng., of Kirkdale, Liverpool, the honorary lecturer to the class, was the recipient of a walking-stick as a token of appreciation of his services.—At a meeting of the Great Northern Ambulance Class at Doncaster on Feb. 21st Mr. C. M. Hill, L R C.P. Lond., M.R.C.S. Eng., the lecturer of the class, was the recipient of a silver cigarette case, matchbox, and sovereign purse.—On Feb. 23rd the members of the Worksop detached class (a branch of the St. John Ambulance Association of the town) presented Mr. A. H. Montague, M.D. Durh., of Worksop, the instructor, with an aneroid barometer.—At the town hall, Yeadon, on Feb. 25th the members of the Yeadon Branch of the St. John Ambulance Association were entertained at tea by the invitation of Mr. J. Peate, the president, when Mr. C. J. R. McLean, M.D. Edin., the instructor to the class, was the recipient of a silver water-jug.

HARROGATE MEDICAL SOCIETY.—A general meeting of this society was held on Feb. 17th, the President, Mr. F. N. Ozanne being in the chair.—After the ordinary business of the meeting Mr. R. B. Anderson delivered an address on Medical Reform, commencing with a description of his personal experiences of the violation of professional rights. After having been mulcted in damages and costs and sent to prison to compel payment of them for exercising his right to retire from a case he recovered against the judge a verdict for substantial damages, but the Court of Appeal overruled the verdict, thereby denying him his remedy. He then traced the development of the claim that the General Medical Council and qualifying bodies are under an obligation to uphold the rights in return for which medical practitioners have paid their fees and he described the very active practical efforts of the Corporate and Medical Reform Committee to secure the combined action of the profession and thereby the reform of the General Medical Council and Medical Corporations.—Dr. Gordon Black then moved: "That this meeting of the Harrogate Medical Society expresses its cordial agreement with the work of the Corporate and Medical Reform Committee, as explained by Mr. Anderson, and undertakes to urge upon all its members the importance of doing all they can as individuals to support the movement." Dr. James Myrtle seconded the motion, which was carried unanimously.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—At a meeting held on Feb. 23rd, Dr. J. F. Payne, President, being in the chair, Dr. A. Eddowes read a paper on a case of Ringworm contracted from a Hedgehog. The patient was a girl, fifteen years of age, who brought the animal wild from the country and made a pet of it. A fortnight later tinea circinata commenced on her chin and wrist, for which she consulted Dr. Eddowes fourteen days afterwards—i.e., a month from the arrival of the hedgehog. Dr. Eddowes removed and stained several of the white, slender, abdominal prickles of the hedgehog and in them he found identically the same fungus as he had found the day before in the scales removed from the patch on the patient's face. He had since heard of another case of a similar nature caught from another hedgehog. He also mentioned the case of another patient of his, a female, who had contracted favus in all probability from a monkey. The paper was illustrated by microscopic preparations, photographs, and lantern slides.—Various other cases and specimens were shown by Dr. J. H. Stowers, Dr. J. L. Bunch, Dr. P. S. Abraham, Dr. T. Savill, and Dr. A. Eddowes.—A letter was read from Professor A. Wolff, of Strassburg, inviting the members of the society to take part in the Congress of the Deutsche Dermatologische Gesellschaft to be held at Strassburg at Whitsuntide.—The following members took part in the discussion of the cases: the President, Mr. Hare, Dr. Stowers, Dr. Abraham, Mr. Pernet, and Dr. Savill.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on Feb. 25th, the President, Dr. B. G. Morison, being in the chair.—Dr. J. S. Risien Russell gave a lantern demonstration of specimens from the Spinal Cord in Locomotor Ataxy, Lateral Sclerosis, Insular Sclerosis, Ataxic Paraplegia of Gowers, the Sclerosis of Profound Anæmia, Degeneration due to a Tumour's Pressure and to a Fracture Dislocation.—Dr. G. Denton read notes of a case of Traumatic Cerebral Hæmorrhage in an alcoholic man who received a blow two inches above the left ear. He was picked up at once unconscious. On the second day with return to consciousness headache was complained of; on the third day double facial neuralgia was experienced; on the fourth day the temperature and the pulse were normal and the neuralgia was relieved; on the sixth day photophobia was present and occipital pain, which continued to the seventh day; on the eighth day the occipital pain had extended down the neck, the pulse was 60 and the temperature was 97° F.; on the ninth day he was free from pain, wished to get up and died suddenly in the afternoon. The post-mortem examination showed a blood clot weighing one and a half ounces adherent to the brain. There was no laceration of the brain. The viscera were not healthy.—Mr. W. Campbell M'Donnell related a case of Acute Neurasthenia in a woman, aged forty-six years, with fever lasting nineteen days and ranging between 100° and 103·6° F. for nine days. On recovering from this right basal pleurisy followed, with again much fever. The patient recovered completely.

ROYAL PORTSMOUTH HOSPITAL.—The annual general meeting of the Royal Portsmouth Hospital was held at the town hall on Feb. 25th. The report of the committee states that the past year was the most eventful in the history of the hospital since its foundation in 1847, having been distinguished by an event of the greatest importance—viz., the commencement of a new and enlarged building. This had been undertaken as the special feature in the local commemoration of the completion of the sixtieth year of the Queen's reign and a sum of over £15 500 had been raised. The foundation-stone of two blocks was laid on Aug. 7th, 1897, by H.R.H. the Duke of Connaught, K.G., and it is hoped that these will be ready for occupation at the end of 1898. The total number of patients treated during the year was 10 360, and of these 1241 were in-patients. The income amounted to £6194 12*s.* 6*d.* (including the handsome sum of £1080 from the Hospital Saturday collection), whilst the expenditure was £6885 1*s.* 6*d.* The committee appeal for generous support to enable them to carry on in its enlarged sphere of beneficent relief the work of one of the noblest charities which Portsmouth possesses.

HEALTH OF THE PORT OF FALMOUTH.—Dr. W. K. Bullmore, the medical officer for Falmouth and Truro Port Sanitary Authority, in his annual report for 1897 states that 791 ships, representing an aggregate of 425,372 tons, visited the port. There had not been any infectious or contagious disease brought into the district and there was comparatively very little sickness amongst the crews of vessels arriving. The total number of cases treated during the year at the Royal Cornwall Sailors' Home was 62 of whom 10 suffered from accidents and injuries, 10 from scurvy, 1 from fever, 15 from beri-beri, and 24 from minor ailments.

PREVENTABLE DISEASE.—The monthly dinner of the Article Club was held at the Hotel Cecil on Wednesday night, when an after-dinner discussion on "The Price of National Health" was introduced by Mr. Wolf Defries, the chairman. Mr. Defries said that, notwithstanding modern progress in sanitation and public health matters, among males in 1895 the six principal zymotic diseases accounted for nearly 8½ per cent. of the total mortality of the country, while tuberculosis accounted for 11 per cent. more. The minimum value of a life had been calculated by Dr. Farr at £159 per head for lives of all sexes and ages calculated on the basis of the average earnings of the agricultural labourer, from which the cost of his keep was deducted. Adopting this figure Mr. Defries showed that the country had lost in 1895 £17,000,000 through preventable diseases. Other figures taking into consideration the losses through sickness were quoted to show that the loss to the country amounted to nearly six times this enormous figure. Sir Douglas Galton, Dr. Saundby, Mr. M'Leod, M.P., Professor Corfield, and Professor Smith were among those present who took part in an interesting discussion.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Treatment of Habitual Drunkards.

THE Home Secretary intends very soon to introduce a Bill on this subject and has made it known that its operation will extend to Scotland.

Nursing in Scottish Prisons.

A deputation waited on the Secretary for Scotland on Monday, Feb. 28th, with reference to this subject and after expressing their views they received from Lord Balfour of Burleigh the intimation that the Government do not see their way to the appointment of the proposed departmental committee.

University of London Commission Bill.

The second reading stage of this Bill in the House of Lords was put down for Monday, Feb. 28th, and afterwards postponed until the following day, when it was again postponed.

HOUSE OF LORDS.

FRIDAY, FEB. 25TH.

The Plague in Bombay.

The Earl of Onslow, Under-Secretary of State for India, in reply to questions by Lord Reay, made a long statement on this subject. He explained that in Bombay city the plague and plague deaths were rapidly growing worse from Dec. 1st last until the week ending Feb. 11th of the present year. The number of reported plague deaths in Bombay city were, for instance, for the three weeks ending Jan. 28th, Feb. 4th, and Feb. 11th, 840, 1004, and 1220 respectively. The corresponding figures for last year were, on the other hand, 402, 607, and 803 only. The last telegram received from India contained, fortunately, better news. The deaths for the week ending Feb. 18th have fallen to 1136, or 84 less than in the previous week. This was the first time for ten weeks that the weekly telegram had not shown a progressive increase in the reported plague deaths in Bombay city. For the corresponding week in 1897 the figure was 849, as compared with the 1136 mentioned. But it must be pointed out that the Government of Bombay believe the plague deaths to be more strictly and more completely reported now than they were last year. Also, they estimate the present population of the city at 800,000 persons, as compared with about 450,000 last year, owing to panic and the exodus. Immense efforts were being made in a systematic way to combat the plague and prevent its spreading in the city and experience of successful plague campaigns elsewhere was being utilised. The Government, its officers, and the Governor himself were not sparing themselves. The hospitals were well organised, the supply of medical men and nurses was sufficient, reinforcements being sent from home at two or three days' notice whenever asked for. Ten more medical men went this week. In all 59 men and women doctors and 61 nurses have been sent. It was with deep regret that he had to inform their lordships that two of the lady nurses, Miss Morgan and Miss Macdougall, had died from plague during the performance of their duties. The Plague Committee had recently been strengthened and the superior skilled staff was nearly double that employed last year. In addition part of the detective staff were employed in research work. As an instance of the manner in which the Bombay Plague Committee carried out its work he mentioned that recently 16,600 houses were inspected during a single week, with the result that 600 plague cases were discovered. Camp accommodation was also ready for 8800 persons and was in course of construction for 15,000 persons, so that accommodation for 23,800 persons either had now been or will be provided. Twenty-nine hospitals were also open, containing 1011 cases. He might say that within the presidency of Bombay outside Bombay city, and even in Bombay city to some extent, as already explained, the plague had almost everywhere diminished; the measures taken against plague had improved and extended; while on the whole the people had come or were coming to acquiesce in or even sometimes to coöperate in anti-plague work. It was only in new places where plague operations first began that opposition occurred and only in a very few cases had any act of overt opposition been recorded. Constant precautions and inspections were taken through the agency of men and women doctors and other trustworthy officials on the railways and at seaports to prevent plague from being carried to other parts of India. So far these measures had succeeded in preventing the spread of the epidemic which had now raged for eighteen months in the Western Presidency. As to preventive inoculation against plague, this had been largely employed after the system of M. Haffkine, and the Government of India considered that the result of his experiments made at Damann was so encouraging that they were not without hope that protection might be proved to be possible by means of prophylactic inoculation. They thought that every opportunity should be taken to test its efficacy and local governments and administrations have been directed to procure a supply of serum for the use of persons who desire to have themselves inoculated. M. Haffkine himself has recently been instructed to proceed to Baroda to carry out inoculation there.

HOUSE OF COMMONS.

MONDAY, FEB. 21ST.

Irish Local Government Bill.

At this sitting of the House Mr. Gerald Balfour introduced the Bill of the Government for the reform of local administration in Ireland. The Bill follows very closely the lines of the recent legislation on this subject for England and Scotland. It proposes to bring into existence county councils and district councils, the former to perform the duties of the grand juries and the presentment sessions of the county and the latter those of the baronial presentment sessions. There is no provision for parish councils and the boards of guardians remain as at present with the *ex officio* element in their constitution eliminated. The suffrage adopted for the elections is the Parliamentary one with women and peers added. It is unnecessary in this column to go into the financial portion of the scheme beyond saying that provision is made for the payment of one-half of the salary of one trained nurse in every union in Ireland if actually employed and possessing the prescribed qualification. As regards lunatic asylums the Bill proposes that the Board of Control shall be abolished and that the appointment by the Lord Lieutenant of boards of governors and of officers of asylums shall cease. On this point this is what Mr. Gerald Balfour said in introducing the Bill: "It will hereafter be the statutory duty of county councils to provide and maintain sufficient accommodation for the lunatic poor in the county and to manage the lunatic asylum. For this purpose they will act through a committee of the council or, where an asylum district comprises more than one county, through a joint committee in which each council will be represented in proportion to the expenditure which it has to defray in connexion with the asylum. One-fourth of the members of a committee may be appointed from among persons other than county councillors. While the powers and responsibilities of county councils in connexion with lunatics will thus be considerably greater than those of existing boards of governors the ultimate control of the executive in cases where the county council fail to carry out their duties is sufficiently maintained by a variety of provisions. and though the appointment and removal of the officers will rest with the county council acting through their committee the concurrence of the Lord Lieutenant will be required in the case of a resident medical superintendent and in the case of the assistant medical officers."

The Use of the Treadwheel.

Mr. Lough asked the Home Secretary whether his attention had been drawn to the fact that a boy, aged eighteen years, named William Cooper, certified by the medical officer as fit to be placed on the treadwheel, was found dead in his cell at Norwich Gaol on Oct. 15th last, although he had not previously been ill, after being subjected for a few days to the work; whether there had been other inquests on deaths arising from a similar cause; and whether, under these circumstances and seeing that the late Prisons Committee condemned the continuance of unproductive prison labour, the prison authorities of the Home Office intended to sanction the erection of new treadwheels.—Sir Matthew White Ridley said that he thoroughly inquired into this case at the time and found that there was no reason for supposing that the prisoner's death was the result of his work on the treadmill. The post-mortem examination revealed latent disease of old standing. There had been no similer case so far as he was aware. Treadmills were not necessarily or in all cases unproductive, but unproductive treadmills which could not be made productive were being generally abolished and the erection of new treadmills was not at present contemplated.

TUESDAY, FEB. 22ND.

Experiments on Living Animals.

Mr. Samuel Smith asked the Vice-President of the Committee of Council on Education whether the Education Department had sanctioned the use of text-books in the London board schools with regard to vivisection in which painful experiments on living animals and their result were described in detail without stating that such experiments were in any way exceptional.—Sir John Gorst replied that the Education Department did not sanction text-books used in elementary schools, but it had power to disallow any book that was considered unsuitable. The text-book referred to in the question would be obtained and the question whether its contents were suitable for the instruction of children considered.

The San José Scale Insect.

Mr. Long, in reply to a question by Mr. Morrell, said it was the case that Germany had prohibited the entry of fresh fruit from the United States because the San José scale insect (Aspidiatus perniciosus) had been found in some imported pears, and that the Hamburg Senate had granted permission for further export of consignments to England. The subject was being carefully considered by the Board of Agriculture and if he found that it was in their power to issue any advice or render any assistance to fruit-growers in the matter he would at once take steps to do so.

Royal Commission on Tuberculosis.

Mr. Chaplin, in the course of a reference to the action of certain meat inspectors, said he understood that the Royal Commission on Tuberculosis have under consideration whether some qualifications by way of passing an examination should not be prescribed in the case of persons empowered to make seizures of meat and he would very carefully consider any proposals that may be made by the Commission upon the subject.

Venereal Disease in the Army.

Mr. Brodrick, answering a question on this subject addressed to him by Major Rasch, said that ninety-two men of the 1st Battalion Royal Irish Fusiliers were found unfit for active service through venereal disease when the battalion was inspected at Alexandria on Feb. 7th. As to the Straits Settlements and other colonial stations where it had been proposed that the authorities should have power to make regulations for the protection of the soldiers no action had yet been taken. The subject had been referred to the military authorities by the Secretary of State and was still under consideration.

The Nutrient Qualities of Frozen Meat.

Mr. Powell Williams, Financial Secretary to the War Office, intimated, in the course of answering questions about the meat-supply of the army, that Professor James Long and Dr. Bernard Dyer, President of the Society of Public Analysts, have recently reported that frozen imported meat has equal nutritive qualities with home-fed meat and that there is no intention on the part of the Government of taking further scientific opinion upon the subject.

THURSDAY, FEB. 24TH.

The Recent Prevalence of Typhoid Fever at King's Lynn.

Mr. Thomas Bayley asked the President of the Local Government Board whether, with reference to the recent prevalence of typhoid fever at King's Lynn, any investigations had been made by the medical inspectors of the Local Government Board as to the cause of the outbreak; what action had been or was being taken by the Town Council with respect to the water supply; and whether the Town Council had carried out the recommendations of the Local Government Board's official (Dr. Bruce Low) in his report of 1892 to the Local Government Board; and whether public inquiries, where the witnesses were examined on oath, were held by the Board in such cases.—Mr. Chaplin replied: Inquiries were held by inspectors of the Local Government Board with reference to typhoid fever at King's Lynn in 1892 and last year and if it is desired there will be no objection to their reports being laid on the table of the House. The Town Council are now proceeding as rapidly as possible with a new scheme of water-supply and it is expected that the works will be completed in about four months. It is much to be regretted that the scheme was not carried out at an earlier date. With regard to the inspectors' recommendations as to sewerage the Town Council have proceeded with works for the improvement of the sewerage. It is the practice to direct investigations by medical inspectors of the Board when there are serious epidemics of typhoid fever. The facts in these cases are, however, ascertained by the inspector making detailed personal inquiries and as a general rule it has been found in practice that the necessary information is better obtained by these means than by a public inquiry.

Duties of Medical Men in Parliament.

Mr. D. A. Thomas asked the senior member for Oxford University whether it was customary for the Committee of Selection to exempt Members who are barristers or medical men in practice from sitting on private Bill committees; whether such exemption was made in accordance with any Standing Order or instruction of the House; if not, whether the courtesy was extended to any other class of business or professional men; and whether the exemption entailed a more frequent selection of other Members.—Sir John Mowbray, who is Chairman of the Committee of Selection, replied: No Member of the House has any right of exemption from service on Private Bill Committees, either by Standing Order or instruction of the House, but it has ordinarily been the custom of the Committee of Selection not to place on such committees members of the learned professions actively engaged in practice. Should, however, there be a difficulty in obtaining an adequate supply of Members qualified to serve the Committee of Selection would consider it their primary duty to call upon any Member to serve who in their judgment ought to take his part in those labours, even if such demand might involve a modification of the previous custom.

Dangers of the Match Industry.

Colonel Dalbiac asked the Home Secretary whether he was aware that the use of white phosphorus in the manufacture of matches had been prohibited by most foreign Governments; and whether he will take any steps to prohibit the use in this country of a substance so dangerous to the health of the workers in the match industry.—Sir M. White Ridley said he was not aware that this was so; on the contrary the information in his possession was that in some important countries at any rate—such as Germany, Austria, and Belgium—the use was not prohibited. In England the use of white phosphorus was regulated by special rules which had been so far successful that last year only two cases of phosphorus poisoning occurred, neither of which was fatal. In these circumstances he did not think there was a sufficient case for taking the action which his hon. friend suggested.

MONDAY, FEB. 28TH.

Viewing the Body at Inquests.

Sir M. White Ridley, replying to questions addressed to him by Mr. Yoxall with regard to the proposal to make optional the viewing of the body by coroners' juries, said that he had received the opinion of the Coroners' Society on the subject and it was opposed to any alteration of the law and that he did not think that he could with advantage take any further steps in the matter at present.

Sergeant-Majors of the Medical Staff Corps.

Mr. Brodrick, Under Secretary of State for War, said, in reply to a question, that when the Medical Staff Corps was formed in 1857 the pay of the sergeant-mayor was 4*s*. a day. Increases were made in 1861, 1873, and 1876, and in 1881 the sergeant-major was made a warrant officer with pay at 5*s*. 6*d*. a day. The warrant officers of the corps are eligible for commissions up to the age of forty years and in special cases up to the age of forty-five years.

TUESDAY, MARCH 1ST.

The Diagnosis of Rabies.

Mr. Walter Long, President of the Board of Agriculture, said, in reply to Sir Charles Dilke, that it had recently become necessary in connexion with their operations against rabies for the Veterinary Department to take over from the local authorities the duty of diagnosis where the local inspector was unable after post-mortem examination to express a definite opinion as to whether the animal was or was not rabid, a class of cases in which inoculation experiments had always been necessary. The work would be performed under the authority of licences under the Act of 1876, which for many years past it had been requisite should be held in the department in question for the purposes of the Diseases of Animals Acts. All the expenses which the work entailed were provided in the vote for the Board of Agriculture.

Promotion in the Army Medical Staff.

Sir Walter Foster asked the Under Secretary of State for War whether there was any rule in the Army Medical Department that surgeon-colonels who were over fifty-seven years were debarred from promotion to the rank of surgeon-major-general; if so, whether such a rule had ever been published; whether it had been applied to any officers; and if so, to how many; and whether if applied retrospectively any compensation had been, or would be, granted, as was the case when the age of retirement was altered by the warrant of 1858.—Mr. Brodrick replied that all promotions to the higher grades of the Army Medical Staff were by selection and consequently failure to be promoted was not a ground for compensation. It had been for some years the practice not to promote officers over the age of fifty-seven years to the rank of surgeon-major-general unless in very exceptional circumstances, as it was regarded as essential that an officer in that rank should have at least three years to serve. The rule had not been published and had applied so far to three officers.

Medical Examinations of Army Candidates.

Mr. Brookfield asked the Under-Secretary of State for War whether it was the case that candidates for commissions in the army were liable by existing regulations to be rejected on medical grounds after they had otherwise passed their examination, and whether, in view of the disappointment and years of useless study that might thus be involved, he would consider the desirability of sanctioning a preliminary medical examination of candidates for commissions in the army upon their paying a fee.—Mr. Brodrick replied that the whole conditions as to the medical fitness required were published and any candidate could at any period of his training ascertain by reference to a civil practitioner if he satisfied them. But the Secretary of State was willing to consider whether arrangements could not be made for a preliminary examination by a medical board in the case of candidates who might desire such an examination.

Distribution of Calf Lymph.

Dr. Tanner asked the President of the Local Government Board whether the calf lymph now used for vaccination was prepared with glycerine and if attention was being paid to the special commission appointed in Germany with the purpose of investigating the germicidal action of glycerine.—Mr. Chaplin replied: The calf lymph distributed by the Local Government Board is not prepared with glycerine. A scheme for the preparation and distribution of glycerinated calf lymph is under consideration by the Board. Attention is being paid to the reports of the special commission referred to.

BOOKS, ETC., RECEIVED.

Aillière, J. B., et Fils, Paris.
- La Mort Subite Post-Opératoire. Par Dr. H. Harnaut. 1897.
- De la Fonction de l'Urètre Hypogastrique chez les Prostatiques Cystostomisés. Par Dr. X. Delore. 1898.

Auermeister, F., Glasgow.
- Handbuch der Gynäkologie. Von J. Veit. III. Band. I. Hälfte. 1898.
- Ergebnisse der Allgemeinen Pathologie und Pathologischen Anatomie des Menschen und der Tiere. Von O. Lubarsch und R. Ostertag. Dritter Jahrgang. 1896–1897.
- Ueber das Vorkommen von Scharfbegrenzten Ektasien im Augengrunde und ueber partielle Farbenblindheit bei hochgradiger Myopie. Von Dr. L. Weiss. 1897.
- Ueber das Wachstum des Menschlichen Auges und ueber die Veränderung der Muskelinsertionen am wachsenden Auge. Von Professor L. Weiss.

Black, A. and C., Soho-square, London.
- Who's Who? 1898. Edited by D. Sladen. Fiftieth year. 1898.

Cassell and Co., London.
- The Century Science Series—Pasteur. By P. Frankland and Mrs. P. Frankland. 1898. Price 3*s*. 6*d*.

Chapman and Hall, Henrietta-street, Covent-garden, London.
- British Columbia for Settlers—Its Mines, Trades, and Agriculture. By Frances Macnab. With Three Maps. 1898. Price 6*s*.

Churchill, J. & A., Great Marlborough-street, London.
- On Maternal Syphilis, including the Presence and Recognition of Syphilitic Pelvic Disease in Women. By J. A. Shaw-Mackenzie, M.D. Lond. 1898. Price 10*s*. 6*d*.

Douglas, David, Castle-street, Edinburgh.
- A Handbook of Horse-shoeing. By J. A. W. Dollar, M.R.C.V.S., with the collaboration of A. Wheatley, F.R.C.V.S. 1898.

Gibbings and Co., Bury-street, London, W.C.
- Neo-Malthusianism: an Inquiry into that System with Regard to its Economy and Morality. By R. Ussher. 1898. Price 6*s*.

Goose, A. H., Norwich.
- Verses and Ballads. By T. E. Amyot, F.R.C.S. 1897.

Government Printing Office, Washington.
- Index Catalogue of the Library of the Surgeon-General's Office. United States Army—Authors and Subjects. Second Series. Vol. II. 1897.

Jenkins, W. R., New York.
- The Clinical Diagnosis of Lameness in the Horse. By W. E. A. Wyman, V.S.

Lewis, H. K., Gower-street, London, W.C.
- Treatise on the Diseases of Women. By A. J. C. Skene, M.D., LL.D. Third Edition. Illustrated. 1898. Price 28*s*.

Longmans, Green and Co., Paternoster-row, London.
- The Annual Register and Digest, being a Classified Register of Charities in or available for the Metropolis. By C. S. Loch. 1898. Price 4*s*.

Macmillan and Co., London.
- The Study of Children and their School Training. By F. Warner, M.D. Lond. 1897. Price 4*s*. 6*d*. net.

Pearson, C. A., Henrietta-street, London, W.C.
- Exercise for Health—Its Science and Practice. By H. H. Hulbert and L. J. Phelan. 1898. Price 3*s*. 6*d*. net.

Pentland, Young J., Edinburgh.
- Text-book of Physiology. Edited by E. A. Shafer, LL.D., F.R.S. Vol. I. 1898.

Published by the Association, Philadelphia.
- Transactions of the American Orthopædic Association. Eleventh Session, May, 1897. Vol. X. 1897.

Published by the Obstetrical Society, Hanover-square, London.
- Transactions of the Obstetrical Society of London. Vol. XXXIX., for the year 1897. Part IV. for October, November, and December. Price 10*s*.

Sampson Low, Marston, and Co., Fetter-lane, Fleet-street, London, E.C.
- Twentieth Century Practice. Edited by T. L. Stedman, M.D. Vol. XII. Mental Diseases, Childhood and Old Age. 1897.

Swan Sonnenschein and Co., London.
- Epidemic Diphtheria: A Research on the Origin and Spread of the Disease from an International Standpoint. By A. Newsholme, M.D. Lond., M.R.C.P. Lond. 1898. Price 7*s*. 6*d*. net.
- A Run Round the Empire: Being the Log of Two Young People who Circumnavigated the Globe. Written out by their Father. By A. Hill, M.A., M.D. Illustrated. 1897.

The American Technical Book Company, Vesey-street, New York.
- Cataphoresis, or Electric Medicamental Diffusion as Applied in Medicine, Surgery, and Dentistry. By W. J. Morton, M.D. 1898.

The Rebman Publishing Company, Adam-street, Strand, London.
- A Clinical Text-book of Surgical Diagnosis and Treatment. By J. W. MacDonald, M.D. Illustrated. 1898. Price 28*s*.

Wright, John, and Co., Bristol.
- The Medical Annual and Practitioner's Index. 1898. Sixteenth year.
- The Medical Examination for Life Assurance. By F. de Havilland Hall, M.D., F.R.C.P. 1898. Price 2*s*. 6*d*.

Vaccination a Delusion: its Penal Enforcement a Crime. By Alfred R. Wallace, LL.D. Dubl., D.C.L. Oxon. (Swan Sonnenschein and Co., Paternoster-square, London. 1898. Price 1*s*.).—The Truth about the Foreign Sugar Bounties: the Case for Abolition. Summarised by Mayson M. Beeton, B.A. Oxon. (Simpkin, Marshall, Hamilton and Co., London. 1898. Price 1*s*.).—Magazines, &c., for March: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Chapman's Magazine, Myra's Journal, Pall Mall Magazine, Windsor Magazine, Cornhill Magazine, Blackwood's Magazine, Pearson's Magazine, English Illustrated Magazine, Knowledge, Humanitarian.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Andrews, S., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Second Sanitary District of the Basingstoke Union.

Bennett, William B., M.R.C.S., L.R.C.P., has been appointed Assistant Resident Medical Officer to the Brownlow Hill Workhouse, Liverpool.

Branson, G. A., L.R.C.P. Edin., M.R.C.S., has been appointed a Public Vaccinator at Bendigo, Victoria, Australia, vice J. Amess, resigned.

Bryne, W. S. C., M.B., Ch.M. Dubl., has been appointed a Member of the Queensland Medical Board, vice J. J. Mullen.

Burke, A. St. L., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Bushbury Sanitary District of the Cannock Union.

Cobb, J. F., M.R.C.S., has been appointed a Government Medical Officer and Vaccinator for the District of Rylstone, New South Wales, vice J. Eaton.

Colby, J. G. E., M.B., B.Ch. Oxon., L.R.C.P. Lond., F.R.C.S., D.P.H. Camb., has been re-appointed Medical Officer of Health by the Norton Rural District Council.

Dermer, W. T., M.B. Univ. N.Z., has been appointed Officer of Health for East Fremantle, Western Australia.

Downie, T. T., M.B., Ch.M. Glasg., has been appointed a Public Vaccinator at Clifton Hill, Victoria, Australia, vice A. A. Johnston, resigned.

Foley, J. E., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Collarendabri Hospital, New South Wales.

Gamble, H. W. B., L.R.C.S. Edin., L.S.A. Lond., has been appointed Acting Officer of Health for Creswick Shire, Victoria, Australia, vice W. Cory, resigned.

Gepp, M., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., D.P.H., has been re-appointed Medical Officer of Health for the Borough of Shrewsbury.

Gibbes, Heneage, formerly Lecturer on Physiology at the Westminster Hospital Medical School and afterwards Professor of Pathology at the Ann Arbor University, Michigan, has been appointed Health Officer to the City of Detroit.

Gibson, J. L., M.D., Ch.M. Edin., M.R.C.S., has been appointed a Member of the Queensland Medical Board, vice H. Bell.

Gilbertson, W., B.A., M.R.C.S., L.R.C.P., has been appointed Clinical Assistant to Out-patients to the Chelsea Hospital for Women.

Hill, Reginald H., M.D. New York, L.S.A., has been appointed Assistant House Surgeon to the Derbyshire Royal Infirmary.

Holden, J. F., M.B., C.M. Edin., has been appointed Medical Officer for the Fourth Sanitary District of the Preston Union.

James, W. Evelyn, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer and Public Vaccinator for the Parish of Mynyddislwyn by the Newport (Mon.) Board of Guardians.

Johnston, A. A., L.K.Q.C.P. Irel., L.R.C.S. Edin., has been appointed a Medical Officer for the Destitute Poor and Aborigines within the District of Penola, South Australia.

Kelsall, H. T., M.D. Lond., has been appointed a Member of the Dental Board for Western Australia.

Lister, A. H., M.B., C M. Aberd., has been appointed Medical Officer to the Aberdeen Hospital for Incurables, vice C. T. D. Urquhart resigned.

Lovegrove, T. H., M.R.C.S., has been appointed a Member of the Medical Board for Western Australia.

Martin, Antony A., M.B., B.S. Lond; M.R.C.S., L.R.C.P., has been appointed Assistant Medical Officer for the South-Eastern Fever Hospital, New Cross, London.

Martin, Fred. W., L.R.C.P., L.R.C.S. Edin., M.R.C.S., has been appointed Medical Superintendent of the Brighouse Joint Hospital for Infectious Diseases.

McClelland, W. C., M.B., M.Ch. Syd., has been appointed Medical Superintendent for the Sydney Hospital, New South Wales, vice E. H. Binney, resigned.

Middlemass, James, M.A., M.B., C.M., F.R.C.P., has been appointed Medical Superintendent of the Sunderland Borough Asylum, vice F. A. Elkins.

MURRAY, J. IVOR, M.D. Edin., F.R.C.S., has been appointed an Honorary Medical Officer to the Royal Northern Sea Bathing Infirmary, Scarborough, vice J. W. Teale.

NUTTING, P. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Third Sanitary District of the Malmesbury Union.

ORD, W. W., M.D Oxon., has been appointed Physician to the Salisbury Infirmary, vice G. G. Morrice, resigned.

PEET, J. H., L.R.C.P., L.R.C.S. Edin., L.F P.S. Glasg., has been appointed Medical Officer for the Eighth Sanitary District of the Basingstoke Union.

POGGIOLI, V., M.D., Ch.D. Univ. Bologna, has been appointed Medical Officer for the Barraba Hospital, New South Wales.

SAW, A. J. H., M.B., B.S. Cantab., has been appointed a Member of the Dental Board for Western Australia.

SPROTT, GREGORY, M.B., B.Ch. Glasg., has been appointed Officer of Health for the District of Queenborough, Tasmania.

TAYLOR, S. T., M.B. Lond., L.R.C.P., M.R.C.S., has been re-appointed a Medical Offier by the Chingford Urban District Council.

TENCH, S. E., M.R.C.S., L R.C.P., has been appointed Clinical Assistant to Out-patients to the Chelsea Hospital for Women.

THURNELL, H. L., L.R.C.P., M.R.C.S. has been re-appointed Medical Officer of Health for the Borough of Gravesend.

TRATMAN, F., M.D. Lond., D.P.H., has been appointed a Member of the Dental Board for Western Australia.

TRUMPER, O. B, M.B., Ch.B. Vict., has been re-appointed a Medical Officer by the Market Rasen Urban District Council.

WADD, H. RANDALL, M.R C S., L R.C.P. Lond, has been appointed Anæsthetist to the Great Northern Central Hospital, Holloway-road, N.

WALLACE, A., M.D. Oxon., M.R C.P. Lond., has been appointed an Honorary Physician to the Essex and Colchester Hospital.

WISE, H. M., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Plumstead Sanitary District of the Woolwich Union.

WOODCOCK, H. B., M.B., Ch B. Vict., has been appointed an Assistant Medical Officer for the Salford Union Infirmary at Hope.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRECON INFIRMARY.—Resident House Surgeon, unmarried, who will also undertake Dispensing. Salary £70 per annum, with furnished apartments, board, attendance, fire, and gas. Three months notice.

CITY OF LONDON ASYLUM, near Dartford, Kent.—Second Assistant Medical Officer, unmarried. Salary £100 a year, with board, lodging, washing, and attendance. Applications to the Clerk to the Visiting Committee, Guildhall, E.C.

COTON HILL REGISTERED HOSPITAL FOR MENTAL DISEASES.—Assistant Medical Officer. Salary £100 per annum, with two annual increases of £25 each to a maximum of £150, with board, lodging, and washing.

DENTAL HOSPITAL OF LONDON, Leicester-square.—Three Assistant Anæsthetists.

DURNESS, SUTHERLANDSHIRE—Medical Officer. Guaranteed salary £150 per annum, with practice. Free house and garden. Applications to Inspector of Poor, Durness, N.B.

FINSBURY DISPENSARY, Brewer-street, Goswell-road, E.C.—Physician. An honorarium of £40 will be paid during the pleasure of the Committee.

FISHERTON ASYLUM.—Assistant Medical Officer, unmarried. Salary £100 a year, with board, lodging, and washing. Applications to Dr. Finch, Salisbury.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION.—House Surgeon. Salary £100 per annum, with board, residence, and washing. Also Assistant House Surgeon. Board, residence, and washing provided.

GLASGOW EYE INFIRMARY.—Resident Assistant House Surgeon. Salary £50, with apartments and board.

GOLD COAST AND LAGOS COLONIES.—Appointments in the Government Medical Service. Initial salary £350 a year, with free quarters (or allowances in lieu thereof) and free passage. Applications to be addressed to the Assistant Private Secretary, Colonial Office, London.

GUARDIANS OF ST. MARY, Islington.—Resident Second Assistant Medical Officer, who is also to act as Dispenser at the Workhouse and Infirmary, St. John's-road, Upper Holloway, and Temporary Medical Officer of the Highgate-hill Temporary Workhouse. Salary £80 per annum, and rations, apartments, and washing, subject to statutory deductions. Applications to the Clerk, Guardians' Offices, 131, St. John's-road, Upper Holloway, N.

GUEST HOSPITAL, Dudley.—Assistant House Surgeon, for six months. Board, lodging, and washing in the hospital provided.

LIVERPOOL DISPENSARIES.—Assistant Surgeon, unmarried. Salary £80 for the first year and £90 per annum afterwards, with apartments, board, and attendance. Applications to the Secretary, 34, Moorfields, Liverpool.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Assistant Resident Medical Officer, for six months. Residence in the hospital, board, and washing provided, and an honorarium given conditionally.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon, for six months. The House Physician and House Surgeon will each receive a salary at the rate of £40 a year. The Assistant House Physician and Assistant House Surgeon will each receive a salary at the rate of £20 a year.

NORFOLK AND NORWICH HOSPITAL.—House Physician, for two years, unmarried. Salary £60 per annum, with board, lodging, and washing.

NORTH LONDON HOSPITAL FOR CONSUMPTION, Hampstead, N.W.—Resident Medical Officer for one year. Honorarium £40 per annum, with board, lodging, &c., in the hospital. Applications to the Acting Secretary, Offices, 44, Fitzroy-square, W.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Commencing salary £140 per annum.

PARISH OF ST. GILES, Camberwell.—Assistant Medical Officer for the Infirmary at Havil-street, Camberwell, and the Workhouse at Gordon-road, Peckham; also for relief duty at the Constance-road Workhouse of the Parish for one year. Salary £50, with apartments, board, and washing. Applications to the Clerk to the Guardians, 29, Peckham-road, S.E.

PORTSEA ISLAND UNION.—Resident Assistant Medical Officer for the Infirmary, Workhouse, and Schools. Salary at the rate of £150 per annum, rising £10 per annum to a maximum of £200 per annum, with rations and furnished apartments, subject to statutory deductions. Applications to the Clerk to the Guardians, 1, St. Michael's-road, Portsmouth.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £30 per annum, with board and washing.

ROYAL FREE HOSPITAL, Gray's-inn-road, London.—Senior Resident Medical Officer for twelve months. Salary £100 per annum, with board, residence, and washing.

ROYAL HALIFAX INFIRMARY.—Acting Honorary Ophthalmic Surgeon.

SIERRA LEONE GOVERNMENT RAILWAY.—Assistant Medical Officer. Salary £30 per month. First-class passage out and home. Full salary from date of arrival; half-pay during voyages. Quarters or allowance in lieu thereof. Applications to the Crown Agents for the Colonies, Downing-street, London.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon, to act also as Secretary. Salary £60, with board and lodging.

UNIVERSITY OF LONDON.—Examiners.

WORCESTER COUNTY AND CITY LUNATIC ASYLUM, Powick, near Worcester.—Third Assistant Medical Officer, unmarried. Salary £100 per annum, rising to £120 in a year, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

BAYLOR.—On Feb. 25th, at Chilton House, Ash, near Dover, the wife of E. A. C. Baylor, B.A., M.D., T.C.D., of a daughter.

BELL.—On Feb. 16th, at Winckley-square, Preston, the wife of Frederick Bell, M.R.C.S., L.R.C.P., of a son.

GORDON.—On Feb. 21st, at Hackney Union Infirmary, the wife of J. J. Gordon, L.R.C.P., L.R.C.S. Edin., of a son.

JOHNSTON.—On Feb. 24th, at Drumsheugh-gardens, Edinburgh, the wife of Robert McKenzie Johnston, M.D., F.R.C.S.E., of a son.

LONGTON.—On Feb. 24th, at Barford, Warwick, the wife of G. H. Longton, M.R.C.S., L.R.C.P., of a son.

MACKLEY.—On Feb. 24th, at Salisbury, the wife of E. H. A. Mackley, L.D.S., of a daughter.

MEYER.—On Feb. 24th, at Amwell-place, Hurstpierpoint, Sussex, the wife of W. R. Meyer, L.S A. Lond., of a son.

O'CALLAGHAN.—On Feb. 24th, at 137, Harley-street, W., the wife of Robert O'Callaghan, F.R.C.S. Irel., of a daughter, who only survived her birth some hours.

STREATFEILD.—On Feb. 26th, at Cheriton-road, Folkestone, Florence Ethel, the wife of Thomas Streatfeild, M.B., of a son.

MARRIAGES.

MACMILLAN—FAED.—On Feb. 22nd, at St. Cuthbert's Parish Church, David Macmillan, M.A., M.D., Prestwich, Lancashire, to Mary, younger daughter of Mr. James Faed, Edinburgh.

MOSS—PEARSE.—On Dec. 31st, 1897, at Antananarivo, Madagascar, by the Rev. J. Sibree, F.R.G.S., assisted by the Rev. J. Wills, C. F. Arrowsmith Moss, M.B., C.M. Edin., of Antananarivo, to Rose Mary, daughter of the Rev. J. Pearse, of Fianarantsoa, Madagascar.

DEATH.

WHITE.—On March 2nd, Octavius Mark White, M.R.C.S., of Kingsdene, Eltham, Kent, aged 44 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.). Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (12th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (7th).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. J. H. Morgan: The Affections of the Urinary Apparatus in Children. (Lettsomian Lecture)

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-square, W.C.).—Papers:—Mr. G. Brunton: The Rationale of the Strip Matrix.—Mr. J. F. Colyer: Formalin in the Treatment of Pulps. Casual Communications:—Mr. F. W. Richards: An Odontome removed from the Mandible. Also by Mr. A. F. Colyer.

TUESDAY (8th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.15 P.M. Dr. N. Moore will show Two Adult Brothers with Symptoms of Disease of the Lateral Columns of the Spinal Cord of which the first Indications were observed shortly before Puberty. Dr. J. Griffiths: Microcephaly and its Surgical Treatment, with notes of a case.—Mr. C. T. Dent: Removal of the entire Upper Extremity for Recurrent Carcinoma after Removal of the Breast.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Papers:—Prof. H. G. Greenish and Mr. H. Wilson: The Pharmacy of Cantharides.—Mr. E. M. Holmes: Recent Additions to the Museum.

WEDNESDAY (9th).—MEDICAL SOCIETY OF LONDON.—7.30 P.M. Anniversary Dinner at the Whitehall Rooms, Hôtel Métropole.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Exhibition and Discussion of Clinical Cases.

SOCIETY OF ARTS.—8 P.M. Prof. J. Ewing: Linde's Method of Producing Extreme Cold and Liquefying Air.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Mr. Stewart, Mr. Roughton, Dr. H. Tilley, Dr. Lack, Dr. Thomson, Mr. P. T. Walker, Mr. Symonds, Dr. Waggett, Mr. Walsham, Dr. Willcocks, Dr. Thorne, Dr. W. Hill, and Sir Felix Semon.

MEDICAL SOCIETY OF UNIVERSITY COLLEGE (London).—8.30 P.M. Mr. P. Flemming: Some Applications of Anatomy to Ophthalmic Practice.

THURSDAY (10th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-sq., W.).—8 P.M. Card Specimens will be shown by Mr. Rockliffe, Mr. H. Fisher, Mr. Cargill, Mr. A. S. Morton, and Mr. C. D. Marshall. 8.30 P.M. Papers:—Dr. A. MacGillivray: The Aseptic Treatment of Wounds in Ophthalmic Surgery.—Mr. M. Gunn: On Ophthalmoscopic Evidence of General Arterial Disease.—Mr. P. Flemming: A Case of Retinitis Proliferans in which the Eye was Examined after Death.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Specimens of Sarcoma of the Ovary will be shown by Mr. F. B. Jessett, Dr. G. Elder (Nottingham), and Dr. Jellett (Dublin). Card Specimens by Mr. Jessett and Dr. Elder. Dr. G. Newman: Demonstration on Micro-organisms in Relation to the Female Genital Organs, illustrated by lantern slides and microscopic specimens. Paper:—Dr. W. Alexander (Liverpool): Enucleation of Uterine Fibroids (illustrated by lantern slides).

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY (Newcastle-on-Tyne).—Dr. G. Stoker: Oxygen Treatment.

FRIDAY (11th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Papers: Mr. D. Newman: Cases of Malformation of the Kidney and Displacement without Mobility.—Mr. F. C. Wallis: Three Cases of Perforating Wound of the Knee Joint.—Dr. G. A. Sutherland and Mr. W. Watson Cheyne: A Case of Chronic Hydrocephalus treated by Intracranial Drainage.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (7th).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. C. Stewart: On the Vertebral Column, and some additions to the Museum.

LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. G. Stoker: Impaired Movements of the Vocal Cord.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Prof. A. Bostock Hill: Trade Nuisances.

TUESDAY (8th). — WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4.30 P.M. Dr. H. Campbell: On Disorders of Reflex Action and Trophic Lesions in Disorders of the Nervous System.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Ballance: Surgery of the Nervous System.

LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Delusional Insanity; Paranoia.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Drug Eruptions.

ROYAL INSTITUTION.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

WEDNESDAY (9th).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. C. Stewart: On the Vertebral Column, and some additions to the Museum.

LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Sources of Water.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Kidd: Cases of Laryngeal Tuberculosis.

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr. G. H. Makins: Selected Surgical Cases. (Post-Graduate Course.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. G. D. Robinson: Gynæcological Cases.

THURSDAY (10th).—CHARING-CROSS HOSPITAL.—4 P.M. Mr. Gibbs: Demonstration of Surgical Cases. (Post-graduate Class.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Dickinson: Demonstration of Selected Cases.

LONDON POST-GRADUATE COURSE.—Central London Sick Asylum. Cleveland-st., W., 5.30 P.M., Dr. A. E. Sansom: Clinical Lecture on Mitral Stenosis with especial reference to Recent Investigations.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—Dr. J. F. J. Sykes: Objects and Methods of Inspection, Nuisances, &c.

ROYAL INSTITUTION.—3 P.M. Prof. J. A. Fleming: Recent Researches in Magnetism and Diamagnetism.

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

FRIDAY (11th).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof C. Stewart: On the Vertebral Column, and some additions to the Museum.

LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Tuberculosis and Leprosy.

ROYAL INSTITUTION.—9 P.M. Mr. W. F. Lord: Marked Unexplored.

EAST LONDON HOSPITAL FOR CHILDREN (Shadwell, E.).—4 P.M. Dr. M. Fletcher: Nutritional Changes in the Skeleton occurring in Early Life.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 3rd, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Feb. 25	30·11	W.	0·12	64	49	31	32	33	Hazy
" 26	30 01	S.W.	0·02	83	51	33	37	38	Cloudy
" 27	30·07	S.W.	0·16	65	49	38	42	43	Raining
" 28	29·96	W.	...	75	49	36	37	38	Hazy
Mar. 1	29 72	S.W.	0·13	90	54	38	43	44	Cloudy
" 2	29 64	N.W.	...	63	48	37	38	41	Cloudy
" 3	29·75	W.	...	71	46	33	34	35	Hazy

During the week marked copies of the following newspapers have been received: *Hull News, East Anglian Daily Times, Western Morning News, Carlisle Express, Barnsley Independent, Bury Guardian, Blackburn Standard, Glasgow Herald, Times of India, Montreal Daily Star, Boston Independent, Pioneer Mail, Huddersfield Examiner, Newbury Weekly News, Temperance Record, Midland Free Press, Grantham Journal, Elgin Courant, Toronto Daily Mail, Architect, Derbyshire Courier, Norfolk Chronicle, Cambria Daily Leader, Builder, Yorkshire Post, London Argus, Scotsman, Liverpool Daily Post, Manchester Courier, Newcastle Chronicle, Leeds Mercury, Sheffield Telegraph, Bradford Observer, Newport Advertiser, Bristol Mercury, Citizen, Chester Chronicle, Louth News, Birmingham Gazette, Sussex Daily News, Bridgwater Independent, North Wales Chronicle, St. Andrew's Citizen, Worcester Chronicle, Hereford Times, Kent Messenger, Essex County Standard, Oban Times, Devon Weekly Times, Brighton Gazette, Sanitary Record, City Press, Hertfordshire Mercury, Reading Mercury, Local Government Chronicle, Mining Journal, Local Government Journal, Berwick Journal, Belper and Alfreton Chronicle, Surrey Advertiser, Australasian Medical Gazette, Advocate of India, Bombay Health News, Weekly Free Press and Aberdeen Herald, Liverpool Courier, Friendly Societies' Recorder, Western Mail, National Righteousness, Wolverhampton Chronicle, Poole, Parkstone, and East Dorset Herald, Kentish Observer, Dereham and Watton Standard, &c., &c.*

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

The Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume, were given in The Lancet of Jan. 1st.

VOLUMES AND CASES.

Volumes for the second half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s*., carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s*., by post 2*s*. 3*d*.

To be obtained on application to the Manager, accompanied by remittance.

THE SCOTCH FORM OF OATH.

Mr. F. J. Munby, the magistrate's clerk for the city of York, recently entertained the members of the city police force and sundry other officials at a tea in the central hall of the exhibition. Mr. Munby, in a speech made afterwards, referred to the necessity of impressing upon children regard for the truth. Children were gradually becoming less truthful. He thought that a good way of teaching children to be truthful would be that in every elementary school they should be instructed to appreciate the Scotch form of oath, a form which he very much preferred for use in court.

A SURGICAL SHIRT AND BEDGOWN.

We have received from Messrs. John Weiss and Sons, of 287, Oxford-street, specimens of a garment invented by Miss Webb, of Clifton, with the object of facilitating such access to the body of a patient as may be required by the physician or surgeon. The garment is in the form of an ordinary shirt, but in addition to the usual opening from the neck down the front the sleeves and yoke are made to open from the collar-band to the wrist-band, the sides from underneath the axilla to the lappets, and the back from the collar-band to a point two-thirds of the length of the shirt. These openings are kept closed by small linen buttons. The object aimed at is a good one, but it seems to us that while the work of the physician, surgeon, or nurse might be facilitated discomfort and inconvenience to the patient would be increased. The fastening of the buttons, which are very small, would tend to irritate many patients, and, moreover, would hurt a patient if he or she should happen to lie upon them with their sharp edge in contact with the body. Tapes in place of the buttons would do away with this latter objection, but even then the time it would take to properly close the garment would contraindicate the use of such a garment except perhaps in some exceptional cases.

A SMOKE DISTRIBUTING MOUTHPIECE.

We have received specimens of a pipe and cigar-holder constructed according to the patent of the Smoke Distributing Mouthpiece Company, Limited. The principle of the mouthpiece is that the stem-bore as it approaches the mouth end gives off four branches instead of terminating in one orifice. In this way it is claimed that the smoke is distributed equally over the mouth, which it reaches in a cooler condition than when the bore is a direct tube of communication between the burning tobacco impinging upon one spot on the tongue. In the "Smoke Distributing Mouthpiece" the smoke enters the mouth through four lateral openings, of which the central two are smaller than the two lateral ones. In this way all the smoke reaches the mouth at the same time and the large proportion of it has a greater space in which to get cool. The inventors have added to their claim such very extensive promises as these: that in their pipes nicotine never accumulates and that the tobacco at the bottom of the bowl never becomes moist—concerning which we think it right to say that they protest too much. But for coolness and ease of drawing we can recommend the Smoke Distributing mouthpiece.

STRYCHNINE POISONING.

To the Editors of The Lancet.

Sirs,—Thirty years' seclusion in country practice is apt to make one's books not up to date. My "Taylor" does not afford me information on the following points, which perhaps you or your readers will kindly supply: 1. What is the longest time that strychnine has been discovered after death? 2. How long can traces of strychnine poisoning be traced?

I am, Sirs, yours faithfully,

Feb. 22nd, 1898. L. N.

"VICTOR LIQUID COFFEE."

The patentees and sole manufacturers of this preparation (The Duke's Patents Co., 20, High Holborn, W.C.), which was noticed in our Analytical Records last week, take exception to the last sentence in the report which states that "aromatic oils are necessarily absent." This conclusion was based upon the fact that the liquid coffee yielded a perfectly clear solution in hot water, no appearance of oils being observed. It appears, however, that "caffeol," the essential oil of coffee, though insoluble in cold water is distinctly soluble in hot, and on extracting the liquid coffee with ether we have since obtained a very good yield of the aromatic oils of coffee. This confirms, therefore, the satisfactory opinion which we expressed in regard to the flavour and aroma of the coffee prepared from the extract.

THE ETIOLOGY OF ENDOCARDITIS IN INFANCY.

To the Editors of The Lancet.

Sirs,—I shall be greatly obliged if any of your readers can give me any information concerning the etiology of endocarditis in infancy, or rather before birth. A few days ago I made a necropsy in the case of an infant, aged three weeks, and found acute endocarditis of the right side and one of the chordæ tendineæ ruptured. There were also numerous petechial hæmorrhages on the surface of the heart in a zone corresponding to the right auriculo-ventricular septum. The few text-books to which I have been able to refer speak of endocarditis on the right side as very rare and only commencing in utero without further comment. There is nothing of interest in the mother's history in this case; the child was born at full term and was otherwise healthy.

I am, Sirs, yours faithfully,

Feb. 27th, 1898. P. W.

THE NOTIFICATION OF PUERPERAL FEVER.

We published in The Lancet of Feb. 12th a letter from "Inquirer" asking whether all cases of peritonitis occurring at childbirth should be reported as cases of puerperal fever under the Notification Act from whatever cause arising. He had a case "where there appeared to have been inflammation before the labour came on and where, as a consequence of having to detach an adherent placenta, unmistakeable peritonitis set in with great severity *immediately* after." We should say that certainly all cases of peritonitis occurring after childbirth should be notified. In the case in question the peritonitis, according to "Inquirer" himself, only became unmistakeable after an intra-uterine manipulation — detaching an adherent placenta — and the probability would certainly be that a causal relation between the two things existed. Of course there is no definite malady entitled to be called "puerperal fever" in the same sense that typhoid or small-pox are called fevers. But, after all, it is not usually difficult to decide whether a given morbid condition occurring in the puerperium should be notified. Obviously, temporary febrile disturbances, such as are traceable to constipation, or nervous excitement, do not constitute puerperal fever. Nor would a lying-in woman who happens to have phthisis with fever rightly be notified as suffering from puerperal fever. When, however, the febrile condition has developed so far as is known only since the confinement and is more or less persistent for several days or longer, and especially when there are local manifestations such as peritonitis or cellulitis in the neighbourhood of the generative organs, the case is certainly one in which notification is required under the Act.

THE SERVICE EXAMINATIONS.

SEVERAL correspondents having asked us for information concerning the examination of candidates for Her Majesty's Army and Indian Medical Services we have pleasure in publishing the following questions set at the last examinations in London:—

MEDICINE AND PATHOLOGY (PROFESSOR MCCALL ANDERSON).

1. What is your opinion with regard to the following case: give the grounds for your diagnosis; say what treatment you would recommend; and, in the event of a fatal issue, what would you find post mortem.

A soldier, aged thirty-two, was admitted into hospital on December 4th, 1897. He stated that he had always enjoyed fair health, but admitted that he had led a very irregular life. He complained of debility, some loss of flesh, excessive urination, and, above all, of a right internal squint of some weeks' duration; indeed, it was this which induced him to seek advice.

On examination he was found to be pallid, rather weakly, and slightly emaciated, but there was no fever. The internal squint was pronounced and he was quite unable to turn the eye outwards. There were no head symptoms and the heart and lungs were healthy, while the digestion was fair. But the liver was greatly and uniformly enlarged; it felt very firm and was not the seat of either pain or tenderness. The urine was very pale, 120 ounces per day, specific gravity 1013; it contained a small quantity of albumen and an occasional granular or hyaline tube cast was discovered in the scanty deposit.

Finally, on one shoulder there was a patch of eruption about the size of the hand which had appeared about eight months before admission. It was composed of tubercles of a dusky red tint, with here and there an admixture of violet. Some of these had ulcerated and were capped with greenish crusts. The edge of the patch was rounded, abrupt, and elevated.

2. About what day of the fever does the eruption makes its appearance in the following diseases: (*a*) rubella (German measles); (*b*) morbilli (measles); (*c*) scarlatina; (*d*) typhus; (*e*) enteric fever; (*f*) varicella; and (*g*) variola?

3. How would you treat typical uncomplicated cases of—
   (*a*) Lead colic; (*b*) ulcer of the stomach; (*c*) and acute tubular nephritis?

4. Write down what you know with regard to beri-beri.

SURGERY (SIR WILLIAM MACCORMAC, BART.).

All four questions to be answered.

1. Enumerate the complications which may occur in a case of otitis media. Give the symptoms and treatment of abscess of the temporo-sphenoidal lobe dependent upon this cause.

2. Write an account of the course of a case of typical syphilis. Give the treatment you would adopt and mention any matters of importance in arriving at a prognosis.

3. Mention two causes which produce ulceration of the cornea. Give a brief account of the treatment you would adopt in each case, the possible complications which may result, and the manner of dealing with them.

4. Give a description, pathological as well as clinical, of a case of carcinoma of the breast. Describe the varieties of the disease met with and in the event of an operation being performed mention any operative details you consider important.

NATURAL SCIENCES (DR. NORMAN MOORE).

Candidates may answer not more than *six* questions and they must confine themselves to *two* branches of science only.

ZOOLOGY AND COMPARATIVE ANATOMY.

1. Describe the arrangement of the bones in the forelimb of a horse. Point out how the forelimb of a horse differs from and how it resembles the forelimb of a man.

2. Describe the heart and circulatory system of an osseous fish.

3. Give an account of the structure and life-history of amœba.

BOTANY.

1. A tree weighing 12 lb. when planted in a pot of earth in 1894 is found in 1898 to have doubled in weight. The pot is unchanged in weight. The earth weighs 4 oz. less than in 1894.

Explain in what way the tree has obtained its increased weight of 12 lb.

2. Give the characteristics of the following natural orders: malvaceæ, rosaceæ, labiatæ, scrophulariaceæ, solanaceæ.

3. Describe the method of fertilisation in wheat, in the date palm, and in any species of orchis with which you may be acquainted.

PHYSICS.

1. What is meant by the specific gravity of a substance? How would you ascertain the specific gravity of a diamond?

2. Describe experiments illustrating conduction of heat and convection of heat.

3. Describe the structure and use of the gold-leaf electroscope.

PHYSICAL GEOGRAPHY AND GEOLOGY.

1. In what strata do the remains of the following animals occur, and in which are they most abundant: encrinites, ammonites, large saurians, marsupial mammals?

2. Describe the appearances which would indicate that a particular tract of land had once been occupied by a freshwater lake.

3. Define the following terms: (1) fault; (2) isothermal lines; (3) metamorphic rocks; and (4) granite.

ANATOMY AND PHYSIOLOGY (MR. MAKINS).

1. Describe the urinary bladder in the male and give its relations to surrounding structures.

2. Give a short account of the anatomy and functions of the tympanum and its annexes.

3. Trace the course and distribution of the musculo-spiral nerve from its origin to a point on a level with the external condyle of the humerus.

4. Describe the sequence of changes which carbohydrates and fats undergo in their passage through the body.

CHEMISTRY AND MATERIA MEDICA (DR. NORMAN MOORE).

1. Describe an experiment demonstrating the chemical composition of water.

2. What are the properties of phosphorus? Describe its modifications and mention (with their formulæ) the acids into the composition of which it enters.

3. What are the preparations (in the Pharmacopœia) of each of the following metals: mercury, bismuth, iron?

4. Mention the chief expectorants of the Pharmacopœia. State the dose of each (*a*) for an adult, and (*b*) for a child of five years of age.

5. Name the chief drugs used to procure sleep and the dose of each. What precautions ought to be observed in their administration?

GLYCERINATED CALF LYMPH.

WE have received specimens of lymph from the Jenner Institute, 73, Church-road, Battersea, prepared and glycerinated in strict accordance with the methods now well known and first advocated by Dr. S. Monckton Copeman. The tubes, it is stated, are only sent out after testing by plate cultivation and after negative evidence has been obtained of the complete absence of the "adventitious" microbes, as Lord Lister has described them. The calves from which the lymph is obtained are first tested with tuberculin prior to being inoculated. The glycerine used is kept under strict aseptic precautions. As is well known lymph prepared in this approved way is bacteriologically pure and free from pus-producing organisms.

FLUORESCENT SCREENS.

SINCE the discovery of those chemical salts which reveal to the eye the presence of x rays great attention has been paid to the preparation of these substances with a view not only to purity but also to preparing surfaces which shall be uniform in structure and plane so as to yield maximum definition and at the same time minimum absorption of the rays. Mr. J. R. Gotz, of 215, Shaftesbury-avenue, W.C., has submitted to us a fluorescent screen made with the platino-cyanide of barium which in excellence of preparation, uniformity in the size of the crystals, and in the level of the layer adhering to the paper ground is the best we have examined. And experiments with the x rays fully confirm the improvement which such care in preparation might be expected to ensure. The shadows are very sharp, giving better definition than we have noted before. The screens are therefore particularly well adapted to the examination of deep cavities as the chest, or even in the case of the bladder with the view of ascertaining the presence of stone. It is interesting to add that in the experience of most workers in this direction barium platinocyanide is the best salt for practical purposes.

AN UNWIELDY PATIENT.

THE rhinoceros in the Gardens of the Royal Zoological Society has recently undergone an operation at the hands of the able superintendent, Mr. C. Bartlett. The operation in question was the removal of one of the horns which had taken on abnormal growth, being turned downwards so that the skin of the beast's forehead was beginning to be penetrated. The animal having been cast its legs were firmly secured with ropes and the horn was then removed. This is by no means the first operation which Mr. Bartlett has performed upon the larger feræ; among others he some years ago extracted a tooth from a hippopotamus by means of a special pair of forceps about two feet in length.

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M.B. London is advised to read "A Text-book of the Principles and Practice of Medicine," by the late Dr. Fagge, edited by Dr. Pye-Smith (J. and A. Churchill) and also either "The Principles and Practice of Medicine," by Dr. W. Osler (Young J. Pentland), or "A Manual of the Practice of Medicine," by Dr. F. Taylor (J. and A. Churchill). The best text-books on Pathology are "Pathology, Systematic and Practical," by Professor D. J. Hamilton (Macmillan and Co.), and "A Manual of Pathology," by Dr. Joseph Coats (Longmans, Green and Co.). For special subjects, Sir W. Gowers's various works on Nervous Diseases must be read, as also Sir William Broadbent's works on Diseases of the Heart and Sir R. Douglas Powell's work "Diseases of the Lungs and Pleura." In mental physiology Professor James Sully's "Psychology" is the most popular work. The article on the "Student's Library and its Use" which appeared in the Students' Number of THE LANCET, published on Aug. 21st, 1897, would perhaps be found useful by our correspondent.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Communications, Letters, &c., have been received from—

A.—Messrs. Arnold and Sons, Lond.; The Article Club, Lond., Secretary of; Mons. J. Astier, Paris.

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ABSTRACT OF

The Erasmus Wilson Lectures

ON THE

PATHOLOGY AND TREATMENT OF THOSE DISEASES OF THE LIVER WHICH ARE AMENABLE TO DIRECT SURGICAL INTERFERENCE.

Delivered at the Royal College of Surgeons of England on Feb. 21st, 23rd, and 25th, 1898,

BY H. J. WARING, M.S. LOND., F.R.C.S. ENG.,
SURGICAL REGISTRAR AND DEMONSTRATOR OF OPERATIVE SURGERY AT ST. BARTHOLOMEW'S HOSPITAL AND SURGEON TO THE METROPOLITAN HOSPITAL.

LECTURE II.[1]

Delivered on Feb. 23rd.

[THE first portion of this second lecture was devoted to the consideration of subphrenic or subdiaphragmatic abscess which in a considerable number of cases is dependent upon, or associated with, a pathological condition of the liver and which may be defined as a localised collection of pus or pus and gas between the inferior aspect of the diaphragm and the adjacent surface of the liver. Subphrenic abscess may be either intra-peritoneal or extra-peritoneal; its pathological causes may be divided into the following groups: (1) traumatic causes; (2) affections of the alimentary canal; (3) affections of the kidney and perinephric tissue; (4) inflammatory conditions of the gall-bladder or the bile-ducts (5) diseases of the thoracic viscera; (6) suppuration in a hydatid cyst; and (7) pyæmia. Mr. Waring then continued:]

Of the cases of which I have notes 2 were due to ulceration of the duodenum, 1 to an ulcer of the stomach, and 1 probably to a similar condition, 1 to pyæmia, 1 to ulceration of the transverse colon, 1 to dysentery, 1 to perforation of the vermiform appendix, and 1 to an empyema of the basal portion of the right pleura. A subphrenic abscess may contain a variety of micro-organisms. When its onset and development are gradual the symptoms are somewhat indefinite and the early manifestations are often attributed to slight gastric or bilious affections. The overlying pleura may become inflamed, in which case friction sounds may be heard at the basal portion of the chest on the affected side. Shoulder tip pain or pain at the angle of the scapula is frequently noticeable and is due to irritation of the terminal branches of the phrenic nerve where they are distributed to the inferior aspect of the diaphragm. A distressing cough may also be due to the same cause. When the onset is sudden it is generally due to perforation of one of the abdominal viscera such as rupture of a collection of pus in the perinephric region or in the neighbourhood of the cæcum, or it may be due to the perforation of an ulcer of the duodenum or of the stomach. When the abscess comes on as the result of injury a history of the occurrence of this can usually be obtained. Pain localised in the upper portion of the abdomen usually follows rupture and escape of pus or contents of the alimentary canal; when a subphrenic abscess forms this pain is limited to the subphrenic area. There are also certain physical signs which are of the greatest importance in making a diagnosis. These vary slightly according as to whether the abscess is on the right side, on the left, or on both, and also whether the contents are pus or pus and gas. In most cases the liver is pushed downwards and can be felt to protrude a variable distance below the costal margin. This, however, is not constant, as the diaphragm may be pushed upwards and the abscess encroach on the thoracic cavity. Depression of the liver when it occurs is not pathognomonic of subphrenic abscess, as it may be due to an abscess of the liver, empyema and effusion into the right pleural cavity, or hydatid cysts in the liver or the subphrenic space. On palpation the tissues overlying a subphrenic abscess are more resistant than normal, the respiratory movements are diminished, and the abdominal and thoracic walls are more fixed. On percussion the conditions met with depend upon whether the contents of the abscess are pus or pus and gas. In the former case the hepatic dulness is increased, especially in an upward direction, the upper margin of the dulness corresponding to the position of the diaphragm. Above this there is ordinary lung resonance. When, however, the abscess contains gas the liver dulness is diminished and may be almost absent. It is replaced by a resonant note which is said to be "amphoric" in character and above this there is ordinary lung resonance. The "amphoric" resonance resembles that met with in pneumothorax. On auscultation ordinary vesicular breath sounds can be heard in the upper portion of the chest, usually as low as the third or fourth intercostal space. On shaking the patient a "succussion splash" may be heard, but often the condition of the patient will not allow this to be done.

Many cases of subphrenic abscess present considerable difficulties in diagnosis. The affection is liable to be mistaken for an abscess in the upper portion of the liver, a solid tumour of the liver, a subphrenic hydatid cyst, a pleural effusion, and when it contains gas for a pyopneumothorax. It is often necessary to explore the swelling or area of increased dulness with the needle of an aspirator. When pus or pus and gas are withdrawn it is clear that an abscess exists. According to many observers if the needle move upwards and downwards with the respiration a subphrenic abscess is said to be present. This is due to the needle being fixed in the diaphragm. This sign, however, cannot be said to be pathognomonic, as the needle may be fixed in the thick walls of an abscess and not in the diaphragm, or if the structure be pushed upwards to a considerable extent the needle may pass into the abscess cavity and have no movements communicated to it. When an encysted purulent collection of the basal portion of the chest is under consideration it will generally be almost impossible to make a definite diagnosis and distinguish it from a subphrenic abscess. If, however, the swelling be shown to contain pus this is a matter of little consequence since the treatment of both affections is similar. It occasionally happens that a communication is established between a subphrenic abscess and the overlying pleural cavity or the pericardium. Sometimes the pus tracks either downwards or laterally; in the former case it may burst into the peritoneal cavity and cause fatal peritonitis, as in one of my cases, or it may burst into some part of the alimentary canal or the pelvis of the kidney, or it may extend to the surface of the body and point either through one of the lower intercostal spaces or in the upper part of the abdomen.

Treatment.—Whenever a subphrenic abscess is diagnosed surgical measures should be at once adopted for the evacuation of the pus and the drainage of the pus-containing cavity. The collection of pus may be reached by three different routes, either through the overlying portion of the abdominal wall, immediately below the costal margin, or through the overlying portion of the thoracic wall by resections of portions of one or more ribs and incision of the pleura and diaphragm, or from the lumbar region by an incision which is directly below the lower border of the last rib. The locality and connexions of the abscess determine which of these routes should be adopted. The method by incision through the abdominal wall is the best and is most likely to be followed by a successful result. When the subphrenic abscess is due to extension from the perinephric tissues or to suppuration in the region of the cæcum the incision should be made in the lumbar region. The main details of the operations are similar to those recommended in the treatment of abscesses of the liver. Of the 9 cases of which I have notes 3 were not submitted to operation; of these 1 recovered after the abscess had burst into the right lung and the contents had been expectorated; the others died. Of the remaining 6, 4 were operated upon by the abdominal method, 2 recovered and 2 died, 1 was operated upon by the thoracic method with a fatal result, and 1 by the lumbar method also with a fatal result. According to Lang, who has collected 176 cases from surgical literature, the percentage of recoveries after operation is 47·9 per cent. and of those not operated upon 12·3 per cent.

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[1] An Abstract of Lecture I. was published in THE LANCET of March 5th, 1898.

No. 3889.

2. HYDATID CYSTS OF THE LIVER.

[After an account of the various developments and the morphology of the tapeworm, tænia echinococcus, Mr. Waring said that it is probable that the ova are conveyed into the human body by the hands rather than by fresh vegetables or by water used for drinking, for it is most frequent in men of uncleanly habits who by their occupation come into contact with dogs. Hydatid disease is not very uncommon in London, the records of St. Bartholomew's Hospital for the years 1887–1896 showing that 25 cases had been treated in which the liver was involved, but in the provinces and in Scotland it is comparatively rare. After describing the symptoms and complications of hydatid cyst of the liver Mr. Waring continued:]

In my list of cases the cyst was in the right lobe in 17 cases, in the left lobe 5 times and in both once. In 22 cases the cyst was single, in 1 it was double, and in 1 there were multiple cysts.

Diagnosis.—The diagnosis of a hydatid cyst of the liver is often somewhat difficult owing to the indefinite character of the symptoms. The presence of a slowly growing painless swelling in the hepatic region and connected with the liver, which moves synchronously with the respiratory movements, is elastic or fluctuates on palpation, and causes few symptoms, will suggest the presence of a hydatid cyst. In doubtful cases it may be justifiable to puncture the swelling with the needle of an aspirator in order to withdraw some of the contents for examination. If the fluid contains hooklets and fragments of cyst wall the nature of the swelling will be determined. The most important affections from which a hydatid cyst of the liver has to be distinguished are localised solid enlargements of the liver, simple cysts, abscess, enlarged and dilated gall-bladder, cystic and solid growths of the kidney, pleural effusion, hydatid cyst of the abdominal wall, hydatid cyst of the base of the lung, and subphrenic abscess or cyst.

Treatment. — The surgical methods which have been adopted for the cure of hydatid cyst of the liver may be divided into the five following groups: (1) treatment by puncture—aspiration, trocar and cannula, and aspiration and injection of drugs; (2) the application of caustics; (3) electrolysis; (4) incision with drainage and incision without drainage; and (5) excision. In my opinion the best method of treatment of uncomplicated cases is that by incision and drainage, but in some cases it is advisable to excise the entire cyst, while in others a combination of the two methods is the best. I shall now consider the different methods separately.

1. In *treatment by puncture* three varieties have been practised: firstly, simple puncture with the needle of an aspirator and evacuation of a part or the whole of the fluid contents of the cyst; secondly, puncture with the needle of an exploring syringe, withdrawal of some of the fluid contents of the cyst, and then injection of a chemical substance such as a solution of perchloride of mercury, carbolic acid, iodine, or bile; and, thirdly, puncture with a trocar and cannula, the cannula being left in position in order to establish drainage. Simple puncture has in some cases been successful, but it is usually necessary to repeat it several times and then it fails to effect a cure in a large proportion of cases. It is, in addition, liable to be immediately fatal. Several cases have been recorded, one of which I have seen, in which simple puncture has been at once fatal. No explanation appears to be forthcoming as to the cause of the fatal result. It has been suggested that death has been caused by the aspirating needle having injured the solar plexus or other important nerve centre. According to Thomas, who has collected the statistics of different observers, the mortality after this form of treatment has been 19 per cent., whilst there has been 46 per cent. of failures.

2. *Treatment by the application of caustics*, such as potassium hydrate or Vienna paste, has been used with the object of opening and draining hydatid cysts of the liver. The mortality of this very unsurgical procedure was over 33 per cent. and on this account the operation has been wisely abandoned.

3. *Treatment by electrolysis* has been tried in the case of hydatid cysts, but the results which were obtained did not justify the retention of the procedure as a recognised surgical operation.

4. *Treatment by incision.*—Several modifications of the operation are practised, these depending (1) upon whether the operation is carried out in two sittings or is completed at one time; (2) upon the removal or non-removal of a portion of the cyst wall; and (3) upon the form of drainage which is established. Each of these operations may be performed either through the abdominal wall, through the thoracic wall, or through the lumbar region. In the majority of patients the operation can be carried out through an incision in the anterior abdominal wall. An abdominal operation at one sitting is recommended in all cases in which the hydatid cyst can be felt to protrude below the costal margin. A vertical incision three inches or more in length is made over the most prominent portion of the abdomen. This incision may be either in the linea semilunaris, in the linea alba, or through one of the recti muscles. When the peritoneum has been opened the cyst will generally be exposed in the bottom of the wound. An incision two inches in length and parallel with the parietal wound is made in it and the fluids and daughter cysts are evacuated.

5. *Treatment by excision.*—When the cyst is of moderate size and does not extend deeply into the hepatic tissue it may be possible to dissect out the true cyst from the adventitious wall of fibrous tissue which has been formed around it. If this can be readily done the cyst is removed and the margins of the wound in the liver substance united by the insertion of a series of silk sutures. The insertion of sutures and the approximation of the lips of the hepatic wound are facilitated by the resisting wall of the cyst, which is composed of fibrous tissue.

If the cyst cannot be readily removed by dissection it should be drawn well up in the parietal wound and the distal portion if practicable cut away with strong scissors. Removal of a portion of the cyst wall enables the remaining part to close up by granulation more quickly and the patient recovers in a shorter time than when the entire cyst is left behind. When this has been done the internal aspect of the cyst is well scraped with a Volkman's spoon in order to remove as far as possible the calcareous matter and the parenchymatous portion of the cyst wall. The interior of the cyst is then irrigated with an antiseptic solution and packed temporarily with a long strip of gauze or a sponge. Next the margins of the incision in the cyst are united to those of the upper portion of the abdominal wound by the insertion of a series of silk sutures. Each suture should pass through the marginal portion of the cyst and then through the serous, muscular, and fascial layers of the abdominal wall. Some surgeons prefer to pass these sutures through the skin as well, but in my opinion it is an advantage not to pass them through the skin, since the sinus then closes up more quickly and a less marked scar results. That portion of the parietal wound which is not used for suturing the cyst is carefully closed by the insertion of a series of salmon-gut sutures. The packing within the cyst is now removed and the interior of the cyst packed with a long strip of aseptic gauze one end of which protrudes externally. This serves to absorb the secretion from the wall of the cyst and to prevent the occurrence of hæmorrhage. Some surgeons put in a rubber drainage tube at the time of the operation, but it is preferable not to commence the use of a tube of this kind until a day or two after the operation. Ordinary aseptic dressings are now applied and fixed in position by bandaging. On the day after the operation the dressings are removed and the packing is taken out from the interior of the cyst. The cavity is irrigated, a soft rubber tube of moderate calibre passed down to the bottom of the cyst, and dressings are applied. This method of dressing is repeated daily until the cyst cavity has closed up from the bottom and the external wound healed. The silk sutures which have been used for attaching the cyst to the abdominal wall and for closing the external wound should be removed at the end of ten or fourteen days. Care must be taken to remove all of them otherwise they may become a source of irritation and help to keep open a sinus or fistula.

It has recently been proposed to treat hydatid cysts in a manner somewhat different to the above. When the surface of the cyst is exposed through an abdominal incision its wall is incised and the contents are completely evacuated. All hæmorrhage is arrested and then the cyst is dropped back into the abdominal cavity and the parietal wound closed. It is claimed for this method of treatment that the fluid which is secreted by the cyst is absorbed by the peritoneum without doing any harm and that the period of treatment is considerably shortened. I have had no experience of this operation, but it appears to me that one runs a risk of contamination of the peritoneum and subsequent development of cysts in connexion with the peritoneum and also of the possibility of adhesions being formed between the cysts and a coil of intestine which may become a cause of intestinal obstruction. When the cyst extends upwards so as to encroach upon the thoracic cavity and is not readily accessible by the abdominal route without cutting through several inches of sound liver tissue the parasite ought to be attacked through the chest-wall by a transpleural operation such as the one described in connexion with hepatic abscess and subphrenic abscess. The stages of the operation are similar. In this form of operation several days may be allowed to elapse between the attachment of the cyst to the chest-wall and the evacuation of its contents and the establishment of drainage. When the cyst is situated in the posterior portion of the right lobe of the liver and projects below the last rib it may be dealt with through a lumbar incision similar to the one mentioned in abscess of the liver or subphrenic abscess. When a hydatid cyst of the liver has ruptured into the peritoneal cavity the abdomen is opened and the contents of the cyst are removed from the peritoneum as far as possible. Then the cyst is treated as above. In like manner when the rupture involves the pleura the escaped contents are removed through a thoracic incision and afterwards the cyst is stitched to the margins of the wound and drained.

Prognosis.—Of the cases of which I have notes twenty-one were treated by an abdominal operation. Of these sixteen recovered and five terminated fatally. Two of the fatal cases were suppurating at the time of operation and in one death did not occur till four years afterwards, when suppuration occurred in a sinus which had remained not closed. One was treated by a thoracic operation with a fatal result. This was suppurating at the time of operation. Five cases were treated by aspiration. Three of these were afterwards treated by an abdominal incision and in the others, the swelling still remained, but they escaped from observation and the final result was not known. According to Thomas the mortality in cases which have been treated by the one-stage abdominal operation has been 10·29 per cent. and in those treated by the thoracic operation 29·4 per cent. The treatment of multilocular hydatid cysts I shall consider in my next lecture, when I am dealing with resection of the liver.

The Lettsomian Lectures

ON

THE AFFECTIONS OF THE URINARY APPARATUS IN CHILDREN.

Delivered before the Medical Society of London on Feb. 7th and 21st and March 7th, 1898,

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LECTURE III.[1]

Delivered on March 7th, 1898.

PATENT URACHUS.

MR. PRESIDENT AND GENTLEMEN,—A patent condition of the urachus after birth is not exceedingly rare and is one of the causes of those masses of granulations which are found springing from the umbilicus out of the centre of which and issuing from a minute aperture a fluid with all the characteristics of urine often exudes in small quantities. A ligature applied to the base of this fleshy tumour at once destroys it and obliterates the canal leading to the apex of the bladder. This condition is usually noticed in very young infants soon after the separation of the cord, but Sir T. Smith relates a case in which it occurred in a boy, aged two years, and Mr. Bryant one in a boy, aged eight years, and the patency will occasionally persist into adult life as in the case described by the late Mr. Paget, of Leicester, of a man, aged fifty-five years, from whom he removed a ring-shaped calculus by a finger passed down through the umbilicus and into the urachus. This and another patent urachus in an infant he succeeded in closing by paring the edges and uniting them with harelip pins. Should ligature of the granulation growth fail to close the canal this may be effected by means of the electric cautery or by a plastic operation.

Two very interesting cases are recorded in which the urachus was reopened by pressure of the urine from below the first by Mr. Savory of a boy, aged thirteen months, who had difficulty and pain in micturition and presented the symptoms of calculus vesicæ. Gradually an abscess formed at the umbilicus, which on being opened gave exit to urine. The boy gradually sank and at the post-mortem examination there was found a polypus in the bladder obstructing the ureters and the orifice of the urethra. The urine thus obstructed forced an opening through the recently closed urachus and thus gave rise to the abscess.[2] A similar case is related by Mr. Ball as occurring in a boy aged ten years. Mr. Sutton states[3] that the urachus may sometimes grow equally with the bladder, retain a communication with it, and give rise to a so-called bifid bladder. It may dilate unequally and form a chaplet of small cysts, and in some rare instances may serve as a starting point of a cystic tumour outside the peritoneum of enormous dimensions. One examined and reported by Mr. Sutton and Dr. Aveling weighed nearly 5 lb., and Mr. Lawson Tait has recorded a number of instances of similar tumours under the name of extra-peritoneal cysts.

HIATUS OF THE BLADDER.

To account for the existence of that distressing deformity hiatus of the bladder, several theories have been suggested. Dr. Ahlfeld opines that these persistent fissures in the middle line of the body are due to excessive traction of an abnormally distended umbilical vesicle and allantois which pulls the viscera forwards. This distension is due to a general dropsical tendency in the fœtal membranes and appendages, and in support of this Dr. Magnussen recites three cases of ectopion (*sic*) in which spina bifida and meningocele—that is to say, dropsical processes in the vertebral region—were present. Against this I may state that of the many cases of this defect that I have seen I remember none in which it was associated with these deformities, and they may well have been instances of concomitant defects of development in the median line. Dr. Paul Reichel, of Würzburg, maintains that the theory of Dr. Duncan that congenital defects of the bladder and penis are caused by atresia of the urethra and the bursting of these organs from pressure of the urine is not tenable. Ectopion (*sic*) of the bladder is simply a persistence of the primitive cleft throughout the greater part of its extent, preventing the formation of the anterior wall of the bladder, the anterior abdominal wall, and the symphysis pubis, besides interfering with the formation of the external genitals. The cleft may be partly closed, forming various modifications of the deformity. In other words, it is an arrest of development which gives rise to this condition as well as to epispadias. M. Tourneux and M. Durand explain it as the result of the undue extension forwards of what the former has named the "urethral lame," a prolongation of the "bouchon cloacal" which intervenes between the lower end of the urogenital sinus and the exterior and thus shuts in the sinus. This leads to an increase in the size of the anterior part of the aperture by which the urogenital sinus is put into communication with the exterior.[4] The extent may vary from a complete exposure of the posterior wall of the bladder with separation of the recti and imperfect union of the symphysis pubis to the slightest condition of epispadias where only a portion of the wall of the urethra is exposed and where some sphincter power remains, so that the most distressing feature of the deformity, the uncontrolled dribbling away of urine, is not met with, and every variation between these two extremes. Sometimes the bladder, though in itself perfectly formed, may prolapse through the urethra or even the urachus. The appearances of this deformity are so familiar as to need no further description, but there are certain conditions associated with it which are not easy of explanation. The tortuous and dilated state of the ureters which is a frequent accompaniment may be due to the irritation of the surface from exposure which induces a constant discharge from the ureters and produces the same conditions as ensue from enuresis due to other causes. Although this complication has been frequently observed it can hardly be constant or the well-known healthiness of some individuals who are afflicted with this deformity and who pass into adult life could not be maintained. The tendency, however, of these patients is to die from secondary inflammatory conditions and kidney complications. Dr. Ultzmann,[5] confirming this, quotes M. Berger[6] who found that of seventy-one cases collected by him only twenty-three reached the age of twenty years, the causes of death being skin inflammations, erysipelas, secondary inflammatory affections, and frequently kidney diseases. The state of hyperæmia and congestion of the mucous membrane are most favourable to the existence of micro-organisms and to their extension in the urinary tract. It is due to the establishment of these micro-organisms that there is maintained a chronic inflammation of the mucous surface from which an alkaline or feebly acid urine is discharged which deposits phosphates in such abundance as to be the greatest cause of distress to the patient and the most troublesome obstacle to successful treatment by the surgeon.

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[1] Lectures I. and II. appeared in THE LANCET of Feb. 12th and 26th respectively.

The specimen is to be seen in St. Bartholomew's Hospital Museum.

[3] THE LANCET, Feb. 5th, 1887, p. 256.

[4] See Ballantyne: Edinburgh Hospital Reports, vol. iv.

The operative measures for the alleviation of this defect I have only space to enumerate. First, there are the methods of Dr. Daniel Ayres, Dr. Pancoast, Professor John Wood, and Mr. Holmes which aim at forming a covering for the exposed mucous membrane by turning over flaps of skin from the surface of the abdomen and so covering the exposed surface that the urine is directed on to the urethra and guided into the orifice of an apparatus as it falls uncontrolled from the ureters. By this proceeding the urine is made to issue from a single aperture and further attempts to improve the shape of this opening can be made by raising a flap of scrotal tissue and lifting it over the penis to attach it to one turned down from the surface of the abdomen. Many modifications of this plan have been followed by myself and others and it is impossible to give outlines for the direction of the incisions, as they must be adapted to the requirements of each individual case and tissue must be drawn from the parts where it can best be spared and where resulting cicatrisation will be least harmful. I have found that the skin of the prepuce, which is usually redundant, can generally be made available to cover some part of the aperture.

It is remarkable how tolerant of operations are the subjects of this deformity. I have on several occasions removed the testes or ovaries on both sides with large hernial sacs as a preliminary to the plastic operation which has been performed at a later date. But notwithstanding these facts the proceedings are very disappointing as regards ultimate results. Complete covering is rarely obtained by one operation and small apertures require to be dealt with by subsequent manœuvres. Trendelenburg in one case operated ten times and one of my cases has been at least six times under my hands. The disappointments met with are due to the persistence of small openings caused by the permeation of urine through the edges of the united flaps which it is very difficult to close. But the greatest drawback to success is due to the septic condition of the urine and the large quantities of phosphatic material which it secretes. Sometimes this will accumulate to such an extent as to form considerable calcareous masses. A child for whom I succeeded in making a very fair covering for the bladder requires every few months to have one or more of these masses removed. The hairs, too, which grow from the overturned flaps of skin become hypertrophied and form nuclei upon which these concretions collect. Professor John Wood, who had an experience of forty cases, could only say that they were rendered much more comfortable, but does not mention the casualties or troubles subsequent to operation. Distressing as this condition appears to observers it must be borne in mind that many subjects of this deformity are in other respects strong and healthy and live to a good age, and personally it is only in the most urgent cases that I am inclined to propose an operation which is not without risk, entailing long confinement and many subsequent procedures and which at best may afford but little alleviation. Other methods have been tried, such as that recommended by Mr. Simon of establishing a fistulous communication between the ureters and the rectum or removal of the mucous membrane of the bladder and planting the ureters in the gutter of the penis or in the rectum, but the mortality after these proceedings is very heavy, mainly in consequence of inflammation spreading up the ureters and causing an acute septic interstitial nephritis. Trendelenburg and others have sought by dividing the sacro-iliac synchondrosis, which should be done before the fifth year, to narrow the interval between the pubic bones and to approximate the margins of the exposed bladder and then suture them together. Mr. Makins has published[7] an account of this operation which he performed upon a boy, aged five years, and which was fairly successful. He found a great improvement in the condition of the urine to result from the application to the mucous surface of pinewood bags impregnated with perchloride of mercury. By thus subduing the septic condition, the character of the urine improves and the phosphatic deposits diminish, and this indicates a course which should certainly be adopted before proceeding further. In the same way, when the ureters are healthy, I believe that much assistance might be gained by temporarily maintaining a catheter in each and so preventing the urine from coming in contact with the mucous membrane or with the edges of the united surfaces. A mode of operating which seems to promise greater success is that which is suggested by Mr. Milton, of Cairo, and which is described by Mr. Anderson.[8] This consists in dissecting up flaps of the mucous membrane of the bladder and urethra for about half an inch from without inwards and uniting them by a double set of sutures over a large catheter. Two marginal skin flaps are then dissected up from without inwards and tension being relieved by two lateral incisions their edges are brought together over the closed bladder by means of wire sutures and harelip pins. Lastly, I must not omit to mention the ingenious suggestion offered by Mr. Reginald Harrison, who, from a boy, aged fifteen years, removed the left kidney and eleven months later attached the upper end of the right ureter to a wound in the loin. The urine that issued was neutral and free from the tendency to form phosphatic deposits which existed when flowing over the surface of the bladder.

EPISPADIAS.

Epispadias is not a frequent deformity and may exist independently of any defect of the abdominal walls and be confined only to that portion of the urethra which passes through the glans, or may extend backwards into the spongy portion of the canal. But since behind these parts there exists more or less sphincter power the results are not so distressing as in the more pronounced form where the opening extends backwards to the prostatic region, although the bladder and the symphysis pubis may be normally formed. This latter form imperatively calls for some attempt on the part of the surgeon to remedy the condition, but again, as in hiatus vesicæ, the great obstacle to success is the constant and uncontrolled discharge of urine, although in these cases there is not the same tendency to phosphatic deposit owing to the normal and protected condition of the bladder. I have once attempted to remove this difficulty by draining the bladder through a perineal incision, though in this instance the result was disappointing. Time does not permit me to describe the various plans which are recommended for the remedy of this defect, but by far the most practical suggestion is that recently described by Dr. Cantwell.[9] The patient should be at least ten years of age. The bladder is first drained through a perineal wound. When this is established two parallel lines of incision are carried down between the mucous membrane and the skin from the symphysis to the end of the glans joining above the bladder opening. A flap is then formed of the whole urethra from the glans backwards, and this being held up the cavernous bodies are separated. The urethral flap is then laid in the gutter thus formed and held in position by two sutures through the mucous membrane and the skin and tied on the under surface of the penis. A silver catheter is then laid in the urethra and a canal formed by continuous suture of the free edges of the mucous membrane over it. Above this the corpora cavernosa are brought together and reunited by a continuous suture. The skin-flaps are joined over this and a few stitches are passed through the fat of the mons Veneris. Mr. Clutton informs me that he has had three most satisfactory results from this plan.

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[5] Krankheiten der Harnblase, 1890.

[6] Semaine Médicale, 1883.

[7] Transactions of the Royal Medical and Chirurgical Society.

[8] Transactions of the Clinical Society, 1892.

[9] Annals of Surgery, 1895, vol. ii., p. 690.

In a very complete monograph[10] Dr. J. W. Ballantyne has drawn attention to that very rare malformation, so-called epispadias in women, of which he has collected thirty-three recorded observations. I cannot do more than quote his conclusions, but his admirable paper is of the greatest interest as drawing attention to a cause of enuresis in females which may easily be overlooked unless careful examination of the parts be made: "It has only one symptom—more or less complete incontinence of urine—and in its least marked degree even this may be absent. It consists in the absence of a greater or smaller part of the anterior urethral wall with the division of the clitoris into two parts, and the presence of a median gutter or groove in the region of the anterior commissure of the vulva: the symphysis pubis is normally closed and so is the anterior bladder wall. In its least marked form the urethra simply opens above the clitoris instead of below it, but in all the other forms there is splitting of the clitoris, and the existence of a median furrow. Palliative treatment consists in the wearing of a urinal; radical methods are found in plastic operations for the lengthening and narrowing of the urethra and for the restoration of the anterior vulvar commissure and clitoris."

Mr. Makins in an obstinate case of this defect successfully closed completely the inferior opening of the bladder and established a supra-pubic urethra.

HYPOSPADIAS.

Hypospadias is a fairly common defect and varies greatly in its degrees, and examples are frequently met with in which the opening of the urethra may be situate at any point between the perineum and the spot at which the frenum is attached to the body of the penis. The two chief points of interest in regard to this deformity are as to the possibilities of procreation and the question, which not unfrequently arises in extreme cases, as to the sex of the individual. These I must not discuss but must limit myself to the question only of its effects on the urinary apparatus. There is, even in those cases where the orifice is in the perineum, a power of control, since the opening of the urethra is always in front of the membranous portion, but such patients are unable to micturate except in a sitting position and an operation is necessary in order to direct the urine to a point nearer to the end of the penis. The most usual position for the opening of the urethra is just behind the attachment of the frenum. It is generally extremely minute and many cases have come under my notice in which it has been declared that no opening existed, a state of things which is almost unknown. The minuteness of this opening, at whatever position it is situate, may lead to difficulty in passing water, and in some cases that I have seen the orifice has become so obstructed by mucus and dirt as to cause pain and delay and in one instance a gleety discharge. This trouble is easily remedied by opening the urethra for a short distance and attaching the lappet-like flaps by stitches to the skin on either side. I have in several cases been able to trace an hereditary transmission of this defect and Mr. Lingard relates an instance[11] in which it was traced through six generations and tells of a case where it was transmitted by the widow of a hypospadian to four sons by a second husband who had no such deformity. I have met with one case of congenital fistula where a probe passed through the natural meatus issued at an orifice midway along the under surface of the penis, the edges of which were thin and resembled those of the meatus. Mr. Holmes describes a case in which there were four openings at different parts of the perineum, from all of which the urine issued as well as from the meatus. A case has been described by Mr. Gay[12] in which there existed a double urethra, one on the dorsum and one in the normal position, both communicating with the bladder but not with one another, and another similar case has been recorded.[13] An elaborate article on the origin and nature of these fistulæ has been written by M. René le Fort.[14]

CYSTITIS.

A chronic catarrh of the bladder occurs from the presence of calculus or tumour or any cause inducing urinary retention, but an acute state of inflammation rarely arises spontaneously. One instance occurred in a child under my care upon whom I had operated for the cure of a spina bifida by the injection of Morton's solution. Although this was followed by no constitutional disturbance there was complete and obstinate retention which persisted for over three weeks, during which a catheter had to be passed every few hours, and there ensued an inflammation of the bladder with muco-purulent urine and all the other symptoms of cystitis. These gradually disappeared and a subsequent injection of the tumour caused its consolidation and was not followed by similar symptoms. The child was aged eight months and is now perfectly well. But there occurs occasionally what has been named an "acid purulent cystitis," to which my notice was first called by Mr. Treves who has kindly supplied me with the notes of the case which directed his attention to it. "A boy, aged two years and nine months, passed blood and pus from the urethra. When twelve months old the urine was continuously full of pus and the discharge has continued without change ever since. He passes water seventeen to eighteen times in the twenty-four hours, half an ounce at a time. There is no pain and no wasting. Urine: specific gravity 1023, full of pus, no mucus, many uric acid crystals, no renal casts and always markedly acid. No tubercle bacillus. The bacterium coli commune found in almost pure cultures. He has been repeatedly sounded and examined under ether with no result. There is a very tuberculous history in the family. The child looks well and is not wasted. There is no fever and no evidence of renal disease." This affection has been studied and described by foreign authors but has been recognised very rarely in this country. Some years ago Clado directed attention to special rod-like organisms associated with pus which occurred in acid urine and which he called pyogenic bacteria but which have since been identified as the bacillus coli communis, and it has been shown by Professor Schmidt and others that their passage into the bladder induces cystitis. The anatomy of the parts, as first insisted upon by Dr. Escherich, explains the greater frequency of the condition in girls than in boys. In 1894 he reported seven cases in girls, the patients ranging from seven to nine years of age. He regarded the condition as somewhat trivial, curing each case by vesical lavage with creolin lotion and the internal administration of salol. Trumpf in more than one paper would have us regard the condition as worthy of occasional anxiety. He brings forward twenty-nine cases which were under his own observation, twenty-one were girls and eight boys, the youngest was five weeks old and the oldest nine years. He divides the cases into trivial and grave. In the former the symptoms are principally local and in no way affect the general health of the child. Ten were of this nature, three of them suffering from vulvitis at the same time. In the graver form rapid emaciation takes place and severe local and constitutional symptoms manifest themselves. Apathy, somnolence, collapse, and vomiting are associated with strangury, hypogastric and lumbar pains, and in two of his cases pyelitis, uræmia, rapid emaciation, and death. The urine in both types is offensive, acid, and albuminous, with varying quantities of pus, leucocytes, and epithelium, according to the severity of the attack. It is usually of a pinkish or opalescent colour and on bacteriological examination the bacillus coli is readily found. In severe forms the deposit may amount to half the total bulk of urine passed. Mild cases recover on an average in two weeks. Dr. Denys thinks that direct infection of the bladder is only possible when there is a slight catarrhal condition; others argue that the vesical infection occurs from contact with the bacillus-laden coils of intestine. Dr. Escherich, Dr. Czerny, and Dr. Trumpf find the bacillus coli present in the blood in cases of enteritis, especially the clinical variety known as follicular. In a recent work by Dr. Melchior, of Copenhagen, which is reviewed by Dr. Lindley Scott,[15] he concludes that the colon bacillus is the bacterium of the urine and the organism most commonly associated with cystitis, pyelitis, and pyelonephritis, and he found it in all varieties of cystitis, in acid, neutral, and ammoniacal urine. When the secretion was acid Dr. Melchior always obtained a pure culture of the colon bacillus; when ammoniacal it always proved to be accompanied by one or several of those micro-organisms which have the power of decomposing urea. He dismisses internal medication as practically useless and believes only in irrigation of the bladder with solutions of nitrate of silver varying in strength from 1 in 500 to 1 in 200 A close perusal of this book is invaluable to those interested in the subject and the whole study of this form of cystitis is deserving of much closer attention than it has received in this country.

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[10] Edinburgh Hospital Reports, vol. iv.

[11] THE LANCET, April 19th, 1884, p. 703.

[12] Transactions of the Pathological Society, vol. xiv.

[13] Brit. Med. Jour., 1891.

[14] Annales des Maladies des Organes Génitaux, vol. xiv., 1893, p. 624, et seq.

[15] British Journal of Dermatology, September, 1897.

TUBERCULOSIS OF THE BLADDER.

Tuberculous ulceration of the bladder occurs much more frequently after the age of puberty than before, but I have met with a few cases in children and there are records of others. The diagnosis presents even more difficulty in children than in adults and the question of most vital importance as regards treatment, but which is at the same time most difficult to determine, is whether the ulceration commences primarily in the mucous membrane of the bladder or is secondary to disease in some of those organs which communicate with it. In the case of the testes or vesiculæ the primary focus is readily manifest, but in the case of the kidneys it is not so easily determined. Mr. Mansell Moullin, writing on this subject, thinks that primary tubercle of the bladder is probably more common than is generally supposed and the secondary origin is in all probability exaggerated. He considers that the neck of the viscus is involved more frequently than the fundus, not because of the proximity of the openings of the ureters and vasa deferentia, but because of the greater vascularity of that part and its more active functional capacity. It is as an aid to distinguish its independent origin, as apart from being a sequel to similar disease in the kidney, that the cystoscope may prove of the greatest service. Not only may the extent and character of the ulcer be revealed, but the nature of the discharge from each ureter may be seen and the presence or absence of pus therefrom will afford evidence of the state of the respective kidneys. In an article in the *Deutsche Zeitung für Chirurgie* Dr. Griffenhagen points out that the bladder is most frequently infected from the kidneys, less often from the prostate, and comments on the remarkable resisting power of the mucous membrane of the bladder to the invasion of the tubercle bacillus. He had met with many examples of chronic renal tuberculosis with no bladder complication, yet the orifice of the ureter is especially liable to be affected by this bacillus. I have recently had under my care a young man who had had one testicle removed for tuberculous disease and whose remaining testis and both vesiculæ present the typical characteristics of tuberculosis of those organs. The bacillus has been detected in his urine, but he has no frequency of micturition or any other symptom of bladder involvement. In the Transactions of the Clinical Society, 1875, the case of a girl, aged nine years, is related by Mr. Humby in which ulceration had at two points perforated the bladder; one at the apex led into a circumscribed abscess in the peritoneum, which had discharged at the umbilicus, and the second, at the back of the viscus, had opened into the bowel, through which matter had escaped by the anus.

The diagnosis of these cases from those of calculus is not usually difficult, one pronounced feature being that in tuberculosis the frequency and pain of micturition are as great or greater during night, whereas rest allays and diminishes these symptoms in cases of calculus. The amount of hæmorrhage as a rule is slight, but may be excessive if ulceration is extensive or deep. I have already pointed out that in renal tuberculosis the urine remains acid, but when the bladder is invaded it usually becomes alkaline with the increase of purulent discharge. Reliance cannot be placed upon the absence of the tubercle bacillus from the urine, but when present in large numbers it indicates an extensive amount of disease. In the case of a young woman whom I saw some years ago the disease had advanced too far for any hope of successful treatment, but in a boy who was under my charge the disease was certainly for a time confined to the bladder and I gave considerable relief by making a perineal opening and thus draining the viscus. But since that time the modern mode of suprapubic cystotomy has come into practice and undoubtedly offers a means of relieving this very distressing malady. Mr. Battle has brought the advantages of this operation to our notice by an account of a very interesting case.[16] The patient was a girl, aged twenty years, and therefore above the age to which I have endeavoured to confine my observations. But the treatment which he successfully pursued was undoubtedly that which I should myself follow. After giving a fair trial to general and local treatment he performed suprapubic cystotomy. He found that partial healing had taken place as a result of previous treatment, but an extensive ulcer remained, and the surface of this was scraped and then dabbed over with a solution of chloride of zinc. The urine, which had been slightly alkaline, became acid and in less than a year after being first seen the girl appeared perfectly well and could hold her urine for three hours. I agree with Mr. Battle in preferring the application of chloride of zinc, which is so efficacious in the treatment of tuberculosis of other parts, to the use of the actual cautery, which has been applied successfully by M. Guyon, M. Reverdin, and others. Mr. Cheyne believes that much of the benefit of this operation lies in the rest which is given to the bladder by the drainage of the viscus and in this way he treated a boy, aged four years. Mr. Morton, after performing the suprapubic operation, scraped the ulceration and rubbed in iodoform, afterwards keeping up drainage by the aid of Cathcart's suction apparatus. The ulceration in the bladder healed but the patient died with tuberculosis of the left kidney and calculus in the right ureter. A patient was shown at St. Bartholomew's Hospital who exhibited tuberculous ulceration of the sinus left by a suprapubic wound which had been made for the treatment of ulceration of the bladder. The plan of injecting iodoform and other compounds has not proved satisfactory, although Professor Landerer claims value for the injection which he prescribes composed of balsam of Peru, chloride of sodium, and other drugs.

TUMOURS OF THE BLADDER.

Tumours of the bladder occur but rarely in childhood. One such case I saw at the Hospital for Sick Children, Great Ormond-street, under the care of Mr. Marsh.[17] The girl was aged two years and when one year old a dark, fleshy-looking growth projected from the vagina and was ligatured and fell off. Then came retention of urine with attacks of pain and straining. On examination under chloroform a large bunch of polypi were found just within the vulva projecting from the vagina and distending the urethra. They varied in size and colour, some being pale and others dusky purple. Death took place sixteen months after the disease had been first observed. The report by Mr. Butlin and Mr. Marcus Beck described it as an overgrowth of connective tissue. Two cases have occurred in the wards of my colleague, Mr. Owen, both happening in boys, for one of which perineal and for the other suprapubic cystotomy was performed. I have inspected all the specimens of this form of tumour which are to be found in the various hospital museums in London. The best known is that in the Hunterian Museum which was presented by Mr. Crosse, of Norwich, and which is depicted in his treatise on calculus. The patient was a boy, aged two years, whose illness began about six months previously to his death with frequent micturition and dysuria. There was no hæmaturia. Perineal section was eventually performed and many gelatinous polypi were excised. The child died forty-four hours after operation. Mr. Targett in a most comprehensive paper[18] groups together all these polypoid growths attached to the mucous coat of the bladder in children, which are described as mucous polypus, fibro-sarcoma, fibromyxoma, myxosarcoma, and the like, and allowing that the vast majority of primary vesical growths of children are of the polypoid type — that is, rounded elevations of the mucous coat with more or less constricted pedicles and arranged in clusters—maintains that the minute structure of these formations is of subsidiary importance, that pathologically they are best considered as members of one group and that clinically they have one common character—viz., that they are uniformly fatal, though death is chiefly, if not entirely, due to urinary obstruction and its backward effects upon the kidneys. The growths may extend in the substance of the mucous coat, into the muscular tissue of the vesical wall, as secondary deposits in the cellular tissue outside the wall of the bladder and as deposits in the neighbouring lymphatic glands. Other writers, as, for example, Dr. Vander Veer, classify the tumours which occur in children under the same headings as those of adults, but Mr. Targett has examined the subject so closely that his conclusions may be accepted as final. The only record of any innocent tumour is that described as a small papilloma which was removed by Mr. Bryant in the eye of a catheter. Treatment must generally be limited to relieving the bladder of the confined urine either by a perineal or a suprapubic opening. But removal has more than once been successfully performed. Thus Professor Humphry removed by means of lateral cystotomy and with forceps and finger-nail a fibro-sarcoma from a boy, and a case of great interest occurred in the practice of Professor Billroth, where in a boy, aged twelve years, with frequent painful micturition, a tumour could be felt in the region of the bladder which was suspected to be connected with the back of the viscus. The lateral incision was made and a tumour of nearly the size of a fist with an uneven surface was found projecting from the posterior wall into the cavity of the bladder. It measured 8 in. in its longest diameter, 5 in. in its broadest, and 3 in. in basal circumference. Owing to its size it was found impossible to extract the tumour through the perineum. A suprapubic incision was then made, both recti were cut across and a transverse incision was carried into the bladder. The tumour was then torn through near its base with the finger and the pedicle dissected out. It appeared to take its origin from the muscular coat and had not attacked the peritoneum. It is described as principally a myosarcoma and in some places a myocarcinoma The boy was discharged in a month perfectly well. Clearly the only chance for surgical relief lies in an early diagnosis and a suprapubic incision when on inspection the possibility of removal can be considered and, if feasible, carried out in the same manner as tumours are removed from the bladders of adults.

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[16] Transactions of the Clinical Society, 1890.

[17] Transactions of the Pathological Society, vol. xxv.

[18] Transactions of the Pathological Society of London, vol. xlvii.

A case in which retention of urine was occasioned in a girl, aged two years and four months, by a primary sarcoma of the vagina is related by Mr. D'Arcy Power.[19] The growths were of polypoid appearance and had been observed to project from the vulva five months previously. She died with symptoms of uræmia. The specimen is preserved in the Museum of St. Bartholomew's Hospital. The growths are classed as myxosarcoma, whilst some more dense were of the type of fibro-sarcoma. Mr. Power has collected a series of twenty-six cases principally from German literature. Except from this cause retention of urine only occurs in children by reason of the pressure of an abscess in the perineum or the impaction of a stone in the urethra, which is at once readily detected by the sound or catheter. If the stone is arrested in any part of the urethra anterior to the scrotum it can be extracted with suitable forceps or by means of an incision made directly upon it, but if it be further back it can generally be pushed into the bladder and can be removed later or at once by the lithotrite and evacuator. If, however, it remains obstinately lodged in the scrotal or perineal part of the urethra it is easily removed by a median incision.

EXTRAVASATION OF URINE.

The impaction of a calculus or the opening of an abscess into the urethra are the only causes which may give rise to extravasation of urine in young patients with the exception of rupture of the urethra by falls upon the perineum and the subsequent obstinate form of stricture which ensues upon that accident. The treatment of such injuries and their consequences in no wise differs from that followed in the case of adults, but considering the firmness of the cicatricial tissue; which forms at the site of these lesions, the rapidity of its contraction and the speed with which destructive changes in the kidneys supervene and the fistulæ which form, it may sometimes be necessary to resort to some extreme measure in order to avert these after-consequences. Many operations have been devised for dealing with this obstinate form of stricture. John Hunter proposed to reach the rear of the constriction through the apex of the bladder with a metal instrument to be met by another in front. Mr. Furneaux Jordan in his "Surgical Injuries" describes an operation through the rectum for the treatment of impassable stricture. In the *Practitioner*, 1888, I related the case of a boy, aged fourteen years, who a year after the operation for the re-establishment of the urethra, which had been divided by a fall, returned with the stricture firmly closed and with two sinuses in the perineum through which all urine was voided. The tissues of the perineum and scrotum were densely infiltrated. In order to reach the utmost limit of the sound urethra with the smallest possible wound I performed what is termed posterior catheterisation—that is to say, I opened the bladder above the pubes and passed a bent probe through the vesical orifice of the urethra down to the posterior surface of the stricture. Cutting down upon this I attached the mucous membrane of the urethra to the edges of the incision. The result was most satisfactory. The sinuses closed, the perineum resumed its normal condition, and the boy passed his urine voluntarily at intervals of three hours. At the end of a year I inspected him and found him very greatly improved in health. The urine was voided from a nipple-like elevation close to the posterior edge of the scrotum. No irritability of the bladder existed and the control over it was perfect. The urine, which previously to the operation contained pus and albumin, was perfectly normal and the cicatrix of the abdominal wound was firm and level. So satisfactory was his condition that he and his parents declined any further surgical interference.

PHIMOSIS.

On the many baneful effects which result from an elongated or contracted prepuce I have no space to dilate and can only allude to their effects upon the urinary apparatus. Reference has already been made to cases of hydronephrosis which are ascribed solely to this condition, and as a reflex effect may be mentioned nocturnal enuresis and daily incontinence and all the symptoms of calculus including even hæmaturia. The hypertrophy of the bladder which ensues from this cause has been pointed out by Sir James Paget. The eczematous state which so often exists at the end of the prepuce frequently starts a slight urethritis in the region of the meatus by which urination is rendered painful and at the same time frequent and which if permanent causes the meatus to contract and renders its division by the scalpel a necessity. For these and very many other reasons connected with the effects of this condition in youth and in later life I consider that the simple operation of complete circumcision should be performed at an early age wherever complete retraction cannot easily be performed and whenever the prepuce considerably overlaps the glans.

The urethra of girls is not often the site of any surgical affections, but a remarkable case is described by Mr. Davies-Colley[20] in which the orifice of the ureter protruded through the meatus in a girl, aged eighteen months. This protrusion was ligatured and after death the right kidney and ureter were found to be healthy but the left kidney was suppurating and diseased by chronic obstruction. He considered that the condition was due either to the impaction of a calculus or to congenital constriction of the orifice of the ureter.

Mr Croft has related a case of inversion of the bladder in a girl, aged fourteen years. The bladder was turned inside out through the urethra and meatus. It was easily reduced under chloroform and did not recur. Similar cases have been reported by Dr. Lowe and Mr. Crosse, of Norwich, who by a timely recognition of the parts prevented their removal by the surgeon.

Mr. Bryant[21] describes a case of extreme prolapse of the female urethra occurring in a girl, aged six years. It was reduced and the child remained well. Several similar cases are mentioned. The prolapse seems to occur as the result of straining in the later years of childhood. It does not cause much trouble in micturition, but the protrusion is tender and the mucous membrane often bleeds. All these conditions must be carefully diagnosed from urethral caruncle which, common enough in women, is found occasionally to exist in children.

And now, Sir, time bids me conclude these somewhat scattered observations on some points of the subject which I set before myself. That I have by any means exhausted it I cannot pretend to hope; but that I have taxed, if not exhausted, the kind patience with which you and the Fellows of the Medical Society of London have been amiable enough to listen to what I found to say I greatly fear, and it remains only to thank you for your patience and to crave indulgence for the many omissions of which I am fully conscious.

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[19] Transactions of the Pathological Society of London, vol. xlvii.

[20] Transactions of the Pathological Society of London, vol. xxx.

[21] Transactions of the Royal Medical and Chirurgical Society, vol. lxxvii.

THE RELATION OF VARIATIONS IN THE LEVEL OF THE GROUND-WATER TO THE INCIDENCE AND SEASONAL DISTRIBUTION OF MALARIAL FEVERS IN INDIA.[1]

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VARIOUS statements are to be found in the literature of malaria with regard to the influence of rainfall, moisture in the air, and variations of temperature on the occurrence of fever, but very little on the influence of variations of the ground-water. Some observations were, indeed, made by Dr. T. R. Lewis and Brigade-Surgeon-Lieutenant-General D. D. Cunningham on this point in India, but the data they collected were from measurements by many different observers and do not appear to have been made sufficiently regularly or for long enough a time to allow of any very definite conclusions being based on them. Waterlogging of a soil by a constantly high ground-water is too well known a cause of malaria to need more than a passing reference. It is rather in dry places that observations are required and it is chiefly this side of the question that will be dealt with in the present paper. The rainfall is to some extent an index of the variations of the ground-water level, but only partly so. As is well shown in the charts in Davidson's "Diseases of Warm Climates" the maximum fever rate may occur slightly before, with, or after, the maximum rainy season; but I shall hope to show that the differences in this respect depend largely on the distance of the ground-water from the surface before the rainy season begins. Professor Lane Notter, in his well-known book on Hygiene, correctly remarks that "the development of malaria may be connected either with a rise or fall of the ground-water." Hirsch in his "Geographical Pathology" writes: "In the most intensely malarious spots of the tropics the prevalence of the disease is generally associated in a most marked manner with the rainy season. The fever makes its appearance with the commencement of the rains and lasts the whole period. If the rainfall be not excessive, it reaches a maximum usually when the rain ceases and continues with decreasing extent and virulence until the setting in of the cold season." This again is generally true, but with considerable variations in different places; and these variations, I believe, depend chiefly on the depth of the ground-water level and also to some extent on the nature of the soil, especially in relation to its power of retaining moisture. It is more especially in countries where there is an absence of marshy or water-logged soil that our knowledge of the factors which influence the occurrence and distribution of malarial fevers is defective. Chota Nagpur is mentioned by Hirsch as one of the exceptional places where malarial fevers prevail on a dry soil in the absence of marsh or waterlogging.

In 1895 I commenced a series of observations for the purpose of trying to ascertain the causes which influenced the seasonal incidence of malarial fevers in the dry district of Chota Nagpur. My observations were made in Doranda, the cantonment of Ranchi, which is the headquarters of the district. This place is situated on a dry, porous soil and is 2000 ft. above the sea level and my observations were made on some 400 men of the 11th Bengal Infantry, who all lived in lines on a small area of ground. Records were made of the maximum, minimum, and ground temperatures (the latter at a depth of 6 ft.), the rainfall, the moisture in the air, and lastly the level of the water in three wells which immediately surrounded the lines, taken twice a week by means of a float attached to a metallic tape. The average of the distance of the water from the surface of the ground in the three wells was taken to give the level of the ground-water beneath the lines in which the men were living. Notes were taken in shorthand of each man who came to hospital with fever and the day on which he first began to suffer from it was noted. The blood of the majority of the cases was examined for the malarial organism, and its frequent discovery, together with the precisely similar character of the symptoms in all the cases, proved that they were really malarial in their nature. The fever season in this place is the rainy season, which lasts from the middle of June to the middle of October as a rule, but varies somewhat in different years. More than 80 per cent. of the yearly fever occurs at this time. During the cold weather and the hot, dry months there is very little fever and during these months the ground-water level was from 25 ft. to 35 ft. beneath the surface in these lines. In 1895 the rainy season began about the middle of June and during the latter half of this month very nearly 10 in. of rain fell. The air, from being very dry, became saturated with moisture, the temperature fell some 15° and varied very rapidly, falls of 25° having been registered within a few hours. In short, all the atmospheric conditions were altered but there was no increase in the fever-rate over that of the previous dry hot month of June. The water-level only had not materially changed—that is to say, it had only risen from 35 ft. to 28 ft. from the surface, being still too low to affect the fever-rate.

The subsequent course of the fever and ground-water variations are shown in Chart I. The upper curve shows the variations in the level of the ground-water, while the lower curve illustrates the variations in the average number of fresh cases of fever in the same periods. From July 4th to 13th there was a very heavy rainfall and the water level rose from 28 ft. to 16·5 ft. from the surface. At the same time the fever-rate first began to rise, so that the daily average of fresh cases was 2·16, or fifteen cases in the week, instead of only six cases in the whole of the previous month. Then there was a slight break in the rains and the water fell 7 in. in the next period, which is practically only a cessation in its rise, but immediately the fever-rate fell to one case a day. Then the water rose rapidly once more and with it the fever-rate increased up to 2·5 cases a day, only to decline again with the next fall in the water-level, during the first week in August. Once more the water rose until it was only 5¼ ft. below the surface of the ground on Aug. 18th—that is, a total rise of nearly 30 ft. in eight weeks—and again the fever rose until the average daily number of cases reached three, the highest rate for the whole year. During the next month there was but little rainfall and both the curves steadily declined. In the third week of September, however, there was a fall of 5 in. in two days; the water level once more rose and was again accompanied by a rise in the fever-rate. After this the rains practically ceased and the water fell steadily, with the exception of a very slight rise when it was 13 ft. from the surface, which was apparently too small to influence the fever; and when it had receded to 17 ft. the fever ceased. During the next year observations were taken for me in the same manner by Surgeon-Lieutenant Wilson, of the Indian Medical Service, and a very similar chart was obtained which I unfortunately left behind in India; but I have obtained further confirmation of the relationship between the rise and fall of the water and that of the fever in some tea-gardens in Assam, which I shall come to very shortly.

I must first, however, explain Chart II., which illustrates the monthly fever-rate and the monthly rainfall over a series of ten consecutive years in the same place and among the men of the several regiments who successively lived in the same spot. The first and third lines illustrate the fever-rate, while the second and lowest show the rainfall. The general relationship between the two will be at once apparent, while a closer study reveals several points of interest. In the first place, it will be observed that while the rains usually begin in the month of June the fever does not increase to any extent until a month later. This is due to the fact already mentioned, that the water is always some 35 ft. from the surface of the ground at the commencement of the rainy season (and was still 28 ft. down at the end of June in 1895 although 10 in. of rain had fallen), so that it is not until there has been heavy rain in July on the top of that of June that the ground-water rises high enough to influence the fever-rate. Secondly, it will be noted that in the years of exceptionally heavy rain, such as in 1887, 1894, and 1895, the fever is also unusually great; while in the years 1890, 1891, and 1892, when the rainfall was deficient, the fever-rate was also very low. But in addition to the absolute amount of the rainfall, the regularity or otherwise of its distribution exercises an important influence on the rapidity and extent of the variations of the ground-water and so on the amount of fever. Again, the amount of the rainfall in the seven months preceding the regular rainy season will have some effect in so far as it influences the level of the water at the beginning of the rainy season, for if it be then higher than normal a given quantity of rain will have a greater effect in raising the water level near to the surface of the ground. All these factors, however, act by causing a greater or less variation in the water level and all the differences in the amount and distribution of the fever in the years illustrated in the chart can be explained by the combination of these various factors in different degrees. Thus in the years 1886 and 1895 both the rainfall and fever rate were average ones. In 1887 both the rainfall and fever rate were heavy, but the former began very early—namely, in May—and, for the reasons already given, the fever did not increase until July. On the other hand, the rains ceased very early, there being unusually little in September, and the fever season was also a short one. In 1889 the rainfall was unevenly distributed, but its total quantity was not large and the fever was about the average. In 1890 and 1891 both the rainfall and fever rate were low. In 1892 there was a remarkable absence of the usual increase in the fever during the rainy season, which at first sight seems to form an exception to the rule which I am illustrating, but on looking a little more closely it will be found to form a true example of the maxim that it is the exception which proves the rule. Thus in the first place, it may be pointed out that there was exceptionally little rain in the early months of the year, while the rains of the previous year had both been deficient and had ceased very early, there being no rain whatever in October, a most unusual occurrence. Then the rainfall of 1892 was below the average; and, thirdly, it was most evenly distributed in the different months, so that less than 12 in. fell in any one month. The water-level must therefore have been very low at the beginning of the rainy season of this year and the rains when they came were both deficient and very evenly distributed, so that it is obvious that all the factors which make for a low and constant water-ground level were present during this year, and it is certain that of the whole ten years the water must have remained further from the surface of the ground and have varied less in this than in any other year of the series.

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[1] A paper read before the Epidemiological Society on Feb. 18th, 1898.

CHART 1.

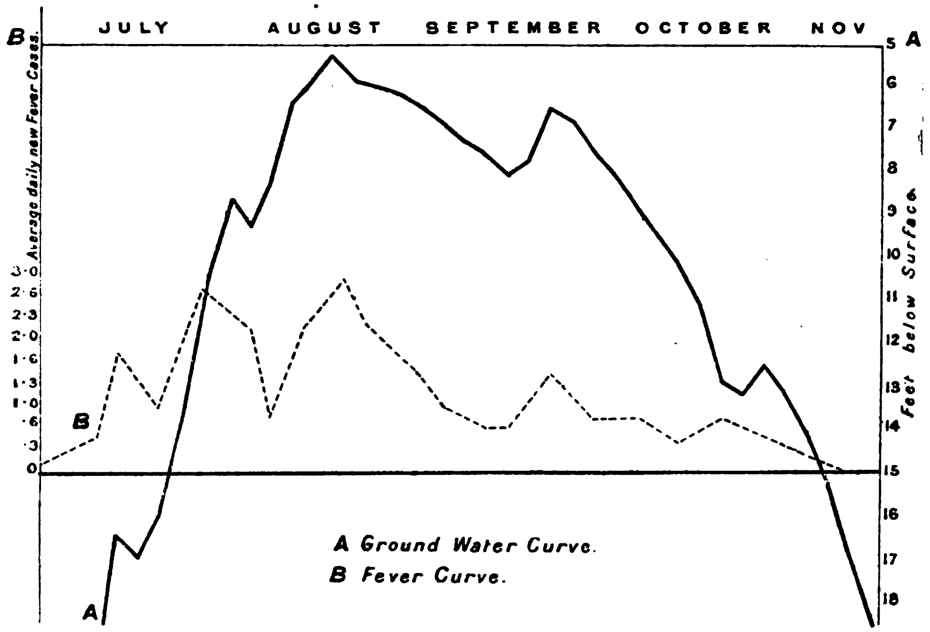


Chart showing the variations in the level of the ground-water and the incidence of fever during four months at Chota Nagpur.

In 1893 the rainfall was very heavy and the fever rate proportionately so, while in 1894 we have the precisely opposite characters to those of 1892—namely, both a very heavy and a very unevenly distributed rainfall, over 19 in. having fallen in both July and August. The consequence was that in this year there was the highest fever rate of any, the water-level having risen so high that it flowed out of the mouth of one of the wells. It may then be said that these charts confirm the previous one in proving that in this particular place the amount of fever varies in proportion to the amplitude of the variations of the ground-water level, and the first chart points to the relationship of the rise and fall of the ground-water level to the increase and decrease of the incidence of the fever being so definite and constant that the two must be causally connected. The amount and distribution of such fever as occurs in the dry first half of the year remain to be explained. That the small rainfall of this period does not influence it is seen from the fact that in the first half of 1893 there was more rain than usual but very little fever, while, on the other hand, in the same months of 1889 there was very little rain but a good deal of fever. Nor would it be expected that there should be a relationship between the two at this time, for the water-level is always from 25 ft. to 35 ft. down during these months. If, however, the amount of fever in the early dry months of one year be compared with that of the previous rainy season it will be found that the two are in proportion. For example, there was more fever than usual in the early part of the years 1888 and 1894 in correspondence with the high fever rate of the preceding years. On the other hand, there was very little fever in the early part of the years 1891 and 1893 in relation to the low rate of the two previous rainy seasons. The years 1889 and 1895 are apparent exceptions, but once more they are of the kind which prove the rule, for in these two years, as well as in 1892, a new regiment came to the station early in January and the following figures show that the amount of fever that they suffered from in the early part of the years mentioned was in proportion to the fever rate among them in their previous station, even when that was in a different province:—

Regiment.	Reached Doranda.	Previous stations.	Former fever-rate.	Fever, Doranda.
8th Bengal Infantry.	January, 1889.	Barrackpore and Chittagong ...	480 per 1000	58
12th Bengal Infantry.	January, 1892.	Benares	267·1 per 1000	20
11th Bengal Infantry.	January, 1895.	Bareilly	116·3 per 1000	9

The obvious explanation of these facts is that the cases which occur at the time of the year when the water level is low are relapses from among those men who were attacked during the preceding rainy season. This I found was actually the case in the early part of 1896 in Doranda, for although only 25 per cent. of the men of the regiment suffered from fever in the rainy season of 1895 yet more than

CHART 2.

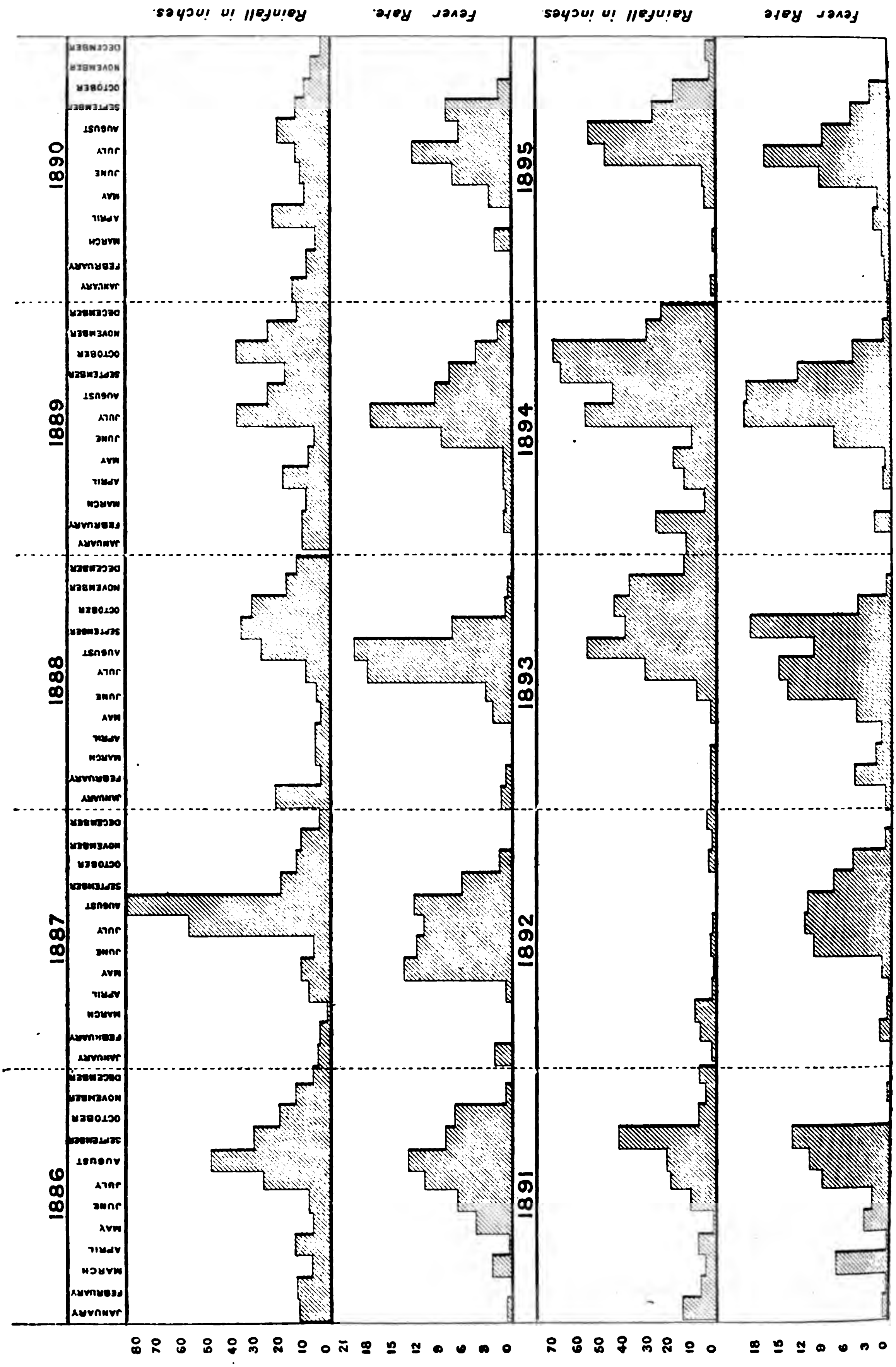


Chart illustrating the monthly fever-rate and the monthly rainfall over a series of ten consecutive years at Chota Nagpur.

three-quarters of those who had it in the early months of 1886 had suffered from it in the previous rainy season and many of them had had more than one relapse. The incidence of malarial fevers at this spot at different seasons of the year has, then, been satisfactorily explained; but before passing on to my observations in other places I must mention the important fact that at the very time that the ground-water had risen to within 5 ft. of the surface of the ground in the lines occupied by the regiment under observation it was 25 ft. down only 200 yards away and its great rise under the lines was doubtless due to the fact that there was a road along one side of the area which materially interfered with the flow of surface water from it. I have no doubt in my mind that had the lines been situated on the ground where the water always remained 25 ft. or more from the surface there would always have been as little fever among the regiment as there was in the exceptionally dry year 1892. At my suggestion it was proposed to drain the lines more efficiently, but for financial reasons it had not been carried out when I last heard from the medical officer of the station, so I cannot report the result of this measure. This fact (and I have had similar experiences in other places) is of great importance in proving how very local are the conditions which influence the occurrence of malarial fevers; but I shall discuss this point more fully after I have given another instance of it presently.

Now the instance which I have just given of the distribution of the fever in Doranda is at one extreme end of the scale—namely, that of a very dry soil accompanied by a water-level which is very low during the greater part of the year, but rises very rapidly during the rainy season. The other extreme is seen in many of the districts of lower Bengal, which form part of the great delta of the Ganges and Brahmaputra rivers. The greater part of these districts are under water during the rainy season and at this time the fever is at a minimum. When the rains have ceased, however, and the saturated ground begins to dry up again the fever season attains its maximum. Moreover, the ground-water is within a few feet of the surface throughout the year and malarial fevers prevail to a considerable extent in every month of the year, being much more evenly distributed than in Doranda and other similarly situated places. In this case of the flooded districts the maximum fever-rate occurs during the drying-up of the saturated soil, doubtless owing to the rapid evaporation of moisture from the ground carrying up the malarial organisms into the air, when they are breathed in by the inhabitants on or near the drying-up ground. Moreover, the ground-water is always sufficiently near the surface to allow of evaporation going on in the same way throughout the year, although to a less extent than just after the floods have subsided; and so fever is constantly present to a considerable extent and is never absent for long periods, as in places where the ground-water rapidly recedes at the end of the rainy season. This also accounts for the fact which I have observed—namely, that malarial cachexia is much more common in these water-logged places than in the dry ones with low water-level, because in the former frequent re-infections may take place in the same persons throughout the year, while in the latter there is little or no infection except during the four months' rainy season, and although relapses may occur they usually cease long before the next rainy season ensues and so complete recovery takes place before re-infection is likely to occur. Between the two extremes of the very dry places with a low and varying ground-water in which, I believe, infection takes place by the malarial germs being carried up by the air which is displaced by the rising ground-water, as in Doranda, on the one hand, and the water-logged and sometimes flooded regions of the Gangetic delta, where the infection takes place by the organisms being carried up into the air by evaporation of moisture from the soil, on the other hand, there are intermediate places in which both factors play a part in influencing the distribution of the fever. These places are, in fact, by far the most common and also present the most complicated problem, for it is obvious that the two factors may be present in ever-varying proportion, while the denseness or otherwise of the soil will play an important part in influencing the amount of moisture which it will retain and the rapidity and extent of the evaporation which takes place from it.

During a year which I spent in Assam investigating the epidemic malarial fever of that province, which is locally known under the name of Kala-azar, records of the variations of the ground-water were being taken for me in the different districts by the Government, while I was also able to study the incidence of malarial fevers in relation to the variations of the ground-water in the coolie lines of several tea-gardens through the kindness of Mr. Dodds Price and Mr. Lavertine, tea-garden practitioners in the Nowgong district. The data were not quite so accurate as those which I obtained in Doranda, as the exact day on which a coolie came to hospital after getting fever was to some degree dependent on his chances of making extra pay, &c. However, ample evidence was obtained to show that in those places where the water was some considerable distance from the surface before the rainy season commenced the fever rose and fell with the rises and falls of the ground-water, just as it did in Doranda, but as the water was in no case so far down to commence with in the Assam instances as in Doranda, the fever-rate increased during the first month of the rainy season, as the water quickly rose sufficiently to influence it. That this rise was due to the variations of the ground-water and not to other causes, such as changes in the temperature, &c., was proved by the fact that in one instance, in the case of two coolie lines situated only some 300 yards apart, and in other respects similarly placed, there were three rises of both the water-level and of the fever-rate in one of them, while in the same period of time there were only two rises of both in the other line.

Again, it was found that there was most fever in proportion to the number of inhabitants in those lines beneath which there was the greatest and most rapid variations of the ground-water and least in those in which it was most constant in its level. To give an example. In a certain tea-garden there were three coolie lines side by side, but separated from each other by a narrow lake between the upper and middle lines and by a deep depression between the middle and lowest line. Measurements of the water-level in the wells of each line were taken for me twice a week and the fever-rates in the three lines recorded. During the month of July a lot of rain fell and there was a corresponding rise of the ground-water and an increase in the prevalence of malarial fever. The three lines, however, differed considerably in both the amplitude of the variations in the water-level and in the number of cases of fever in proportion to the number of inhabitants of the respective lines. Thus the upper line was situated on ground which was some 10 ft. higher than the other two, which were on just the same level. In this upper line the water varied during this month from 21 ft. to 12 ft. 8 in. from the surface of the ground and the fever was less than in either of the other lines. In the lowest line it varied from 22 ft. to 8 ft. 7 in. from the surface and the fever-rate was somewhat higher than in the first line. In the middle line measurements were taken of three wells, two of which were situated within a few yards of the edge of the tank while the third was fifty yards from it. In the first two the water rose from an average of 14 ft. to one of 4 ft. 6 in., while the third varied from 15 ft. to 8 ft., clearly showing the influence of the tank in raising the level of the ground-water beneath these lines and especially of the part nearest to it. It will also be noted that the water rose nearer the surface in this line than it did in either of the others and in accordance with this the fever-rate was two-fifths greater in this line than in either of the others. On my recommendation it was decided to lower the water in this tank by some 8 ft. or 10 ft., but I have not yet heard the result of the measure, although it could hardly have been otherwise than a favourable one. This, of course, is but an instance of a well-known law, but the accuracy of the data and the very localised variation of the fever-rate in accordance with that of the water-level lend some interest to it.

It was also found that in places where the ground-water was at an intermediate distance from the surface before the onset of the rains, say, from 15 ft. to 25 ft., and the soil was a heavy one which retained a good deal of moisture, then there would first be a rise in the fever-rate with the rise of the water and a fall with the ensuing fall of the water; but if there was then a slight break in the rains and the water-level continued to fall slowly from evaporation of the ground-water, which was still only some 10 ft. or 15 ft. down, there would be another rise in the fever-rate, just as occurs when flooded ground is drying up. Here we have an instance of the two factors successively acting in the same place. Chart III. illustrates this point fairly well. It will be noticed that there were great and rapid variations in the water-level here and that corresponding with them, only often a few days later, owing to the incubation period of the fever, there were rises in the fever-rate. Further, during the break in the rains corresponding to the slow fall of the ground-water between July 21st and 31st, and again during the final steady fall at the end of the rains from Oct. 9th to Nov. 3rd there are rises of fever corresponding to the times when evaporation from the heavy moist soil would have been taking place. The irregularity at the end of the curve is partly due to the complication of relapses, which are most frequent at the latter exception to the rule that the foot of high hills is very malarious, which I met with in Assam, lends some support to this view. In the north of the Mangaldai district, immediately at the foot of the Himalaya Mountains, are situated some tea-gardens which are remarkably free from fever. On inquiry I found that all the streams from the mountains in this place disappear at the foot of the hills into a sandy soil and appear again along a line just beyond these gardens. They evidently run into a subterranean basin, which must keep at a nearly constant level, and in

CHART 3.

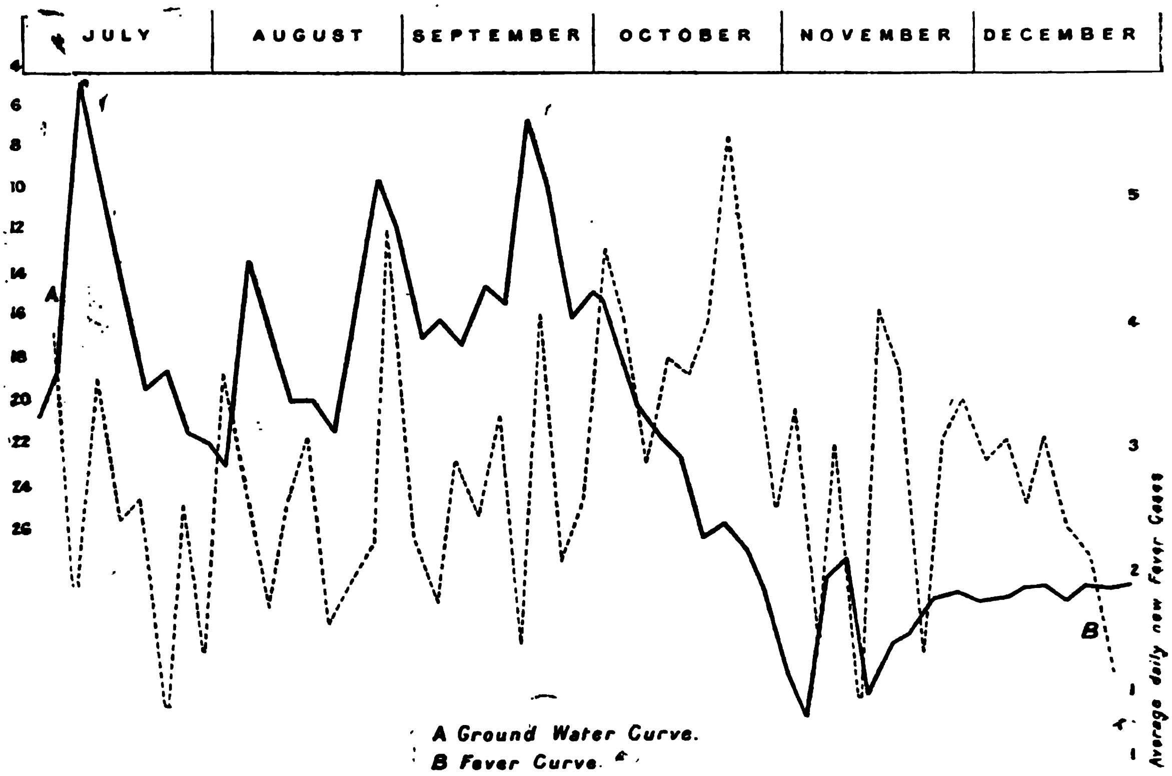
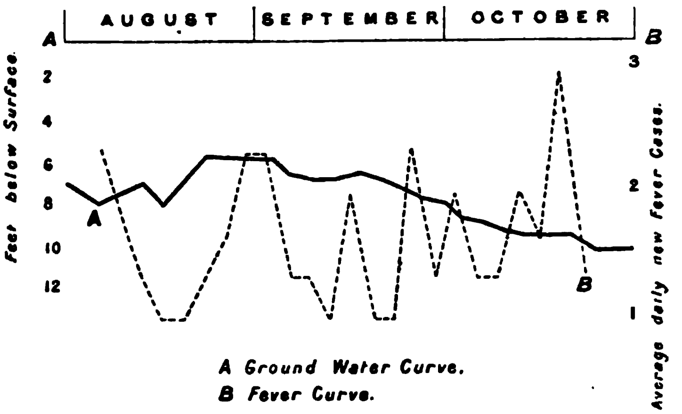


CHART 4.



Charts illustrating the relation of fever incidence (Kala-azar) to ground-water in two Assam tea-gardens.

part of the fever season. It is worthy of note that the garden on which these levels were taken is situated at the foot of some low hills and is a miniature example of the conditions which obtain in terai regions, such as the foot of the Himalaya Mountains, and I would suggest that the notorious unhealthiness of such regions is probably due to the extremely rapid and great variations in the water-level in those parts. A curious example of an apparent one of the lines situate within this area it was found that the level of the ground-water as measured in the wells varied very little and this fact accounted for the absence of the amount of fever which might have been expected in such a terai region.

Chart IV. illustrates the ground-water and fever curves on a garden situated only some twenty miles from that of the last chart, but it presents just the opposite characters. The upper line represented the water-level and it will be seen that it was remarkably constant only having varied between 5 ft. and 10 ft. from the surface. The fever also varies much less than in the previous chart and although there is a rise with the main rise of the water-level, yet the greater part of the fever occurs during the drying up at the end of the rainy season when the water is slowly sinking. Here, then, the main factor is the evaporation from the saturated soil during the drying up. In Dibrugarh, which is the most easterly part of Assam, the water-level varies between 20 ft. in the dry cold weather to 5 ft. from the surface in the middle of the rainy season, the annual rainfall averaging about 100 in. The fever increases with the rise of the water, but is also high when the soil is drying up after the rains are over, the fall of the ground-water being slow and steady at this time, both factors again coming into play at different parts of the year. In the Punjaub the fever occurs mostly after the rains, but I have no observations on the ground-water level here except in Bunnu on the frontier. In this place the water is more than 50 ft. from the surface even in the rainy season, but it must be remembered that there are no regular rains here. The whole place is, however, irrigated and fever is often seen when fields which have just been irrigated are drying up. Most of the fever occurs on the beginning of the cold weather, when there are great falls in the temperature at night, and is commonest in those who sleep out in the open air and so get chills. This is probably due to such chills coming at just the very time when the system is at its lowest daily ebb, allowing any plasmodium malariæ which may gain access to the body to successfully run the gauntlet of the white blood corpuscles.

So much for the facts that I have to bring forward. I have already mentioned that I believe that the incidence and seasonal distribution of malarial fevers in most places of India can be explained by taking into account both the rainfall and the variations of the ground-water level. Such cases as that of Doranda—in which the entire distribution of malarial fever is dependent on the organisms being carried up into the air by the piston-like action of the rapidly rising ground-water and where the factor of their being carried up by evaporation plays little if any part—only occur in places situated on a rapidly-drying and porous soil, accompanied by a ground-water which is very low for the great part of the year but varies rapidly during the rainy season. This rapid variation of the ground-water level is of great importance in explaining the occurrence of fever in dry places where there is no marshy ground. It also enters largely into the causation of fever in places with an intermediate and varying ground-water and has least influence in places with a constantly high ground-water, in which the factor of evaporation plays by far the largest part.

There are two other points which I wish to refer to which are of considerable importance both from the practical and the theoretical standpoints. They are, firstly, the strictly localised action of the variations in the ground-water level; and, secondly, the light which their discovery throws on the manner in which the infection of malarial fever takes place. Instances of the former have been given both in the case of Doranda and in that of the variations in the fever-rate in the three parallel tea-garden lines. In the first instance there was very little in the conformation of the ground to suggest the great difference in the variations of the ground-water in the areas, which were but some 200 yards apart and the surface levels of which did not differ by more than 3 ft. or 4 ft. Yet in the one spot the water rose to within 5 ft. of the surface, while in the other it remained 25 ft. down. It is well known that sites for camps and cantonments which have been selected by medical officers as the most suitable have had to be subsequently abandoned owing to their proving to be very malarious. I would suggest that before choosing between two or more apparently favourable sites, if a well were first sunk and the variations of the water-level recorded during the rainy season—or, better, for a whole year—it would be found that the one in which the water-level was lowest and varied least would prove to be the least malarious; and it is possible that large sums which have before now been spent in building barracks which have afterwards had to be abandoned on account of their unhealthiness might be saved. Again, such measurements may point to deficiency of surface drainage which was not previously apparent, as was the case in the Doranda lines and the tea-garden tank, the remedying of which might prevent much fever. Secondly, it is evident from the two instances just referred to that the infection arose from the very ground on which the houses of the regiment and of the coolies respectively were built. There is no necessity or reason to suppose that the infection was carried by mosquitoes or any other such medium. The first chart that I have shown can only be explained on the hypothesis that the rise of the ground-water displaces the air from the interstices of the soil and causes the malarial organisms which live in the earth to be carried up into the atmosphere, when they are breathed in by the persons living over the affected ground. The infection probably takes place chiefly during the night, when the powers of resistance will be lowest. In the case of drying-up ground or marsh, again, the infection will be through the air, and I am of the opinion that this mode of infection in malaria is a general one, although it is undoubtedly true that the disease may also be conveyed through water. The fact that all the water in many of the gaols of the Punjaub was for several years boiled without any diminution of the prevalence of malarial fevers also points very strongly to infection through the air being far more common than that through water, while all the facts already given point in the same direction. Any malarial organisms which may be breathed into the lungs have only a very thin layer of tissue to traverse in order to obtain access to the blood, where they live and multiply. It has recently been strongly urged, especially by Dr. Patrick Manson, that these organisms must in some way escape from the body to pass through an extra-corporeal part of their life-cycle. This is very probable, although in the case of ordinary malarial fevers it is equally possible that the germs, which are so widely distributed, may have a complete existence outside the body and are, so to speak, only facultatively parasitic.

In the case, however, of the epidemic communicable forms of malarial fever (such as I have recently shown the Assam disease, locally known as under the name of Kala-azar, to be), it is quite certain that the plasmodium malariæ must in some way escape from the body of one person and gain access to that of another, either directly through the air or—as I think is more frequently the case—after going through the soil. In this way only can be explained the manner in which a man contracts the fever while living in an infected village, and after returning to his own uninfected village while still suffering from the fever members of his household first get it and afterwards others in the village are affected. I will not dilate on this point further in this paper, as I shall be reading one on this epidemic malarial fever before the Royal Medical and Chirurgical Society very shortly, but wish to suggest a possible method of infection in malarial fevers which will explain all the facts that I am acquainted with. It is this. If malarial fever may be contracted by breathing in the malarial organisms, why should they not be also breathed out again when they have completed their work in the body? They have only to pass back again into the alveoli of the lungs and they will be able to escape from these organs more easily than they entered, for the cilia of the air passages will assist their exit. This simple theory seems to me to be much more likely than the elaborate mosquito theory, which is largely based on an analogy between such widely different constituents of the animal scale as the plasmodium malariæ and the filaria sanguinis hominis, while it is also, I think, more in consonance with the known facts as to the incidence and seasonable distribution of malarial fevers. However this may be, it is rather the more practical points of the very frequent dependence of malarial fevers on purely local and often removable variations of the ground-water level on which I chiefly wish to lay stress in this paper and I hope that the evidence I have adduced will afford material for an interesting discussion.

WESTBURY COTTAGE HOSPITAL.—A general meeting of the Westbury (Wiltshire) Diamond Jubilee Hospital Committee was held on Feb. 2nd. The financial statement showed that the subscriptions amounted to £455 and the expenditure to £451. On the motion of Lord Ludlow a hearty vote of thanks was awarded to Mr. and Mrs. Laverton, who had realised £129 from a sale of work by which the hospital was completely furnished and £20 were handed to the medical staff for purchasing necessary appliances.

THE OPEN-AIR TREATMENT OF PHTHISIS IN ENGLAND.

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PHYSICIAN TO THE NORFOLK AND NORWICH AND JENNY LIND HOSPITALS.

(Continued from p. 633.)

As to selection of cases I have tried as far as possible to submit representatives of the various types of phthisis to the treatment for the purposes of investigation. It will be seen that I have not by any means restricted the trial to cases in the very earliest stages. At this point I will only say that I excluded cases that on general principles gave no promise of improvement as the subject of selection of cases for this treatment will be referred to again. I will narrate briefly some of my cases in order to illustrate the effects of the open-air treatment.

CASE 1.—The patient was a man, aged twenty-one years, who came to the Norfolk and Norwich Hospital on May 2nd, 1896. He had worked rather long hours in an office, the air of which got close towards the latter part of the day, and he had married while young and had had some anxiety as to ways and means. There was no history of heredity, but he had the tuberculous physiognomy. For five months he had suffered from cough, with occasional streaks of blood, night sweats, and wasting. On admission no definite physical signs could be detected in the chest, but the sputum contained numerous tubercle bacilli and the temperature followed the typical curve shown in the accompanying chart. It was obvious that he was losing ground and on May 9th he commenced the open-air treatment at Cromer. He soon felt himself improved in appetite and strength, but I could satisfy myself of no definite change in his condition till towards the end of July. Then the fever seemed at last inclined to give way, the pulse increased in strength, and the cough and night sweats lessened. This slight improvement coincided with the first appearance of definite signs in the chest. Now was noticed a very slight rise in pitch of the percussion note over the extreme right apex, weak breath sounds and a few fine mucous râles with inspiration. The sudden exacerbations of fever which occurred on June 8th and July 16th were accompanied by general malaise and increase of cough, but gave no objective evidence as to their cause. I looked upon them as due to toxic absorption from the pulmonary lesion. After three months' perseverance with the treatment definite improvement began and in October his evening fever, which had persisted for eight months, was subdued and I may say has not recurred. In April, 1897, the physical signs had cleared up, all symptoms had disappeared, and no tubercle bacilli were discernible in the last sputum that could be obtained. He commenced outdoor work at a country railway station and has kept quite well to this time—for a period, that is, of more than a year.

Synopsis of case.—The general symptoms of phthisis were presented, but physical signs only appeared after improvement had set in. The evening temperature usually ranged between 101° and 99.6° F. with frequent further elevations. There was decline of fever after four months' treatment, followed in another seven months by the disappearance of tubercle bacilli and of physical signs and symptoms. The duration of treatment was eight and a half months and the total gain in weight was 13¾ lb.; result, cure.

CASE 2.—The patient was a man, aged thirty-three years, who had worked in a shop for eleven hours a day. He suffered from the stuffiness of the shop and another attendant had phthisis. His father died from phthisis and also one of his four brothers. Five years previously he began losing flesh and strength and a year later cough commenced. He resigned the shop for outdoor work and got better. Three years ago he returned to shop work and since then had gradually been going downhill. He had lost 1½ st. in weight and had night sweats, anorexia, dyspnœa, and frequent troublesome cough, with about half an ounce of nummulated expectoration in the twenty-four hours. He had slight anæmia, with a pink flush on the cheeks; the voice was weak and the pulse was 112, soft and small. His evening temperature varied between 99.4° and 101° F. Tubercle bacilli were abundant in the sputum. Physical examination disclosed the existence of a large moist cavity occupying most of the upper lobe of the left lung, while at the extreme right apex there were a high-pitched percussion note, weak breath-sounds and small mucous râles accompanying inspiration. He was sent to Cromer on Nov. 9th, 1895, and carried out the treatment persistently until the end of January, 1897. During the annual closure of the home in February, 1896, he continued to live out of doors and used a folding screen as protection from the wind. This patient's strength had been greatly reduced by his prolonged illness and a very unfavourable prognosis was given by several medical men who examined him. One was encouraged, however, to persevere with the treatment by reason of the slow and gradual improvement of the appetite and especially of the pulse, which in the course of five months became notably less frequent, stronger, and fuller. As regards the signs the moist sounds in the left lung became less numerous, the local retraction more marked, and the heart's apex beat became elevated to beneath the fourth rib. The adventitious sounds lessened in the other lung, the cough and expectoration also steadily decreased, but the dyspnœa did not improve. Finally, after eleven months' treatment the temperature had gradually ceased to rise in the evening and his subsequent progress has been good and suggestive of the occurrence of arrest of his disease. Now he is able to walk slowly all day, has slight morning cough only, with a few tubercle bacilli in the sputum. Since writing the above his complaint of occasional headache and attacks of diarrhœa led me to examine the urine, which I find contains about one-twelfth albumin. His general condition is unchanged.

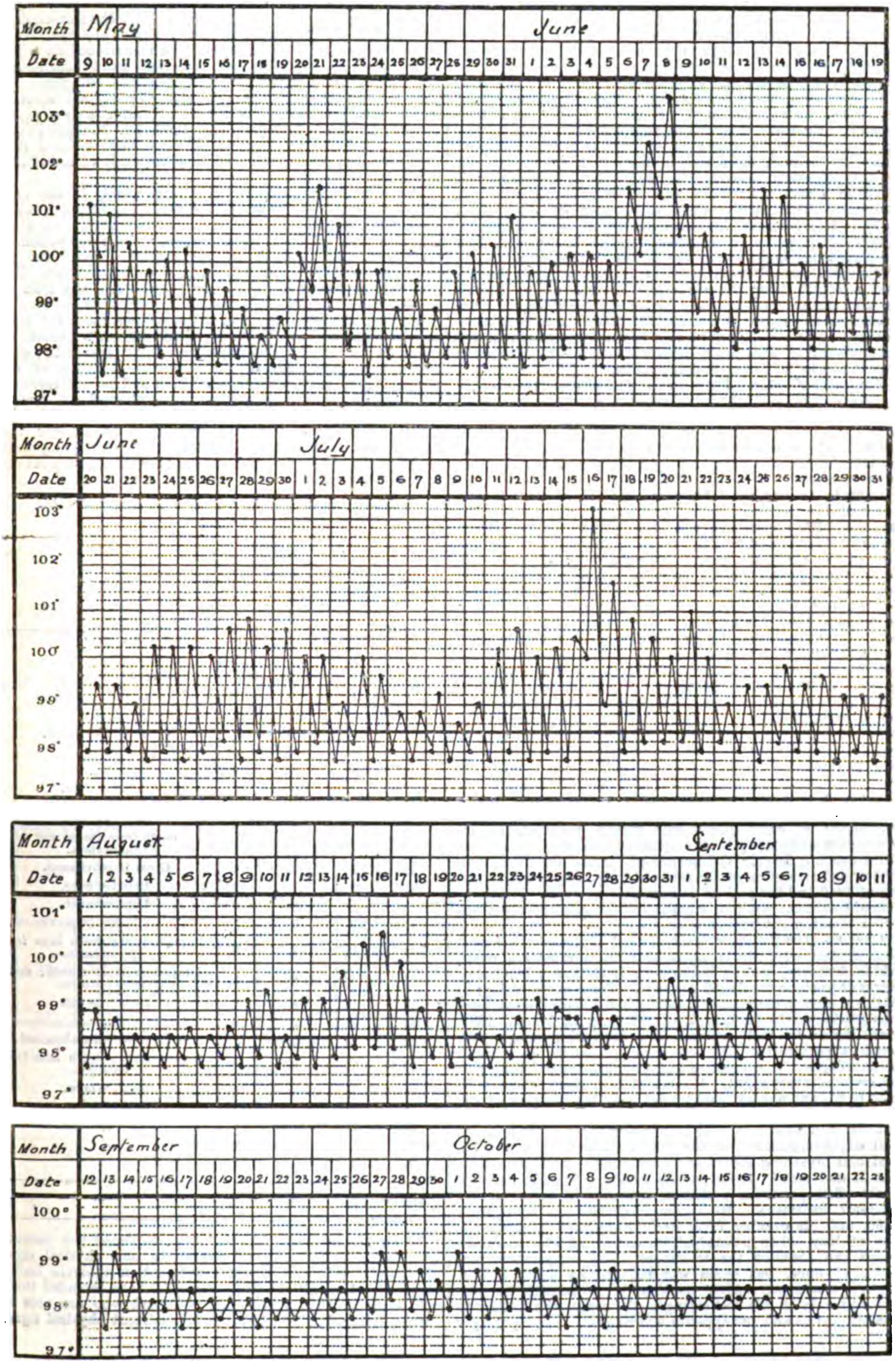
Synopsis of case.—There was phthisis of some years' interrupted duration, which had advanced to the stage of excavation of one lung and softening of deposit in the other. There was marked constitutional deterioration, with cardiac debility and persistent evening fever. Under treatment fibrotic changes in the excavated lung and drying of other lesions took place, with consequent dyspnœa, but marked improvement of the circulation and all other functions were noted. There was occurrence about a year later, however, of lardaceous disease of the kidneys. The duration of treatment was fourteen months and the gain in weight was 6½ lb.; result, improvement and partial arrest.

CASE 3.—The patient was a man, aged twenty years, who was sent to me by Dr. H. Watson as a case of early phthisis. There was no family history of the disease, but the patient had never been robust and for the last six years had worked ten and a half hours a day in a confined atmosphere with fourteen other men, two of whom were phthisical. His illness had commenced five weeks before with the coughing up of half a pint of blood; there had been two recurrences of hæmoptysis. He wasted rapidly, losing nearly a stone, and had some cough and night sweats, the pulse was 108 and weak, but the appetite and digestion were good. At the right apex the percussion note was a little raised in pitch, the breath sounds were broncho-vesicular and one or two fine crackles were heard with them. Tubercle bacilli were present in moderate numbers. He began the treatment on May 18th, 1895; his evening temperature varied between 99.8° and normal, but never indicated very active disease. Within a few weeks the cough lessened and the expectoration was reduced, ceasing altogether in five weeks, but mouthfuls of blood were lost at intervals of about a week for another three weeks. After three months' treatment the evening temperature never rose above 99°, the cough ceased and the pulse was 90 and of good strength. On Nov. 19th, 1895, his full strength had been regained, the physical signs were limited to flattening of the side, which developed during treatment, and some impairment of the breath sounds and the percussion note. He remained at home in good health for some months and then got work on a railway in South Africa, where he has kept well till the present time—for a period, that is, of more than two years.

Synopsis of case.—There were tuberculous consolidation and softening limited to a small area of one apex characterised by frequent small hæmoptyses. Cicatrisation was effected after about three months' treatment, also subsidence of slight fever and gain of strength. There was cessation of cough and expectoration. The duration of treatment was six months and the gain in weight was 7 lb.; result, cure.

CASE 4.—A lad, aged sixteen years, was also sent by Dr. H. Watson after he had been under observation for some

CHART OF CASE 1.



weeks and appeared to be losing ground. His father had died at the age of thirty-two years from phthisis. The patient suffered at eleven years of age from suppurating tuberculous glands in the neck. For a year he had been working in the close air of a printing-room and for about two months had coughed and expectorated a good deal, bringing up some half ounce of blood twice. Night sweats and slight dyspepsia were complained of and he had lost flesh rapidly. He had a tuberculous aspect and marked physical signs at the right apex; in the upper three spaces, in front and behind, there were flattening, much impairment of the percussion note, and marked tubular breathing and metallic clicks. Tubercle bacilli were found in large numbers. The patient went to Cromer on June 27th, 1896. Improvement in every particular was noticeable within three weeks of commencing the treatment. The accompanying chart shows the fall in his temperature. No adventitious sounds were heard at the end of three months and a month later the signs had cleared up in a most striking manner, leaving some flattening and softness of the breath sounds only. He is now able to work in a market-garden and feels well, but he still has a little cough in the early mornings with some expectoration in which tubercle bacilli are to be detected occasionally.

Synopsis of case.—There was pneumonic phthisis in a tuberculous subject; also massive consolidation, with moderate but persistent evening fever. Rapid general improvement occurred under treatment, which is maintained till now, eighteen months. The duration of treatment was six months and the gain in weight was 22 lb.; result, great improvement.

CASE 5.—A boy, aged ten years, the son of Case 2, had coughed, lost flesh and strength, and eaten badly for a few months. His appearance was characteristic of the tuberculous diathesis and over the upper three spaces of the left side of the chest the percussion note was deficient; the breath sounds were broncho-vesicular and were accompanied by a few reverberating râles. His evening temperature was between 99° and 100° F. During his first week at Cromer in September, 1896, his appetite was bad and the cough was constant and irritating, the ex ectoration being nummulated and swarming with tubercle bacilli. In the second week the appetite improved, he looked less ill, and the cough began to lessen. At the end of the third week the temperature had fallen and did not rise again. After four months' treatment all cough except a little in the early mornings had gone and the physical signs were much changed, the adventitious sounds having cleared up, expiration being only slightly bronchial and the affected side having distinctly fallen in. His improvement has continued to the present (eighteen months) and he is able to do light duties as an errand boy in Norwich.

Synopsis of case.—There was strong tuberculous predisposition with cavity in one apex, much asthenia, and but little evening fever. Quiescence of disease occurred, with drying and retraction of the affected lung; improvement was maintained and the patient is now able to work. The duration of treatment was four months and the gain in weight was 6 lb.; result, great improvement.

CASE 6.—The patient was a lad, aged nineteen years, who had worked with thirty other men in a fair-sized room, which, however, became hot and stuffy at times; one fellow worker has since developed phthisis. There was a history of phthisis among his mother's family and his own breakdown was attributed to an attack of influenza in March, 1895, since which he had suffered from increasing cough with much expectoration and on four occasions had small hæmorrhages. His appetite and strength were failing and he sweated every night. He was of tall, spare frame, with cold hands and a weak, rapid pulse. At the left side of the chest he had cracked-pot percussion note, cavernous breath sounds, and amphoric râles; at the extreme right apex he had slight impairment of the percussion note with broncho-vesicular breathing and râles on coughing. He had tubercle bacilli and elastic tissue in the sputum. His temperature chart offers particularly striking evidence in favour of the open-air treatment. He commenced this on April 18th, 1896, and his evening fever had disappeared towards the end of May, when private affairs compelled him to return home and abandon the treatment. The temperature rose again at once, but again was reduced by about a fortnight's treatment. After another three months he had gained nearly all his lost strength, the cough was limited to the night time and his appetite was normal. The right apex gave no definite indications of mischief and the cavity on the other side had become dry and contracted. The transition of the cracked-pot percussion note to a normal one was abrupt as one passed from the affected area to surrounding parts. His pulmonary condition has remained most satisfactory ever since—for a period, that is, of nearly two years. A year ago he developed an extensive ischio-rectal abscess, which was incised and drained and after a few weeks entirely healed. In September, 1897, Dr. Michael Foster kindly examined this patient with me and declared that he had never seen a more striking instance of arrest and limitation of disease.

Synopsis of case.—There was a large cavity in one lung and softening deposit in the other, progressing quickly in a weak youth. Subsidence of disease and some cicatrisation was effected by treatment; the interruption of treatment was followed by recrudescence and the resumption of treatment by conclusive improvement. The duration of treatment was four months and the gain in weight was 16 lb.; result, arrest and great improvement.

Without detailing the remainder of my cases the total results obtained may be expressed as follows: number of cases, 24; cured, 2; relatively cured, 4; improved, 12; only temporarily improved, 6. The average duration of the patients' stay in the home was three and a half months; the longest time any patient was allowed to remain was fourteen months. The average gain in weight made by the patients during their treatment at Cromer was 8½ lb.; the maximum gain was 22 lb., which one patient added to his weight in six months. These details are set out in the following table:—

Tabular statement including all the cases treated at Cromer.

No. of case.	Months in home.	Weeks occupied in reducing fever.	Gain in weight.	Result.
			lb.	
1	8½	18	13½	Cure.
2	14	35	6½	Improved; quiescence of lung disease; albuminuria.
3	6	12	7	Cure.
4	6	5	22	Great improvement.
5	4	3½	6	,, ,,
6	4	3	16	,, ,,
7	3	5	14	Relative cure.
8	3	7	4	,, ,,
9	2½	4	11	Temporary marked improvement; death from dropsy and albuminuria.
10	2	No fever	8	Great improvement.
11	2	,,	12	Relative cure.
12	2½	8	7	Improvement.
13	2	8	3½	Slight temporary improvement.
14	2½	7	9½	Improvement; death later from pneumonia.
15	4½	6	8½	Temporary improvement; death from phthisis.
16	1½	4	4	Improvement.
17	2½	3	6	,,
18	1½	No decline	1¾	No improvement maintained.
19	2½	8	4	Improvement; death later from enteritis.
20	2½	4	15½	Relative cure.
21	2½	3	7	Improvement.
22	1½	No fever	5	,,
23	2½	5	9	,,
24	2	8	4	,,
Average	3½	8	8½	—

Under the heading "cured" I have placed the patients who lost entirely both all symptoms and physical signs of disease and from whose expectoration tubercle bacilli vanished. Under "relatively cured" I have included those who consider themselves quite well and who are able to earn a living, but who have some persistent physical signs, CHART OF CASE 4.

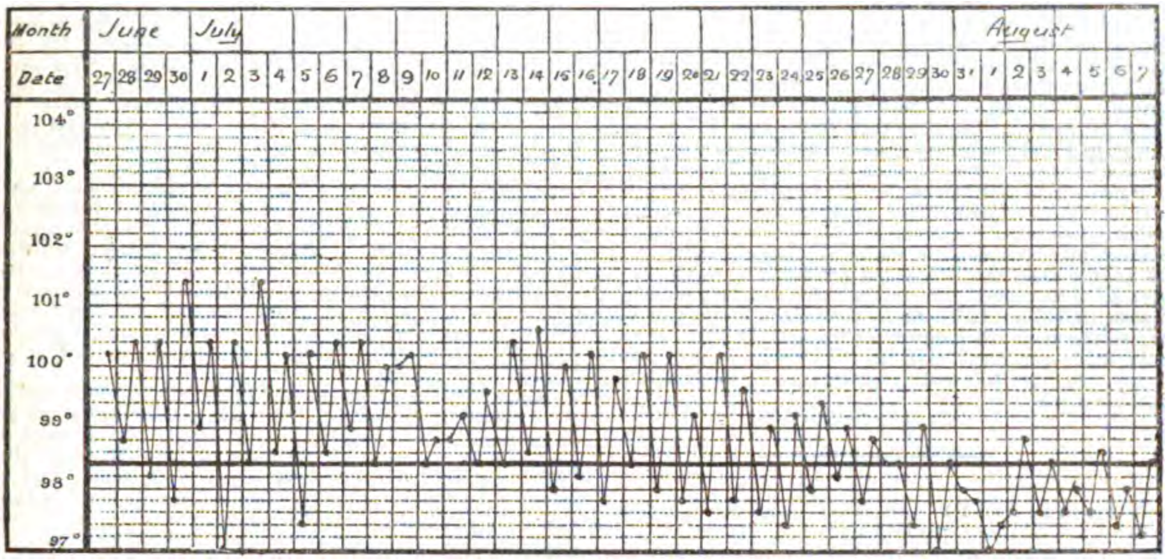
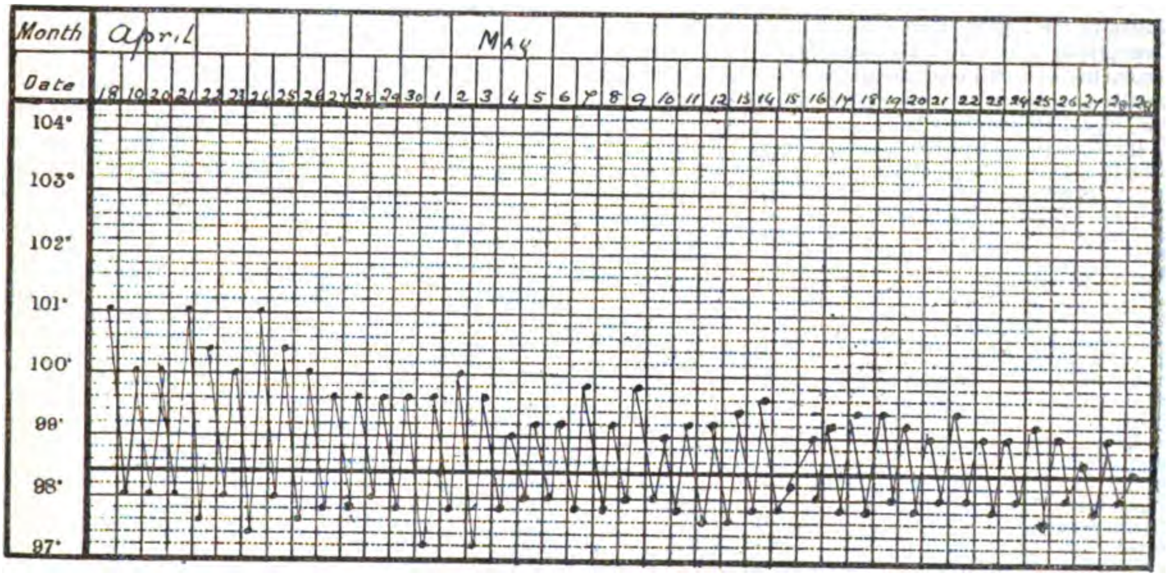
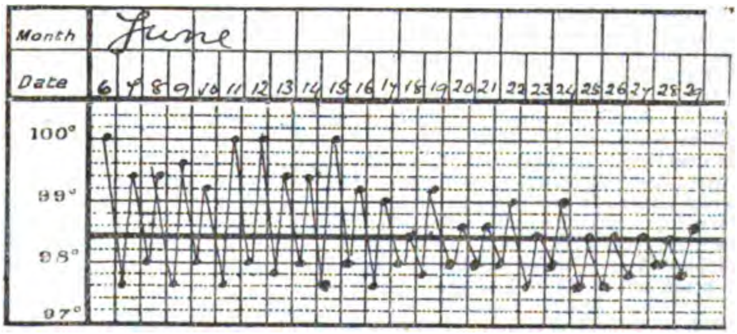


CHART OF CASE 6.





with perhaps some cough and expectoration, in which tubercle bacilli can be still detected. This is, of course, the best result that can be looked for in patients whose disease has advanced beyond the early stages. My patients have all been kept under observation since their discharge from Cromer and the maintenance of their well-being ascertained during the twelve months or more that have elapsed since the last left the home. They are all four steadily following outdoor occupations. I have placed under "improved" those patients who have lost their fever, have gained weight and strength, and manifest some diminution of their physical signs of disease. Most of them are enabled to earn their living and have maintained this improved health for various periods up to a year. This group includes those whose phthisis has become quiescent, but not before irreparable damage had been done to the circulatory and other organs. As all my cases were benefited for the time being by the open-air treatment I have reserved for the last class those whose health has failed again during the one or two years succeeding their discharge from the home. Four of these have died—one from albuminuria, one from acute pneumonia, one from tuberculous enteritis, and the fourth from phthisis alone.

(To be continued.)

THE VITALITY OF THE DIPHTHERIA BACILLUS.

BY ALEXANDER MACGREGOR, M.D. ABERD., M.R.C.P. LOND.,

ASSISTANT PHYSICIAN TO THE NORTH LONDON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.

IN the Report on the Etiology and Prevention of Diphtheria presented by Löffler on behalf of the German Committee to the Eighth International Congress of Hygiene and Demography it is stated that the patient "is infectious so long as he has bacilli upon the mucous membrane. The bacilli usually disappear with or soon after the disappearance of the local signs, but they may be detected still lively and virulent in the passages or nose for weeks and even months." My attention was specially directed to this subject by a case which came under my care last September. The patient was a boy suffering from the sequelæ of diphtheria. I shall give his case in detail presently, but I may here mention that I found Löffler's bacillus present in the throat and virulent nearly six months after the attack of diphtheria. On looking into the literature of the subject I find that Schäfer[1] records a case where mucus from a boy's throat "examined seven and a half months after the attack gave numerous colonies in serum cultivations and proved virulent by inoculation of animals." Tobiesen[2] found diphtheria bacilli in the throats of 24 out of 46 patients at the time of their discharge from the hospital, and in 19 of the 24 cases the bacilli proved virulent. Bigg says:[3] "In 245 cases of these 405 cases (of true diphtheria examined in three months) the diphtheria bacilli disappeared within three days after the complete separation of the false membrane; in 160 cases the diphtheria bacilli persisted for a longer time—namely, in 103 cases for seven days, in 34 cases for twelve days, in 16 cases for fifteen days, in 4 for three weeks, and in 3 for five weeks after the time when the exudation had completely disappeared from the upper passages." In the report of the German committee already quoted it is laid down that "convalescents from diphtheria must not mix freely with others (or children go to school) till bacteriological investigation has proved the removal of the bacilli."

In the light of those facts bacteriological investigation in the case of convalescents from diphtheria would seem to be a step in preventive medicine which would recommend itself to everyone; but in this country at any rate it is rarely, if ever, systematically carried out. Bacteriological examination with a view to correct diagnosis, and in cases of true diphtheria to decide when there is no longer infection after the disappearance of the usual local signs, would do much to prevent outbreaks of diphtheria or to make the disease less epidemic when it did break out. Much has been done and not a little remains to be done in the working out of the morphology and biology of the diphtheria bacillus. The typical bacillus varies considerably in form and in its staining and its virulence according to its age and to a marked degree according to the medium upon which it is grown, and authorities are not agreed as to what ought really to be called the pseudo-bacillus. Dr. Hewlett and Dr. Edith Knight, in their very valuable contribution to the subject,[4] make the important statement that they were sometimes able to convert the non-virulent pseudo-diphtheria bacillus into a virulent Klebs-Löffler bacillus; and they say that by carefully heating it has apparently been possible to convert a typical virulent Klebs-Löffler into a typical non-virulent pseudo-bacillus. M. Louis Martin says[5] that the pseudo-bacillus can give rise to severe diphtheria if associated with streptococci. Dr. Hewlett and Dr. Edith Knight also state, and this seems to me very important, that "in a number of cultures it is possible to obtain a series of organisms which form a connecting chain between the Klebs Löffler and the pseudo." This was well seen in the cultures made from the throat of my patient.

The condition of the tissues or secretions which renders an individual susceptible to an attack of diphtheria and the conditions which determine the degree of virulence in different attacks have yet to be discovered. Madsen,[6] after numerous and very thorough experiments, found that an acid culture is not toxic in the doses usually employed and that the production of toxin in it continues only for four or five days, because at the end of that time the growth of the diphtheria bacillus ceases and the toxin is gradually destroyed by the acid fluid. He found all grades of toxicity in alkaline cultures, but the degree of toxicity was not always proportionate to the degree of alkalinity. Very faintly alkaline cultures could be as strongly toxic as those which were strongly alkaline and a high degree of alkalinity is no proof that a culture is highly toxic. He also found that the degree of toxicity varied in cultures of the same bacillus in different broths. What determines the toxicity in these or in the individual attacked is not known. M. Louis Martin holds that the prognosis in diphtheria depends upon the association of the diphtheria bacillus with other micro-organisms. The prognosis, he says, is grave when streptococci and staphylococci are present.

The case in which I found the bacilli present and virulent nearly six months after the attack of diphtheria was that of a boy, aged eight years. He came under my care on Sept. 28th, 1897. He then complained of weakness, especially of the lower limbs. The knee-jerks were absent, the apex beat of the heart was in the nipple line, præcordial dulness was increased, the heart's action was regular and the sounds were normal, the urine contained albumin, and there was a history of an attack of diphtheria in the preceding July with subsequent difficulty in articulation and in swallowing. The boy was evidently suffering from the sequelæ of diphtheria. Strychnine and iron were given, but it was not till the end of November that the albumin disappeared and at that date the knee-jerks were still absent. On Nov. 30th I inoculated a tube of serum with a platinum loop drawn firmly over the tonsil. The tube was put into an incubator on the following day and in twenty-four hours numerous colonies had grown and to the unaided eye several of them looked like diphtheria. Microscopic examination showed those to consist of diphtheria bacilli mixed up with other micro-organisms From one of the colonies a culture was made in broth on Dec. 2nd and on Dec. 4th this new culture was found to contain diphtheria bacilli in large numbers. A cover-glass preparation made on Dec. 20th from the same culture proved to be a specimen of a practically pure culture of the diphtheria bacillus. At the same time a fresh culture in broth from it was made and on Dec. 23rd at five o'clock in the afternoon 0 5 c.c. of the fresh culture was injected into a guinea-pig. A cover-glass preparation of the culture made and examined at the same time showed that as well as diphtheria bacilli streptococci were also present. The guinea-pig was found dead early in the morning of Dec. 25th and post-mortem examination showed typical local infiltration at the site of the injection, enlargement of the spleen, and the usual congestion of the supra renal bodies. The liver was studded with minute so-called pseudo-tuberculous nodules. Two tubes of glycerine-agar were inoculated direct from the boy's throat on Dec. 28th. A cover-glass preparation from a colony in one of the tubes showed an almost pure culture of the diphtheria bacillus; a preparation from the second tube was found to consist of diplococci and streptococci. It is possible that the virulence of the culture injected was increased by the presence of the streptococci and perhaps by the pseudo-tuberculosis of the liver; but Dr. Bulloch, bacteriologist to the London Hospital, who injected the guinea-pig for me, said that the post-mortem appearances were typical of death from diphtheria and that alone.

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[1] Brit. Med. Jour., 1895, vol i., p. 61.

[2] Centralblatt für Bakteriologie, 1892, vol. xii., p. 587.

[3] Medical Record, New York, Sept. 15th, 1894, p. 221.

[4] Transactions of the British Institute of Preventive Medicine, 1897.

[5] Diagnostic Bactériologique de Diphthérie, Paris, 1894.

[6] Zur Biologie des Diphtherie-bacillus: Zeitschrift für Hygiene, 1897, vol. xxvi., p. 157.

As regards the progress of the boy's case I may mention that the right knee-jerk returned about the middle of December. On Jan. 11th it was noted that both knee-jerks were active and that the boy felt well and strong. He was not seen again.

To Dr. Bulloch my warmest thanks are due for his kind help. In his laboratory at the London Hospital Medical School I was able to carry out the bacteriological investigation and, as I have already stated, the experimental inoculation of the guinea-pig was performed by him.

Harley-street, W.

AN EXTRAORDINARILY ACUTE CASE OF GRAVES'S DISEASE.

By E. HARVEY SUTCLIFF, M.B. DURH., M.R.C.S. ENG., L.R.C.P. LOND.

THE patient, a woman, aged thirty-three years, was taken ill in October, 1897, complaining of a tumour in the neck, breathlessness, and general debility. Her father is alive and healthy; her mother died at the age of sixty-five years from cancer of the œsophagus; one sister is suffering from very severe lateral curvature of the spine. Until about five years ago, the time of her marriage, she had always been quite strong and healthy. Her first confinement was difficult and the child was delivered by forceps. She had two confinements subsequently, both of which were more or less prolonged, and since the birth of these children she had not been in robust health. About three months ago she first noticed an enlargement in her neck and about the same time her friends informed her that her eyes were more prominent than usual. She consulted a medical man, who told her she was suffering from exophthalmic goitre. Owing to change of residence she came under my care about one month ago, the disease having evidently made rapid strides in the meantime. She was then greatly emaciated and showed the ordinary signs of Graves's disease. The tumour was of moderate size; it presented visible pulsation to the eye and a distinct thrill to the examining hand. The eyes were prominent, but not to a marked degree, and she could close her eyelids completely. Von Graefe's sign was present. The pulse was thready, 160, and regular. A loud systolic bruit was heard over the thyroid gland. The heart was slightly enlarged and a systolic murmur was heard at the apex beat. Nothing abnormal was detected in the lungs and as far as I could determine there was no enlargement of the thymus. The temperature was normal. The urine was acid, specific gravity 1023, and contained no albumin. At the time I first saw her she was suffering from persistent vomiting which continued in spite of all treatment until her death. For three weeks she took no food of any kind with the exception of one small cup of milk which I gave her myself and which she vomited a few minutes afterwards. I first treated her with large doses of digitalis combined with bromide of potassium, but as she failed to keep it down it was replaced by small doses of morphia taken every hour and digitalis tabloids. In spite of several changes in her medicine the vomiting persisted without interruption. Even the sight of food would bring on the most distressing attack of retching which continued until a small amount of mucus was expelled. So fearful, indeed, were these attacks that at last she would not attempt to take anything with the exception of a little water which she sipped occasionally, and she repeatedly entreated us not to bother her with food but to allow her to die in peace. Each day she became more emaciated. Rectal feeding was suggested but was not received with favour either by the patient or her friends. At this stage her pulse reached over 200 a minute. She developed a troublesome and painful cough. The muscles of the pharynx and larynx became paralysed, so that what little water she took immediately choked her, and her voice became altered, weak, and nasal in tone. The urine and fæces were scanty and offensive. Slight jaundice was present. Finally, after having become reduced almost to a skeleton, she died, still retaining her senses until the end although there was some slight delirium at night. In this case the disease ran an unusually rapid course, as my patient lived just three months after the symptoms first made themselves apparent.

Torrington, Devonshire.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF PRIMARY SCIRRHOUS CARCINOMA IN THE AXILLA.

By HERBERT SNOW, M.D. LOND.,
SURGEON TO THE CANCER HOSPITAL, BROMPTON.

A WOMAN, aged forty-seven years, who had had four children, consulted me in October last with regard to a hard nodular mass, occupying the whole of the right axilla, of one and a half years' duration. It implicated the skin extensively but was otherwise mobile. The breast appeared to be perfectly healthy. I excised the growth with its skin-covering by oval incisions from the apex to the lower border of the axilla, carefully removing all the connective tissue together with some enlarged glands below the clavicle. The axillary vein was enveloped by a ring of carcinoma tissue, and rather more than an inch had to be resected. The mamma was then removed by incisions at right angles to the first. The patient made an excellent recovery. As was anticipated the tumour proved to be scirrhous, and the disease was passing down to the mamma along the usual isthmus of breast tissue, the normal direction of the infiltration being thus reversed.

I think that such cases as the one published above are sufficiently exceptional to be worth recording, especially as an important point of practice hangs thereon. The breast seems so healthy and so far from the growth that an operator ignorant of their true pathology will not remove it—an error I committed in the last case I met with about seven years ago. A thin strip of mammary parenchyma is normally prolonged around the edge of the pectoralis major to its under surface. Carcinoma beginning here adheres to the skin and grows to a large size, while the breast seems free, yet at operation we always find the continuity above described and the infiltration gradually extends downwards. I am convinced that it is wrong to ascribe the occurrence to an isolated lobule, a supernumerary mamma in fact, within the axilla; there is always a continuous tract of mammary tissue, in some women of course more apparent than in others. Unless we excise the whole of this recurrence is a matter of course.

Gloucester-place, W.

TEA AMBLYOPIA.[1]

By E. KENNETH CAMPBELL, M.B. EDIN., F.R.C.S. ENG.,
SENIOR ASSISTANT SURGEON TO THE WESTERN OPHTHALMIC HOSPITAL, LONDON.

THOUGH various kinds of toxic amblyopias are recognised, yet with the exception of those due to tobacco and alcohol the affection is rarely met with, and it is for this reason that I deem the following interesting as a contribution to the literature of the subject.

A man, forty-six years of age, had always had very good eyesight up to about September, 1895, since which time it had gradually been failing. On March 2nd, 1896, the vision in both eyes was $\frac{3}{60}$ and was not improved by glasses. The media were quite clear and the fundus of both eyes was absolutely healthy in appearance. The employment of retinoscopy demonstrated a small amount of hypermetropia (about + 50 D.), the fields of vision were normal to "white," but there were partial central scotomata for "red." When I say "partial" I mean to signify the fact that the patient hesitated some time before pronouncing this particular colour to be "red." He was a strong and healthy-looking man and had always led a very regular, methodical, and temperate life. There was no organic disease. He was in the habit of smoking about three pipes of shag a day, one after each meal, and usually drank but one glass of beer in the twenty-four hours, generally after dinner. I ordered him to give up beer and tobacco and prescribed five minims of tincture of nux vomica to be taken three times a day. I continued to see him once a week regularly for a period of two months, at the expiration of which time the eyesight had not improved. He looked very miserable and earnestly craved permission to resume his smoking as he suffered acutely from being deprived of it. I consented, but limited him to one pipe a day. I saw him again on April 6th and as the vision had made no improvement whatever (being still $\frac{3}{60}$ in both eyes) I made further inquiries into his history and elicited the fact that for years past he had been in the habit of drinking large quantities of strong (and cheap) tea, his daily consumption being on an average twelve large cupfuls. I told him to abandon this tea-drinking entirely, but allowed him to resume his tobacco and beer in the quantities to which he had formerly been accustomed, as I judged that he could not otherwise have tolerated the deprivation of the tea. The result was remarkable and significant, for from that moment the vision gradually and steadily improved. On June 4th the vision in both eyes was $\frac{6}{36}$; on July 2nd it was $\frac{6}{18}$; and on Sept. 24th (over four months after abandoning the tea) it had improved to $\frac{6}{6}$ and the field of vision had become quite normal.

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[1] Extract from a paper contributed to the Twelfth International Medical Congress held at Moscow in 1897.

Wimpole-street, W.

NOTES OF A CASE OF COCAINE POISONING.

By H. B. Palmer, L.R.C.P. and S. Edin.

Cocaine poisoning may not be so rare as we are led to infer from the paucity of references to it in our ordinary text-books, yet I believe the following case will be of interest to some of my fellow practitioners.

The patient was a robust man, about forty years of age, who in mistake for caffeine took ten grains of hydrochlorate of cocaine with ten grains of bromide of ammonium for a sick headache. The poison was taken on a full stomach about two hours after dinner. Within five minutes of taking the drug the patient expressed himself as feeling wonderfully well. Half an hour afterwards I was called to see him as he felt, as he expressed it, "very funny." He complained that his hands and feet were numb and that he felt as if he were walking on cotton-wool. This was followed by spasmodic jerkings of the limbs, preceded by a sense of restraint. His jaw troubled him by "rattling," as he put it, and his mouth to him appeared to be dry. In reality it was anæsthetised. The eyeballs were notably protuberant and perfectly immobile, evidently from paralysis of the motor oculi muscles. The levatores palpebrarum were unaffected. The pupils were fixed in the state of semi-dilation. The facial expression as a whole was very haggard. Whilst he was in this state I administered to him three drachms of vinum ipecacuanhæ with warm water and he vomited immediately. About forty minutes after the ingestion of the poison the speech—at all times intelligent—became quick and hurried and the breathing very oppressed. This oppression was principally expiratory and gradually increased until the rate sank to about 8 per minute but there was no cyanosis, however, possibly from the fact that the pulse had increased in rapidity to 120 beats per minute and was full and bounding. As the breathing became worse I administered a hypodermic injection of strychnine, $\frac{1}{10}$ gr., and digitalin, $\frac{1}{100}$ gr. The effect was immediate; the respiration became relieved although the pulse-rate remained as before, and from this time the danger of the case seemed less imminent. The breathing at times became laboured, but never again to the extent it had reached prior to the administration of the antidote. The subsequent history of the case was one of gradual improvement, which I believe was aided by the patient taking cupfuls of hot, strong coffee which was comforting and seemed to stimulate the respiratory apparatus. About two hours from the ingestion of the poison the patient again commenced to vomit and passed large quantities of urine, whether from the poison or treatment I cannot say—possibly both. Urination was performed without difficulty, but there seemed to be an inappreciation of relief natural to the removal of the tension of a full bladder. Perspiration throughout was very free. The knee-jerks were not absent but appeared to be defective. The total duration of the symptoms was about seven or eight hours. The next day the patient though languid was fit for duty.

If there is anything to be learned from the case it is the selective property of cocaine: first the nerves to the motor oculi muscles were affected, secondly the vagus, and after this the nerves to the mucous surfaces and skin. It is possible that the instillation of the drug into the eye may be of value in those troublesome cases of idiopathic nystagmus we come upon in general practice, although I have not heard of such treatment. If the case had terminated fatally the breathing would have failed first and indeed I had prepared to resort to artificial respiration. I cannot speak too highly of the action of the digitalin and strychnine in this case.

Plymouth.

A Mirror

OF

HOSPITAL PRACTICE, BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—Morgagni *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

A CASE OF SPURIOUS HERMAPHRODITISM (HYPOSPADIAS AND UNDESCENDED TESTES IN A SUBJECT WHO HAD BEEN BROUGHT UP AS A FEMALE AND BEEN MARRIED FOR SIXTEEN YEARS).

(Under the care of Mr. Andrew Clark.)

Cases of spurious hermaphroditism are probably by no means so rare as is often thought, for hypospadias with retained testes gives rise to a condition which is extremely like the female external genitals, and as a consequence these males have frequently been mistaken for females. From the statistics of the French military revising councils 0·5 per cent. of the rejected recruits suffered from this malformation.[1] It is very difficult to offer any explanation of the occurrence of "menstruation" in Mr. Clark's patient. The case is remarkable in many respects and is well worthy of being put on record.

A woman, forty-two years of age, was recently admitted into Bird Ward on account of a painful swelling in the left groin. She stated that a fortnight previously she was lifting some heavy furniture when something seemed to give way in her stomach, she felt very sick and had an acute pain in her left groin; on feeling the groin she found a tender swelling there; when she lay down it got smaller, but on her again rising the swelling regained its former size. The severe pain did not last long and she was able to follow her occupation, but she was always in more or less pain and discomfort and the swelling seemed to be slowly enlarging, so at the end of a fortnight she deemed it advisable to seek medical advice and went to the hospital. The notes state that on admission she was well nourished and of somewhat masculine appearance. The thyroid cartilage was prominent, she had large hands, and the breasts were well developed but the nipples were rudimentary and the areolæ were not marked. There was no hair on the face and there was but little on the pubes. An ovoid solid body feeling just like a testicle rather above the usual size occupied the left inguinal canal. There was no impulse on coughing, it was dull on percussion, very tender to the touch, and not reducible into the abdominal cavity. A similar but smaller swelling was observed in the right groin; this was not tender and the patient was not aware of its existence until her attention was called to it. The external genitals were normal in appearance and the vagina was of normal calibre and length, but the finger introduced into the canal demonstrated a *cul-de-sac*. No os or cervix uteri could be felt and a bimanual examination failed to detect the presence of a uterus. The patient had been married for sixteen years and her husband had died within the last year; she had never been pregnant and neither she nor her husband had any idea that she was in any way different from other women. She began to menstruate at the age of twelve years, at first not very regularly, but from fifteen to thirty-eight years of age she never missed the catamenial flow every four weeks and it always continued for twenty-four hours and no longer; in the interval she had a constant white discharge. There is nothing to note regarding her family or previous history beyond the fact that her mother had told her that when very young she wore a truss for some time on account of a rupture, but she herself did not remember anything about it. The diagnosis lay between hernia of the ovary and partially descended testicles, for although the patient had lived as a woman and according to her statement menstruated regularly Mr. Andrew Clark could not put from his mind the idea that these bodies were testicles. There were no urgent symptoms and she said she expected her menses shortly, so she was kept under observation for about a fortnight, but as during this period there was absolutely no change in her condition and there was no sign of the menses appearing there seemed to be no reason for waiting any longer before operating. Accordingly the patient was placed under ether and an incision two and a half inches long was made over the left swelling, the sac was opened and what were to all appearances an ordinary testicle and spermatic cord were drawn out of the wound. The cord was transfixed and ligatured with stout silk and the testicle was removed; there was some little delay on account of bleeding from the stump owing to the silk having broken in the act of tying, but the hæmorrhage was soon checked; the stump was then sewn to the ring and the ring was closed by means of silk ligatures. The wound was then sutured and a collodion scab was applied. Exactly the same operation was performed on the other side, but here there was no trouble from hæmorrhage. This wound was also closed with a collodion scab. After the patient was taken back to bed she fell into a profound state of collapse and for some time her condition caused considerable anxiety, as, though she seemed to be suffering from shock rather than hæmorrhage and though she had not really lost much blood during the operation, the possibility of the ligature having given way again on the left side was present to Mr. Clark's mind. In the course of an hour, however, she began to rally and by the next day she had quite recovered. There is no need to follow the subsequent details of the case and it may merely be added that on the eighth day the stitches were removed and the patient made an uninterrupted recovery. She was left on her back for a month and then quitted the hospital quite well.

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[1] Lagneau: Le Bulletin Médical, April, 1895.

Remarks by Mr. ANDREW CLARK.—I would first remark that there was no doubt about the nature of the organs removed. They have been carefully examined and both were in structure identical with the testicle; no spermatozoa were, however, found. I have called the patient "she," though as far as we were aware she had none of the essential generative organs of the female, but having always lived as a woman I did not think it necessary or even fair to inform her of what we had discovered, and when she left the hospital she believed, as far as I am aware, that she had been suffering from an ordinary rupture which had been cured. There are many cases of hernia of the ovary on record and in the account given of some the suggestion of the supposed ovary being a testicle is made and there are some in which when the bodies have been removed they have proved to be testicles; but in all these cases, as far as I know, the individuals have not menstruated, been married, and lived to the age of forty-two years in ignorance of their condition. There was no evidence that this person was a hermaphrodite, there was no uterus, at any rate not large enough to be felt, and there was no evidence of ovaries. I cannot account for the regular menstruation, but I am inclined to take the statement regarding that *cum grano salis*, for there was absolutely no opening to the vaginal tube. I consider that the patient was really a man with a very ill-developed penis in a condition of hypospadias.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, PLYMOUTH.

A CASE OF TRAUMATIC RUPTURE OF THE LIVER; FORMATION OF CYSTIC SWELLING CONTAINING BILE-STAINED FLUID; INCISION AND DRAINAGE; RECOVERY.

(Under the care of Mr. C. WHIPPLE.)

WE are not aware that any case closely resembling the one reported below has been hitherto recorded. It seems probable that a bile-duct was torn across at the time of the injury and that bile had collected underneath the peritoneum covering the liver and had subsequently separated the layers of the falciform ligament. Mr. Whipple is to be congratulated on the successful termination of the case.

A boy, aged sixteen years, was admitted into the South Devon and East Cornwall Hospital, Plymouth, on Jan. 6th, 1898, for an abdominal tumour. The history was given that four weeks previously he was kicked in the abdomen by a horse; he suffered from pain directly after the kick, but not much subsequently. He was put to bed and kept there. The next day he vomited; no record of the colour or amount of the vomited matter was kept. About a week after the accident there was noticed to be an abdominal swelling; this gradually increased in size up to the time of his admission. He was a thin anæmic boy with a pinched expression and somewhat quickened respiration. The upper part of the abdomen contained a large fluctuating tumour occupying the epigastric region and parts of the hypochondriac, lumbar and umbilical regions. The tumour was dull on percussion, not painful or tender on palpation and appeared to be about 8 in. in diameter. On Jan. 8th an incision was made in the linea alba above the umbilicus and on opening the peritoneal cavity the wall of the tumour presented at the wound. An exploring syringe drew off some thin, clear, yellowish fluid. The cyst was then tapped with a Spencer Wells trocar and cannula and about two pints of fluid were evacuated. The cyst was found to have extended deeply down towards the transverse fissure of the liver in one direction and towards the umbilicus to have separated widely the layers of the suspensory ligament of the liver. Its cavity was wiped fairly dry with sterilised swabs on holders and in doing this some ochrey fibrinous material was brought away from its walls. The lower part of the abdominal wound was closed and the cyst wall was attached with interrupted sutures of fishing gut to the upper part of the skin edge of the wound. A large-sized drainage tube some seven inches in length was pushed to the bottom of the cyst cavity and iodoform gauze was packed round this, a thin strip being inserted into the tube itself. A copious dry dressing was applied. Examination of the fluid showed that it owed its colour to the presence of bile pigment. On Jan. 9th the temperature at 10 A.M. was 102° F., the pulse was 120, and the respirations were 28. The dressings were soaked with bile-stained fluid and accordingly they were changed. On the 11th the temperature was 99·4°, the pulse was 98, and the respirations were 28, and on the 12th they were 98·2°, 86, and 24 respectively. On the 13th the large drainage tube was removed and one of smaller size was inserted to the bottom of the cavity. From this date until the 18th the wound required dressing every day, but after that date the discharge of fluid became progressively smaller. On Feb. 12th the drainage-tube was removed and on the 18th the boy was discharged from the hospital, the wound being entirely cicatrised except at the upper part; he looked fat and well. The liver dulness was normal.

Remark by Mr. WHIPPLE.—The case seems to be a most unusual one, a search through the principal surgical works revealing none of a similar nature.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Family Lateral Sclerosis.—Microcephaly and its Surgical Treatment.—Removal of the Entire Upper Extremity for Recurrent Carcinoma after Removal of the Breast.

A MEETING of this society was held on March 8th, the President, Mr. BRYANT, being in the chair.

The PRESIDENT, in taking the chair for the first time, thanked the Fellows for the honour done him, regarding the position as second only to the Presidency of the Royal College of Surgeons of England. He felt especial pleasure in being called to preside over the society as a Guy's Hospital man, for he reminded the Fellows that the society was founded by a Guy's physician, Dr. Saunders, in 1805, and many Guy's men had followed him in the chair, including Bright and Addison. But there had recently been a break, no surgeon from his school having occupied the chair since Sir Astley Cooper and no physician since Dr. Babington in 1861. It therefore gave him great pleasure to renew the connexion between the school to which he was so deeply attached and the society.

Dr. NORMAN MOORE showed two brothers, aged twenty-four and twenty-six years, suffering from a family form of Lateral Sclerosis. Both showed well-marked signs of lateral sclerosis, there being spastic paraplegia, with increased reflexes, but no affection of sensation or of the sphincters. The arms were unaffected and there were no nystagmus, ocular paralysis, or any defect of vision. The speech was slow and drawling. Intelligence was unimpaired. The symptoms had come on gradually after the age of fifteen years, and a sister who was now fifteen years of age had the same affection of speech although there was no paraplegia at present.

Mr. JOSEPH GRIFFITHS read a paper on Microcephaly and its Surgical Treatment. After making general remarks upon the nature of congenital microcephaly Mr. Griffiths divided the cases into two main classes: (1) those with small ill-filled but not deformed skulls; and (2) those with small and deformed skulls. The first class included those cases in which the brain was arrested in its growth in early embryonic life (from three to four months) and in which the skull was natural, small, and diminutive, the smallness being the result of a proportional diminution in all directions. In the second class the skull was not only small, but misshapen, and the brain was not only diminutive, but diseased, the disease giving rise to the alteration in shape and the skull merely conforming itself to the enclosed brain. In the specimen shown by Mr. Griffiths the skull showed no evidence of disease or of premature synostosis of its component parts. The case illustrated the characters of Class 2. The patient was a well-formed boy, aged sixteen months; his head was very small, measuring only 16¾ in. in its greatest circumference, and it was flattened from behind forwards, the hinder part being flush with the back of the neck. From front to back the head measured only 5½ in. and from side to side 4½ in., which was near the normal. He could not speak nor could he sit owing to muscular rigidity of the lower limbs; this rigidity was also present, but to a less extent, in the upper limbs. Intelligence was very small. He was the firstborn of young, healthy parents, the father and mother being twenty-four and eighteen years of age respectively; forceps were used and chloroform was administered at the birth. When nine months old he suffered from fits for three days, being unconscious throughout one day and a night. On Dec. 29th, 1896, linear craniectomy was performed on the right side, the idea being to make an artificial lambdoid suture. Recovery was uneventful and complete and the operation was followed by marked diminution in the rigidity of the muscles of both upper and lower limbs; the boy became interested in all around him and for the first time in his life showed a desire to play with toys. On Jan. 12th, 1897, the opposite half of the artificial lambdoid suture was made. Infection of the wound followed and septic meningitis supervened and caused death in five days. At the necropsy the brain was not only ill-developed, but it showed signs of disease affecting the cerebrum in more or less symmetrical patches. The skull was deformed, but not from any disease or synostosis of its component parts, but merely from want of the natural stimulus that the enlarging brain gives to it. A summary and statistics of cases operated upon were given, with a list of the published cases operated upon in this country. The conclusions were the following: (1) congenital microcephalic idiots may be divided into two main classes: (*a*) those with small ill-filled but not deformed skulls, and (*b*) those with small and deformed skulls; (2) in Class *a* the brain is at fault, being arrested in its development in an early period of embryonic life, and in Class *b* there is in addition to arrested development of the brain evident disease of the cortex distributed in patches more or less symmetrically, the deformity of the skull being determined by the shape of the brain; (3) there is a hypothetical case in which the skull is prematurely synostosed and the enclosed brain more or less normal, but hitherto no evidence has been brought forward to show that such cases actually occur; (4) craniectomy in all but the last-named (hypothetical) cases can be productive of no permanent good, as the original fault is in the cerebrum (or of the whole nervous system according to Giacomini) and not in the skull; (5) where, however, there are symptoms, such as general rigidity of the limbs, &c., which are in all probability due to irritation of the motor cortical centres, then operative interference (trephining and craniectomy) is likely, not only to afford amelioration of the symptoms, but in some cases to lead to a substantial and even permanent improvement; and (6) hitherto the mortality from operations has been very high, but with experience it is likely that this will be materially reduced. — Mr. WARRINGTON HAWARD remarked that the necropsy showed the condition in Mr. Griffiths's case to be due to the condition of the brain and not to that of the skull. He agreed with the conclusions of Mr. Griffiths enumerated above with the exception of the fifth, which appeared to him to be in direct contradiction to the previous ones. If the development of the brain had been already arrested it was difficult to see how making holes in the skull would relieve the condition. Cranial surgery had made great advances and it would be a pity if it were to be discredited by attempting the impossible. He hoped that the paper would not be misunderstood as yielding facts in favour of operative interference.—Mr. E. COTTERELL said that he had already published one case in which he had operated with striking benefit on a child, aged nineteen months, who presented the typical features of microcephaly. He was now well and able to go to school with other children. In other cases he had operated on, although the improvement had not been so striking, there had been definite amelioration, especially as regards the number of fits. He did not think that a simple trephine hole was sufficient. He made a cut through the parietal bone, going almost all round it, and then raised the large flap of bone for a little distance from the brain. The immediate results were very good, the wound healing in ten days. In his last case in order to thoroughly relieve pressure he had also opened the dura mater. He had not met with the hyperpyrexia which had been described by other operators.—Mr. STANLEY BOYD said that he had only operated on one case, that of a child between two and three years of age. Before the operation the child was in a position of flexor rigidity and constantly crying. He turned down a large flap and quickly cut through the side of the skull from the middle line in front to a little distance from the middle line in the occipital region. A fortnight later he made a similar incision through the bone on the other side, uniting the cuts in front, but leaving a small hinge of bone behind near the posterior part of the longitudinal sinus. The whole skull-cap could then be raised from the brain, being secured only by the hinge behind. The bone, especially in the parietal region, was thickened. Each operation only occupied about twenty minutes. There was little if any improvement in intelligence. The rigidity was somewhat less, and instead of being flexor became extensor in character. When the child was seen some months afterwards bone had formed again across the gap which he had made. Mr. Boyd thought that the result of the operation had been absolutely *nil*.—Mr. GRIFFITHS, in reply, said that he thought that when there were symptoms obviously produced by irritation of the cerebral cortex an operation might do good as a strong form of counter-irritation.

Mr. CLINTON T. DENT read a paper on Removal of the

Entire Upper Extremity for Recurrent Carcinoma after Removal of the Breast. The patient was a woman, aged fifty-three years. In December, 1894, her left breast was removed for a hard carcinoma first noticed two years previously. The axillary glands, which were affected, were also freely removed. In September, 1896, a recurrent nodule was removed from the neighbourhood of the cicatrix. Examination proved the growth to be a columnar-celled carcinoma (duct cancer), but showing transitional changes to the spheroidal-celled variety. The patient (now aged fifty-six years) was readmitted into St. George's Hospital in October, 1897, with recurrent ulcerating growth high up in the axilla. The arm was much swollen and the pain was severe. On Oct. 22nd, 1897, the arm, scapula, and outer two-thirds of the clavicle were removed by the method, save in a few details, advocated by M. Paul Berger. The subclavian artery with its scapular branches and the subclavian vein were tied after removal of part of the clavicle. The hæmorrhage did not amount to more than two or three ounces and there was no shock. The wound healed readily and the patient left for a convalescent hospital on the twenty-sixth day after the operation, which had given great relief. The growth was found on dissection to have encircled the axillary artery and vein and the main nerve trunks. The coracoid process was replaced by growth. All the diseased parts appeared to have been removed. The free recurrence of duct cancer in this case and the occurrence of secondary growths of this nature invading bone were very unusual. This case appeared to be the fourth in which the operation had been performed for disease of the same nature. The conditions in cases of recurrent carcinoma were contrasted with those met with in malignant tumours (sarcoma, chondroma, &c.) involving the bones about the shoulder and the operation in the former was shown to be far less serious. The propriety of advising removal of the entire upper extremity in suitable cases (likely to be very rare) of recurrent carcinoma after removal of the breast was discussed and favourable indications for this method of treatment were considered to be (1) previous removal of the breast with dissection of all the lymphoid tissue and fascia off the pectoral muscle; (2) slow growth of the original tumour; (3) slow growth of the recurrent disease; (4) microscopic evidence that the carcinoma is of the columnar-celled variety; (5) limitation of the recurrent growth; and (6) the certainty of relieving pain. Contra-indications would be: (1) probability that the disease could not be completely removed; (2) involvement of the thoracic wall; and (3) presence of extensive cancer *en cuirasse*. Tables of cases in which the operation has been performed (*a*) for recurrent carcinoma and (*b*) for other conditions were given.—Mr. ALFRED WILLETT hoped that the paper would be the means of calling attention to the relief which could be obtained in some cases by this operation. He had twice recommended the operation to patients, but in neither case were they willing to submit to it. The œdema of the arm which was usually coupled with great pain made life unendurable, although it was often a long time before death put an end to suffering, and this operation would often relieve patients of much of the suffering and discomfort caused by carrying about a heavy, useless, and painful arm. The sentimental objection that "mutilation" was produced was not worthy of much consideration.—Mr. STANLEY BOYD observed that the case related by Mr. Dent showed that they must not be too hasty in condemning daring operations. It was clear that in certain cases this operation was justifiable and advisable. He had never performed it on a patient, but in performing it on the cadaver he had been struck with the difficulty of bringing the skin together if Berger's directions as to the formation of flaps were followed. If any of the scapula was left he did not see how the edges were to be approximated.—Mr. DENT, in reply, said that he had not been able to take his flaps according to Berger's directions. It must be remembered that Berger mostly performed the operation for huge tumours involving the humerus and scapula over which the skin was much thinned and stretched. He (Mr. Dent) mentioned that he had seen the patient whose case he had read within the last few days. There were indications of carcinoma of the liver which were not present at the time of the operation and there was still some growth on the thorax. But the operation had entirely relieved her of the neuralgic pain which had been such a distressing feature before.

OBSTETRICAL SOCIETY OF LONDON.

Intermenstrual Pain (Mittelschmerz).—Exhibition of Specimens.

A MEETING of this society was held on March 2nd, Dr. CULLINGWORTH, President, being in the chair.

Dr. ADDINSELL read a paper on Intermenstrual Pain (Mittelschmerz). Having alluded to the paper of Sir William Priestley on Intermenstrual Dysmenorrhœa, Dr. Addinsell said the present paper was based on cases the chief characteristic of which was pain varying in intensity referred to the ovarian region and recurring with marked regularity fourteen days after the normal menstrual period. Case 1 was an unmarried woman, aged twenty-nine years, who was anæmic. She complained of great pain in the hypogastric region extending over the whole of the lower abdomen, the pain occurring regularly on the twelfth to the fourteenth day after the normal period. There were erosions of the os, anteflexion of the uterus, and an elongated swelling on the left broad ligament which disappeared after passage of thin, watery discharge. The "mittelschmerz" was not benefited by curetting. Case 2 was an unmarried woman, aged thirty-one years, who suffered from constipation. The "mittelschmerz" occurred on the fourteenth day and lasted from two to three days; the uterus contained fibroids and the left Fallopian tube was thickened. Oöphorectomy was performed and the patient had had no pain or period since. Case 3 was a woman aged twenty-eight years. She complained of pain in the left ovarian region twelve or thirteen days after her period; menstruation was normal. She had passed clear, watery fluid during the attack of pain. The uterus (retroflexed) contained fibroids. There was a soft, elastic swelling in the left broad ligament. Case 4 was a woman thirty-three years of age. She had "middle pain" sometimes and complained of discharge of clear fluid after which the pain was lessened. Dr. Addinsell remarked that in Croom's, Priestley's, and his own cases there had been a fulness or a distinct swelling in the broad ligament which had been the seat of pain. After considering the views held as to the causation of the "mittelschmerz" he concluded that it was due to a painful effort on the part of the tube to expel its contents.

Dr. HERMAN preferred the designation "intermediate monthly pain" to "middle pain." He had found that the date of its recurrence varied. He was accustomed to accept the explanation put forward by Sir William Priestley that it was due to monthly recurring painful ovulation. In most but not all of the cases he had seen there were signs of old inflammation of the uterine appendages. Adhesions offered a ready explanation of why the ovulation was painful.

Dr. AMAND ROUTH saw no difficulty in explaining this intermenstrual pain if once it could be assumed that in certain cases there was an intermenstrual cycle as well as a menstrual one. The increased tension of a local lesion would give rise to the pain.

Mr. BLAND SUTTON remarked that he had long held the view that fluid distensions of the tubes did not discharge themselves into the uterus and the old notions of intermitting hydrosalpinx and pyosalpinx were not sustained by reliable evidence.

Dr. BOXALL was of opinion that they were far from being able to fix the cause of intermenstrual pain on any one pelvic lesion. He had seen a case in which there was throughout no sign of tubal disease. The patient became pregnant but miscarried and afterwards, though she had a fibroid, she had little or no intermenstrual pain.

Dr. HEYWOOD SMITH considered the disease was associated with intermittent tubal hydrorrhœa.

Dr. ARTHUR GILES thought that if a condition of intermittent hydrosalpinx were present swelling of the uterine mucous membrane during menstruation might lead to temporary occlusion of the uterine ostia of the tubes, and this to accumulation of fluid which after some days would cause pain.

Dr. EWEN MACLEAN thought it possible that some of these cases might be regarded as an attempt at double menstruation.

The PRESIDENT said that it was evident that the cause of the phenomena was still far from being understood; none of the theories put forward appeared to be satisfactory. Tubal distension with escape of the contents through the uterine end, if it ever occurred, must be an event of extreme rarity.

An examination of Dr. Addinsell's table did not seem to warrant the statement that "in nearly all the cases a tubal lesion is present," for in only three out of the thirteen cases were the tubes known to be diseased. Watery discharges should not readily be regarded as having any pathological significance. He had known urine and even bath-water pent up in the vagina mistaken for pathological discharges.

Dr. ADDINSELL replied and stated that he had satisfied himself that in his cases a swelling existed and disappeared after the copious discharge of clear mucus accompanied by pain.

The following specimens were shown:—

Mr. TARGETT (for Dr. HILLIER): Deciduoma Malignum.

Dr. WILLIAM DUNCAN: Uterine Fibroid with Pregnancy.

Dr. C. H. ROBERTS: Double Pyosalpinx with Enormous Distension of Tubes.

Dr. JOHN PHILLIPS: Fibromyoma of the Vagina.

Dr. MACLEAN: Broad Ligament Myoma.

Dr. GOW: Cystic Intra-ligamentous Myoma with Double Uterus.

Dr. OWEN FOWLER: A Two-headed Monster.

Dr. RIVERS POLLOCK: Double Ovarian Dermoids.

HARVEIAN SOCIETY OF LONDON.

Exhibition of Cases.

A CLINICAL meeting of this society was held on March 3rd, Dr. JAMES F. GOODHART being in the chair.

Dr. G. A. SUTHERLAND showed a boy, aged six years, with a False Abdominal Tumour. After an attack of measles three years previously a bulging was observed on the left side of the abdomen below the ribs which under the influence of coughing or straining became as large as a cocoanut. There were no special symptoms associated with the swelling and no history of any local trouble. The child had suffered from severe rickets with considerable deformity of the long bones and spine. Dr. Sutherland considered the swelling to be dependent on some congenital muscular defect in the abdominal wall, which led to a hernial protrusion on straining.—Dr. JAMES TAYLOR agreed with Dr. Sutherland that the case was one of congenital absence of certain abdominal muscles. He did not, however, regard the lateral curvature as due to rickets but to the muscular inequality present. Analogous cases in which there was absence of a pectoral muscle had been described.—Mr. JACKSON CLARKE agreed with Dr. Taylor that the muscular defect had determined the development of lateral curvature in this case, but the rickety softening of the bones as shown by the marked knock-knees would also aid in producing the deviation of the vertebræ. In cases of lateral curvature due to paralysis or to rickets, whether singly or combined, the use of a light and effective spinal support was imperative.

Mr. JACKSON CLARKE showed a child under treatment for Double Congenital Club-foot. The general condition of the child was of interest in that it afforded an example of stunted growth of a not uncommon type. In the treatment of congenital club-foot in infancy Mr. Clarke had found that malleable metal splints gave better results than those of plaster-of-Paris.—Dr. LEONARD GUTHRIE thought the child presented a cretinoid appearance, although not typically myxœdematous. He suggested the use of thyroid extract in the case.—Dr. SUTHERLAND thought that taking into account the mental condition and the physical changes the patient was probably a congenital imbecile of the Mongolian type and that thyroid treatment was not likely to improve the condition.—The PRESIDENT agreed with Dr. Sutherland that the child was an imbecile and was not likely to benefit by treatment by thyroid extract.

Mr. EDMUND OWEN showed a boy, aged twelve years, on whom he had operated for Hiatus Vesicæ with Epispadias. The operation itself was completely successful in that the bladder was entirely covered in with the exception of a small opening on one side through which urine escaped. Urine, however, accumulated in the new reservoir and decomposed with deposit of phosphates, which rendered the boy's existence very unhappy. The result was so disappointing that he (Mr. Owen) almost regretted that he had done it.—Dr. EWART inquired to what extent mechanical treatment had been resorted to since the operation. The condition exhibited suggested the possibility that the prone posture might be of service in keeping the parts dry through an opening suitably placed in the middle line. Bearing in mind the very gradual flow of the secretion from the kidney it seemed as though the introduction of a seton to soak up and remove the urine as it trickled into the artificial bladder might do something towards alleviating the trouble.

Mr. RAYMOND JOHNSON brought forward the case of a boy, eight years of age, who developed Extreme Contraction of the Wrist and Fingers after a fracture of the lower extremity of the humerus. The fracture had been treated with wooden splints which as the result of undue pressure had produced a sore on the front of the forearm. An exploratory operation had shown that the condition of the limb was not dependent upon any damage to the nerves at the seat of fracture and the case was regarded as an illustration of Volkmann's "ischæmic paralysis." The paralysis and contraction, especially affecting the flexor muscles, were dependent upon inflammation and subsequent fibrous degeneration of the muscles caused by the application of splints sufficiently tightly to interfere seriously with the circulation through the part. Some slight degree of contractility still remained in the affected muscles and in order to relax the contracted tendons a short piece was excised from the middle of the shafts of the radius and ulna. The effect on the contracted wrist and fingers was satisfactory, but unfortunately the divided bones had repaired only by fibrous tissue and a leather splint was necessary to give strength to the limb.—Mr. EDMUND OWEN had met with three cases of this sort, all in children. He described one in which paralysis of the forearm had followed fracture in its upper part. He had cut down upon the median nerve and found it healthy, but the flexor muscles were in a state of fibrous degeneration. Division of the contracted tendons had produced an unsatisfactory result. Resection of the bones afforded the best promise of relief, but the surgeon must be prepared for non-union of the divided bones.

Dr. OWEN FOWLER showed a very rare variety of Double-Headed Monster. This specimen had two heads and two necks, two normal arms and an additional arm springing from where the necks diverged. This arm had at its extremity a double hand with fingers partly fused together. There was no anus, but a double penis, the second being small and placed on the front surface of the scrotum. The legs were normal, the spine was double, and the body was broad. The mother was a primipara, aged twenty-eight years. A foot presented, the breech was brought down, and except for a certain amount of traction necessary to bring the heads through the brim of the pelvis the labour was normal. There was no sign of life in the child. The mother made a good recovery. There was no family history of twins or anything else to account for this freak of nature.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Treatment of Affections of the Heart and Circulation by Baths, Exercises, and Climate.

A MEETING of this society was held on March 2nd, Dr. W. V. SNOW (Bournemouth), President, being in the chair.

The discussion on the Treatment of Affections of the Heart and the Circulation by Baths, Exercises, and Climate which was opened by Dr. HYDE (Buxton) and Dr. GEORGE OLIVER (Harrogate) on Jan. 28th was reopened by Dr. A. E. SANSOM, who, speaking at considerable length, advocated the combination of exercises and baths. We shall publish Dr. Sansom's address in an early issue.

Professor CLIFFORD ALLBUTT referred to the fact that the treatment of heart disease had become very largely one of hygiene. Every year hygienic medicine was extending its scope while the field of treatment by drugs was receding. In approaching the question in hand he confessed to starting with that kind of prejudice which he felt to important therapeutical means which contained strands of very important matter but were so inextricably mixed up with indiscriminate personal equations of all kinds that it was impossible to discuss them. The study of the literature of the subject had produced much the same effect upon him as upon Dr. Sansom, and he had not therefore urged his patients to take advantage of these methods with the same freedom with which he should otherwise have done. It was to be regretted that diagrams had been published of conditions of the heart which could not in any possible way be arrived at. He believed the expansion of the lungs in the production of which exercises were so largely concerned to be an exceedingly important factor in reducing the venous, and thereby indirectly raising the arterial, blood-pressure. He thought there was a great want in clinical medicine of proper distinction between *tone* and *tension*. A heart could not possibly be improved without increasing blood-pressure. They were apt to think that all blood-pressure was peripheral. It depended, however, on the heart itself; if the heart was dilated and slack the blood-pressure would fall; on the contrary it was raised if the tone were improved.

Dr. HERON thought it a matter of perfect indifference whether the bath water were supplied at a German spa or by the Middlesex Waterworks Company and that if the patient's skin were kept clean all the good purpose served by baths would be attained. He deprecated the tendency to create a professoriate of gymnastics in connection with the treatment of heart disease, believing that devotion to games had much better be cultivated than devotion to special gymnastics.

Dr. HARRY CAMPBELL considered muscular exercise infinitely the most valuable stimulant of the heart. Resisted movements not only produced tonic contraction of the muscles immediately engaged but also of nearly all the mucles of the body. Such tonic contractions had a very definite effect upon the circulation—an effect altogether different from rythmic contractions. A large amount of blood was determined towards the muscular system, a small amount of blood leaving the muscles in proportion to the exalted cardiac action. The venous right side of the heart was thus relieved. The contraction of the abdominal muscles, moreover, tended to diminish the flow of blood into the right heart. He suggested that the same results followed from the cold bath which produced a tonic contraction of all the muscles of the body. Respiratory exercises, too, by increasing the vascular area of the lungs diminished the resistance to the flow of blood from the right side of the heart. Besides, the expirations were diminished in proportion to the inspirations. These were the conditions most conducive to the facilitation of the flow of blood from the right to the left side of the heart.

Dr. BEZLY THORNE, who showed cardiograms, said the attitude adopted by Dr. Sansom and others with reference to diagrams of the area of dulness and to sphygmograms might as well be taken up with respect to the thermometer, which had been equally abused. By a practice of delineating the results of percussion and preserving sphygmograms daily instruction was gained. He had sphymographic tracings periodically taken by nurses trained by himself to take them, and he maintained that with sufficient training and education of their powers of observation, their delicacy of touch and constant practice enabled them to produce sphygmograms with a reliability which he was prepared to pit against the skill and proficiency of any member of that society.

Mr. SHIRLEY JONES (Droitwich) thought the bath treatment the more potent factor on account of its tonic influence on the heart. Cumulative effects appeared to present themselves most commonly in cases of heart failure in connexion with a strong gouty diathesis.

Dr. KINGSCOTE, while believing that the carbonic acid gas was more invigorating, had obtained nearly the same effects with compressed air in the baths. He deprecated the use of mechanical contrivances for the exercises; they could not watch the patient as an attendant was trained to do. He recommended the inhalation of free oxygen both during the bath and the exercises; it counteracted the carbonic acid gas inhaled and increased the pulse-rate. He had found great benefit in certain cases of asthma from the use of the baths and exercises.

Dr. FORTESCUE FOX (Strathpeffer) spoke of the benefit of baths in cases of "chronic rigor" where the temperature of the skin was several degrees below that of the internal parts. High thermal treatment was inadmissible in all serious heart cases, but remarkable results could be obtained from low-pressure douche baths.

Dr. LOUIS BLANC (Aix-les-Bains) did not claim any special action for the baths at Aix-les-Bains. It was from the method practised that good results were obtained.

Dr. BLACK JONES (Llangammarch) had found from the use of the baths of Llangammarch Wells that the diminution of the pulse-rate, though slight when the patient left the bath, was much more appreciable half an hour afterwards and continued so for some hours. He had found benefit from the internal use of the barium waters of the wells, which increased the force of the ventricular contraction and prolonged the diastole, and were also useful on account of their diuretic properties.

Dr. C. W. CHAPMAN thought it necessary to have opportunity for long-continued observation of patients before it was possible to form an opinion as to the results of treatment.

The PRESIDENT congratulated the society on the excellence of the papers and discussions.

Dr. HYDE (Buxton) replied.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

Matrices.—Composite Odontome.—X Rays in Dental Diagnosis.—Exhibition of Skiagrams.—Formaldehyde in the Treatment of the Dental Pulp.—Formaldehyde and its Application to Dentistry.

THE ordinary monthly meeting of this society was held on March 7th.

The HONORARY SECRETARY on behalf of Mr. Brunton read a communication on Matrices.

Mr. F. W. RICHARDS read the notes of an interesting case of a Composite Odontome, and Mr. STORER BENNETT referred to a case of Removal of the Maxilla for a tumour of doubtful character in a young person. The growth which completely filled the antrum proved to be a mass of cancellous bone containing in its midst a tooth, probably a supernumerary.

Mr. J. F. COLYER showed some lantern slides illustrating the value of the X Rays in Dental Diagnosis. In one case, that of a female patient, aged fifteen years, the deciduous teeth were all persistent. The skiagrams of the mouth, however, showed quite distinctly the presence in the alveolus of the unerupted permanent teeth. In another case where the central incisors were separated the skiagram showed clearly the presence of a supernumerary tooth embedded in the alveolus between the incisors.

Mr. STORRY (Hull) also showed Skiagrams of the Maxilla of a patient with the left central incisor dilacerated.—Mr. D. P. GABELL said that in taking skiagrams it was a useful plan to take two in slightly different positions, as these when examined through a stereoscope would give a much better idea of depth.

Mr. J. F. COLYER read a short paper on Formaldehyde in the Treatment of the Dental Pulp, with especial reference to a formaldehyde cement under the name of "Formagen." He referred to the use of "formalin" (40 per cent. solution of formaldehyde) and stated that Lepkowski had found it give excellent results with the pulp as far as regarded its germicide and preservative properties, but the pain caused by its use was a distinct disadvantage. "Formagen," which was composed of a fluid and powder said to be charged with formaldehyde vapour, gave on the other hand apparently good results without pain. Various analyses of formagen which Mr. Colyer had obtained were referred to and it was pointed out that the main constituent of the powder was calcium carbonate and a caustic alkali, the fluid being methyl salicylate, eugenol, and phenol. The bacteriological researches of Max Bauchwitz as to the use of formagen were referred to and also the results obtained by A. Kunert. Mr. Colyer stated that he had used the drug in almost every class of exposed and septic pulp and had found excellent results follow although the time he had used it did not permit of him forming a very definite opinion as to whether the results obtained would be quite permanent.

The HONORARY SECRETARY read a communication by Mr. Boyd Wallis on Formaldehyde and its Application to Dentistry.—A discussion ensued on the two papers, in which Mr. COFFIN, Mr. BREWARD NEALE, Mr. MUMMERY, Mr. ROBBINS, Mr. F. J. BENNETT, Mr. NORTHCROFT, Mr. MORGAN HUGHES, Mr. STORER BENNETT, and Mr. DOLAMORE took part.

The meeting then adjourned.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Acute Yellow Atrophy of the Liver.—Phosphorus Poisoning.—Hallux Valgus.—Analysis of 1000 Cases of Midwifery.—Exhibition of Cases and Specimens.

A MEETING of this society was held on March 1st, the President, Dr. **ARNOLD EVANS**, being in the chair.

Dr. **GLADSTONE** read notes on cases of (1) Acute Yellow Atrophy of the Liver, and (2) Phosphorus Poisoning. The patient in the first case was a woman, aged twenty-four years, unmarried, who worked in a rubber factory in which naphtha was used, but she had nothing to do with phosphorus. She was taken ill six weeks before admission and in two days was markedly jaundiced. Thirst and nausea were complained of. The bowels were constipated and the evacuations pale. At no time till two days before admission to the infirmary was there pain, vomiting, or diarrhœa. There was no history of phosphorus poisoning. Two days before admission she took some podophyllin pills which produced vomiting and diarrhœa; the legs also were swollen. She walked to the infirmary but was in a peculiar, drowsy mental condition. The skin was deeply bronzed and the conjunctivæ were yellow. The liver dulness extended from the fourth to the sixth space in the nipple line. There was slight œdema of the ankles. Frequent vomiting commenced on the evening of admission and continued for three days. The mental dulness increased, she would not answer when spoken to, and she threw herself over on to her face when disturbed. On the day before she died she was at first delirious but afterwards passed into a comatose condition and death took place on the fourth day. By this time the liver dulness only occupied the fourth and fifth spaces in the nipple line. The temperature was subnormal till the evening of the fourth day, when it rose to 100·6° F. just before death. The urine was loaded with albumin and contained casts and blood. Leucin and tyrosin were not found in the urine. Post mortem the liver was found to be shrunk up under the diaphragm and to be thin and flat; its weight was 24½ oz. The capsule was wrinkled. The organ was of a purplish colour externally and tawny yellow on section, showing yellow circles on a darker ground. Its consistency was firm and not friable. The kidneys and heart were in a state of fatty degeneration. The uterus was normal. Microscopically there was great atrophy of the liver-cells. Although the jaundice had been of six weeks' duration yet the acute symptoms of cholæmia had only come on for six days, and as the appearances post mortem were those of acute yellow atrophy it was considered to be a case of that disease. The second case was that of a man, fifty-four years of age, a labourer, who was admitted to the infirmary on Sept. 29th, 1897, and was discharged on Nov. 29th, 1897. The patient had been found in the street insensible and was thought to be drunk till a pot which had contained phosphorus paste was discovered. The stomach was at once washed out by the police surgeon. On admission to the infirmary he was violent, evidently having been drinking. The stomach was again washed out and the teeth cleaned to remove particles of the paste. Three grains of calomel were given at 11.30 P.M. and two grains of copper sulphate with thirty grains of carbonate of magnesia every two hours through the night. The carbonate of magnesia was continued every two hours for four days. For the first four days he seemed quite well and had no symptoms except slight fever and drowsiness. The bowels were freely moved by the calomel. On Oct. 2nd the temperature rose to 102° and signs of bronchitis were present at both bases. On Oct. 3rd there were vomiting, purging, and abdominal pain, and jaundice appeared and hiccough was present. The diarrhœa, vomiting, and hiccough passed away after four days but the jaundice deepened till in a week the skin had a bronzed appearance. There was great muscular weakness and the muscles were very flabby. On Oct. 11th the blood contained a normal quantity of hæmoglobin and red discs but the leucocytes appeared granular and did not stain. The jaundice began to clear about Nov. 1st and had quite disappeared by Nov. 11th. There was never any leucin or tyrosin found in the urine; the quantity of urea showed some diminution, the lowest quantity being 206 gr. on Oct. 6th. There was a deposit of phosphates during the first week. There was no albumin. There were no hæmorrhages except that on Oct. 4th there appeared to be some altered blood in the vomit. The edge of the liver was always palpable at or below the costal margin. In addition to the treatment before mentioned a drachm of ozonic ether was given thrice daily till Oct. 27th, when a mixture of mercuric chloride, nux vomica, and diluted nitro-hydrochloric acid was substituted. Dr. Gladstone remarked that as alcohol was a solvent of phosphorus the patient's chances were diminished by the drink he had taken.—The case was discussed by Dr. **EVANS**, Dr. **MAJOR**, Dr. **CAMPBELL**, Dr. **CARTER**, and Dr. **BRONNER**, it being remarked that recovery was very unusual after jaundice is pronounced in cases of phosphorus poisoning.

Mr. **HORROCKS** read a paper on Hallux Valgus, giving an account of its etiology and treatment and showing that it usually resulted from the wearing of badly-shaped boots.

Dr. **McLEAN** gave an Analysis of 1000 Cases of Midwifery and compared his statistics with those usually given in text-books.

Mr. **ROBSON** gave a microscopical demonstration. Among other specimens was a Section of a Tongue affected with Squamous Epithelioma, showing at the same time an Encysted Trichina Spiralis.

Dr. **JAMES KERR** showed two patients, brothers, suffering from Friedreich's Ataxia.

Dr. **STEVENSON** showed a Placenta which had undergone Extensive Fatty Degeneration, and stated that the patient had had three still-born children and that in each case the placenta had shown similar changes.

Dr. **ALTHORP** showed an Ovarian Cyst which had been successfully removed from a woman aged thirty-five years. The cyst had been universally adherent, and Dr. Althorp discussed the propriety of attempting to remove the cyst entire in such cases.

MANCHESTER MEDICAL SOCIETY.

Nephro-lithotomy.—Cause of Death in Peritonitis.—Arthrectomy of the Knee joint.—Retinal Changes in Cerebral Hæmorrhage, &c.

AT the last meeting of this society held at Owens College Mr. **T. JONES** gave particulars of a case of Nephro-lithotomy. The patient was a man, twenty-nine years of age, who consulted Mr. Jones on Oct. 15th, 1897, when the following history was obtained. In 1889 he had a sharp pain in the left lumbar region just below the costal margin. It lasted ten or twelve hours and soon afterwards it was noticed that the urine contained a considerable quantity of blood intimately mixed with it. No stone was passed nor did he notice any gravel in his urine. There were three more attacks of pain similar in character to the first at intervals of some months. Some years later the patient noticed pus in his urine and this continued up to the time of Mr. Jones seeing him. He has been under treatment continuously for six or seven years, during which various remedies for clearing the urine have been tried without any success. There were no bladder symptoms and the patient's general condition, which was excellent, removed the possibility of any tuberculous condition of the urinary apparatus. Exploration of the bladder under chloroform gave negative results, but while under the influence of the anæsthetic abdominal examination revealed a very decided fulness in the left kidney region. Nephro-lithotomy was performed on Jan. 16th, when a large stone, mainly composed of oxalate of lime, was found lying across the pelvis of the kidney, one end being in the somewhat dilated pelvis and the other moulded in a calyx. A small projection connected with the main mass lay in the upper part of the ureter. The position and fixity of the stone accounted for the absence of symptoms. The pelvis of the kidney was washed out with a boric and saline solution and the ends of the incision were brought together, the middle being left open for the drainage tube which extended down as far as the kidney. The wound was healed in three weeks from the date of operation. As soon as the urine was free from blood a marked diminution in the quantity of pus in it was observed and in a month even this had completely cleared away.

Mr. **ALEXANDER WILSON** made a communication on the Immediate Cause of Death in Peritonitis and the Treatment of the Disease. He expressed the opinion that in peritonitis death was caused by the absorption of septic poison from the peritoneum, which poison acted chiefly on the circulation, and that the immediate cause of death was from vaso-motor paralysis. He suggested that in addition to operative treatment attempts should be made to obviate the vaso-motor paralysis by transfusion and the administration of drugs which raise the blood-pressure, such as extract of suprarenal capsules.

Mr. JOSEPH COLLIER read a paper on the After-treatment of Arthrectomy of the Knee-joint, in which he called attention to the possibility of preserving the power of extension in the knee-joint, should it become flexed after arthrectomy, by keeping the patella moveable from the first. Notwithstanding the greatest care after this operation, as after excision, the knee tends in certain cases to become flexed even after many years and though apparently bony ankylosis in good position has taken place; this condition of flexion is especially liable to occur between the ages of eleven and fourteen years. For many reasons given he considered this liability to flexion to be almost entirely due to the action of the hamstrings in walking, there being with the usual after-treatment no corresponding action of the quadriceps extensor possible owing to the patella being glued down to the femur. He finds that in a certain percentage of cases it is possible to keep the patella free by frequently moving it and showed a case operated upon two years ago in which, though about quarter flexion had taken place after the removal of all fixing apparatus, still owing to the patella having been kept free there was full and forcible power of extension, giving considerable facility of movement and almost a normal mode and power of walking.

Dr. R. T. WILLIAMSON read a paper on Retinal Changes in Cerebral Hæmorrhage, Embolism, and Thrombosis, in which he recorded the results of ophthalmoscopic examination in a number of cases. In cases of hemiplegia from cerebral hæmorrhage which terminate fatally a hæmorrhage is not infrequently found in the retina on the same side as the brain lesion, whilst the opposite retina is normal. In cerebral embolism the same condition is occasionally met with and the retinal vessels may be slightly dilated on the side of the brain lesion. In thrombosis of the middle cerebral artery, when the thrombus extends down into the internal carotid, the vessels of the retina on the side of the brain lesion may be markedly dilated and tortuous, whilst the retinal vessels of the opposite eye are normal.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Cirrhosis of the Liver.

THE sixth ordinary meeting of this society was held on March 2nd, Dr. JAMES CARMICHAEL being in the chair.

Dr. G. A. GIBSON showed a woman, aged twenty-three years, who had undergone operation for Ruptured Gastric Ulcer. She had suffered for some time previously from gastric symptoms and while doing her work she was seized with sudden severe abdominal pain. On admission to the Royal Infirmary about thirty hours subsequently she was found to be suffering from acute general peritonitis.—Mr. HODSDON explained the nature of the operation which was performed. On opening the abdomen lymph and commencing pus formation were found above the colon. The perforation was fairly high up and situated under the liver. Much difficulty was experienced in closing the opening. The adherent lymph was removed, the peritoneal cavity was flushed out, and a glass-tube was placed in the pouch of of Douglas. The temperature was 100·8° F. on the subsequent day. The tube was removed on the third and the wound dressed on the tenth day, when it was found that much pus exuded from it. This pus did not come from the wound itself, but from the abdomen. The wound was drained and the subsequent progress was uninterrupted. The operation lasted about one hour.

Dr. NORMAN WALKER exhibited a boy suffering from Lichen Scrofulosorum. It was a rather rare form of skin disease and was said to appear in those who were the subjects of tuberculous disease. It was, however, not itself tuberculous. It was said by Hebra, and quoted by McCall Anderson, to be a disease of adults, but the general view was that it was chiefly seen in children. In 90 out of 100 cases it occurred in tuberculous subjects, but in the case exhibited there was no evidence of this disease. The lesions occurred generally on the trunk, but in this case they extended to the thighs and legs. The spots were bluish in colour. The disease was supposed to be due to excretion of tuberculous products. It was usually cured by the administration of cod-liver oil internally and externally.

Professor ANNANDALE presented a man who had suffered from an old Unreduced Dislocation of the Head of the Humerus. As the arm was perfectly useless and as several attempts at reduction had been tried Professor Annandale exposed the joint by an incision carried along the lower edge of the clavicle, so dividing the attachments of the deltoid to the clavicle and acromion. In this way free access was obtained to the glenoid cavity without endangering either nerves or vessels. The glenoid was found to be split and the head of the humerus displaced backwards. It was found to be impossible to reduce the dislocation so the head of the humerus was excised. The operation was performed only seventeen days ago, but even at the present time the result seemed excellent.

Mr. STILES showed three children. The first was the subject of a Congenital Hernia on the right side which contained the vermiform appendix. On two occasions during operation for hernia Mr. Stiles had met with this condition. The second child had a Funicular Hydrocele probably as the result of the draining down of fluid from a tuberculous peritonitis. The third case was a Dislocation of the Left Hip-joint which might be mistaken for hip-joint disease. All movements of the limb were quite free with the exception of abduction. The child could walk quite well and the only difference was that the limb was shorter than the right and the head dislocated upwards towards the crest of the ilium.

Dr. BYROM BRAMWELL exhibited: 1. An Aneurysm Pointing in an Unusual Position. The patient was a man who had a distinct history of a strain, though none of syphilis. In the position of the right breast there was a large, pulsating, external aneurysm. The patient suffered from angina-like pains. Dr. Bramwell had only seen one other case where the aneurysm projected so far towards the right. 2. Tabetic Club-foot. A young man presenting all the symptoms of locomotor ataxia showed this rare form of chronic bone disease. The sole was filled up with bony swelling and on the dorsum was a similar projection. The patient had suffered from syphilis nine years previously. It was not, however, until he had injured his foot by a fall that the swelling came on and eleven months subsequently symptoms of locomotor ataxia presented themselves. 3. Progressive Muscular Atrophy. The patient was a woman who suffered from a rare variety of this disease which had lasted for eighteen months. The right arm and deltoid were quite paralysed. The facial and ocular muscles were also implicated and this was a very rare condition to find. She had difficulty in swallowing and speaking. The ocular muscles in the right eye were almost useless. The external rectus in the left eye was also affected, as were also the sterno-mastoid and the trapezius. Treatment by hypodermic injections of strychnine was said by Gowers to arrest the disease. In this case no benefit seemed to have resulted from its free use. It was begun as two minims thrice daily and has now been increased to from 11 to 14 minims thrice daily.

Professor ANNANDALE exhibited some rare preparations: 1. Meckel's Diverticulum in a Hernial Sac. The patient was a boy, aged three years, with an irreducible gurgling scrotal swelling. The diagnosis was a congenital hernia with adhesions. On cutting down, however, a diverticulum two inches long was found and on drawing this down it was found to be Meckel's diverticulum. The whole tunica vaginalis, diverticulum, and testis were removed and in spite of the patient contracting scarlet fever two days subsequently to the operation recovery was uninterrupted. 2. Appendix removed from the Anterior Surface of the Left Lobe of the Liver to which it was adherent. In the embryo the cæcum and appendix are found high up. It may have been that this condition had persisted in this case. 3. Papilloma of the Bladder removed by suprapubic incision. 4. Elbow-joint removed so as to obtain Movement. An injury which had fractured the upper end of the radius. Much callus had been thrown out and adhesion had resulted between this and the external condyle. There was no injury to the elbow-joint itself. 5. Loose Bodies removed from a Bursa underneath the deltoid. This was a rare situation. 6. Ruptured Tubal Pregnancy. The patient was a woman brought into the hospital apparently in a dying condition. The abdomen was opened and the peritoneal cavity and pelvis were found filled with blood. In the left

Fallopian tube was a swelling the size of a small orange. This had ruptured and an ovum was seen within. The tube and ovary were removed and the patient was now convalescent.

Mr. **ALEXIS THOMSON** showed a specimen from an Infant, three days old. Nothing was retained in the stomach and the child only passed a little blood per rectum. The upper end of the rectum ended abruptly and blindly. On opening the abdomen the colon was found to be absent. An artificial anus was made in the small intestine but the infant subsequently died. The small intestine was found to end in a dilated extremity at the left side and the colon was represented by a small tube.

Dr. **G. A. GIBSON** exhibited three drawings—viz.: (1) Choroiditis from a girl, aged twenty years, who had waxy disease of the liver, spleen, and kidneys; (2 and 3) from the Brain of a girl, aged twenty-three years, who became deeply unconscious, with paralysis of the legs and arms and external strabismus. The hæmorrhage evidently affected the motor tracts of both sides, probably about the aqueduct of Sylvius. The necropsy revealed enormous hæmorrhage into both lateral ventricles. From these it had burst into the third and so to the fourth ventricles, dilating the aqueduct of Sylvius.

Dr. **ALEXANDER JAMES** read a paper on the Various Forms of Cirrhosis of the Liver. He desired to point out that there was a unity in the pathological processes between acute yellow atrophy and primary cancer of the liver with cirrhosis as the link connecting these. Cirrhosis of the liver occurs in two main forms—(1) small atrophic; and (2) large atrophic cirrhosis characterised by catarrhal inflammation of the bile-ducts. Many cases which had come under Dr. James's own observation were related to show the characteristic symptoms and pathological conditions of each variety. Between these types, however, transitional forms occur and three cases were related to illustrate the changes which occur in this transition from large to small cirrhosis. At one period the signs and physical signs of large cirrhosis are found, then later those of small cirrhosis present themselves. There are great differences in the periods of these transitions. If anything occurs to disturb the relative production of parenchyma and fibrous tissue then one variety of cirrhosis may result. If the factor which causes this disturbance of balance is more potent than another then the period of transition will be lessened. A case of gastric ulcer was related where the cicatrix was adherent to the liver at the portal fissure. Fibrous tissue had spread into the liver from this site along the bile-ducts and so throughout the organ. In another case the fibrous tissue had spread along the radicles of the portal veins. In portal vein cirrhosis the liver is small, for the nutritive supply to the organ is cut off. In bile-duct cirrhosis, on the contrary, the liver is large because there is no interference with the nutritive supply. Again, fibrosis may be the result of disease of the liver itself—e.g., syphilitic gumma; but localised diseases may occur in the liver independently of this, as patches of cirrhosis. Dr. James related several cases where localised hepatic inflammation set up cirrhosis of the liver. A cirrhotic condition of the liver may be the result of many causes—e.g., irritating substances in the blood, alcohol, syphilis, malaria, catarrhal obstruction in bile - ducts or in hepatic veins; the spreading inwards of fibrous tissue from the surface. In cirrhosis there is overgrowth of fibrous tissue and relative disappearance of parenchyma. In acute yellow atrophy there is a rapid disappearance of parenchyma. The liver is shrunken and flattened out. There is little change in the amount of interstitial tissue in ordinary cases, while in more chronic cases there is an actual increase in the amount of interstitial tissue. The toxin in the latter case has produced death of the liver cells but overgrowth of the connective tissue. If the toxin be in smaller amount or of a less virulence—e.g., alcohol—cirrhosis ensues. If much alcohol be taken at once an acute yellow atrophy is produced. The same happens to horses when lupine in large amount get into their food. Dr. James went on to discuss the nutrition and growth of the cell. In the case of liver cells which are highly developed a stimulus which is sufficient to kill them only stimulates the fibrous tissue cells to overgrowth. In cirrhosis the toxic substance acts much more mildly so that the interstitial cells increase to a marked degree. As regards cancer of the liver, the etiology of cancer growth was discussed and Cohnheim's embryonic tissue residues theory was condemned as being most unphilosophical. The conclusion arrived at by Dr. James was that the same toxin produces all three diseases and this depends entirely on the relative strength of the toxin.—In the discussion which followed Dr. **MUIR** and Dr. **RUSSELL** criticised adversely Dr. James's contentions.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF ANATOMY AND PHYSIOLOGY.

The Teaching of Histology.—The Effects of Peptones and Albumoses on the Kidney.—Cranio-cerebral Topography.

A MEETING of this section was held on Feb. 4th, Dr. D. J. **COFFEY**, the President, being in the chair.

The **PRESIDENT**, having thanked the Fellows of the Academy for the honour they had conferred on him in electing him President of the Section, said that as he was about to deal with a subject of a controversial character—namely, the Teaching of Histology—he had thought it better to treat it in a paper and invite discussion rather than to make it an address. He thought that a few months after the student had gone through his practical classes and lectures in histology the chief result which remained to him was that he had extended his knowledge of the anatomy of minute structure. His mind is stored with valuable information, but he is devoid of a practical knowledge which could be of the greatest use and interest to him in the study of pathology or in application to many branches of biological science. Again, the value of microscopic methods in teaching physiological chemistry is lost sight of. Histological teaching should be made more useful on the physiological side and made thoroughly practical so that the student will leave the laboratory equipped with something more than information — viz, a method of investigation. This can be done by devoting, say, one-third of the present course to the study of the cell and using arthropod animals for a complete demonstration—first, of structure and of the action of the various reagents employed in fixing, hardening, &c., then of staining, methods which would naturally be followed in investigating cell structure.—Professor **W. H. THOMPSON** said he was sure that there could be no two opinions as to the advisability of giving students a course of cytology; but when he came to think of the already pretty severe course of histology, together with practical physiology, which the ordinary medical student had to acquire in one or two years he shrank from it.—Professor **J. M. PURSER** said that fixing and staining methods were very difficult and for these and other reasons he thought that to begin with cytology would be to begin at the wrong end.

Professor **W. H. THOMPSON** gave a preliminary communication dealing with the Influence of Peptones and Albumoses on the Kidney when injected into the circulation. The following is a short summary of the results at which he has arrived: 1. These substances do not exert so great an influence on the walls of the kidney blood-vessels as they do on those of other splanchnic blood-vessels. 2. They cause a marked increase in the secretion of urine, the maximum occurring during the second hour after injection. 3. The urine secreted is dilute, its percentage of urea and total nitrogen being diminished. 4. The total amount of urea and nitrogen is nevertheless considerably increased. 5. Part of the peptone (or albumose) is excreted during the first hour after injection, but the greater part appears to be retained. The amount so retained, however, is not sufficient to supply enough nitrogen for the increased output of urea and other nitrogenous compounds.

Professor **J. SYMINGTON** described the Peculiarities of the Larynx in certain Marsupials, exhibited a series of Scapulæ to show the mode of ossification of the coracoid elements of the bone, and gave a communication on a Method he had adopted for Demonstrating the Relation of the Skin and Skull to both the External Surface and the Interior of the Brain. — Professor **CUNNINGHAM** said he thought that the specimens shown were probably the most beautiful specimens of cranio-cerebral topography he had ever seen.

ERRATUM.—In the abstract of Dr. Dawson's paper on the Physical Signs of Stomach Disease, published in THE LANCET of Feb. 12th, page 440, the sentence beginning on the ninth line should run as follows: "In nineteen consecutive fatal cases where a post-mortem examination showed malignant disease of the fundus of the stomach no tumour was felt in one half."

Reviews and Notices of Books.

Le Choléra en Europe depuis son Origine jusqu'à nos Jours. Par le Docteur Ph. HAUSER. (*Cholera in Europe from its Origin to the Present Time.* By Dr. Ph. HAUSER) Paris. 1897. Price 15 francs.

DR. HAUSER, of Madrid, has chosen a time for the publication of his extensive study into the epidemiology of cholera when there is a lull in the activity of the disease. The facts dealt with in the 540 pages of his book must have taken him years to accumulate and sift, but the result of his labour is the most complete and comprehensive survey of the subject that the student of epidemiology will find. The object which the author set before himself was to collect the principal facts connected with every pandemic of the disease, not merely those that have been common to each successive invasion of Europe, but also those that have attracted the attention of epidemiologists in any country by reason of their unusual or peculiar character, and to deduce from the conditions giving rise to them the evolutionary law which must underlie the spread of cholera from east to west.

In the first few introductory chapters stress is laid on the fact that all great epidemics in Europe have coincided in point of time with some great social change. Thus the importation of leprosy and the plague from the East and their rapid spread in Europe were favoured by the profound disturbance among the peoples of the different countries following on the Crusades. Typhus fever and scurvy first appeared and raged for several years in Europe after the end of the Thirty Years' War. So, too, the first appearance of cholera in Russia by way of Persia coincided with the conclusion of two wars that had been waged by Russia against Persia and Turkey. The loss to Russia in men alone had been enormous, while Persia was reduced almost to a desert, so that when the germs of cholera were conveyed into Turkestan and Persia and thence to Russia, they found a soil, owing to neglect, suitable for their rapid development.

It may at once be said that the view which this distinguished epidemiologist takes of the natural history of cholera is that the development of the bacilli is dependent not so much on water or on the temperature of the air as on the temperature of the topmost layers of a porous soil combined with a moderate degree of moisture. An excess of moisture in, or an excess of dryness of, the soil is opposed to the vital conditions of the cholera comma bacillus. His interpretation of the five widespread epidemics of the disease in Europe since 1829 (and to their description some 350 pages are devoted) is based on the above theory. In supporting it his argument is closely reasoned and often he is scornful of what he considers the loose manner in which the supporters of the water-borne theory of cholera have sought to explain the facts. Russia he holds to be the real danger to Europe, for once cholera has found its way there by the overland route from the delta of the Ganges it always continues to show its presence over a period of eight or nine years, whereas if it reaches Europe through the Mediterranean ports its duration is never more than three years. In order to explain this fact a chapter is devoted to the climatological conditions existing in Russia which bring about the apparent paradox that while excessive warmth is one of the most necessary causes of the development of an epidemic of cholera, nevertheless the most southerly countries of Europe have suffered relatively far less from the scourge than has Russia with its rigorous winters. The existence of the snow offers an obstacle to a too great cooling of the soil, and while the growth of the comma bacilli is inhibited, they are not destroyed and are ready to develope on the accession of moisture due to the thawing of the snow in spring and to the warmth of summer. The portions of Russia most favourable from their climatological conditions for the retention and development under suitable conditions of the cholera contagium are Astrakhan, in which is situated the lower basin of the Volga, Kiew, containing the basin of the Dnieper, and the district of Kalicz, which forms the boundary between Prussia and Russia, and it is just these districts that become the hotbeds for its growth.

It is interesting from this standpoint to note how Dr. Hauser explains the special incidence and special severity of the disease from 1883 to 1886 in Spain. The province of Valentia, where it commenced, closely resembles, in his opinion, both in its physical and geological characters those parts of India where cholera is endemic. The soil is alluvial, consisting of organic and mineral detritus deposited by the sea, and it yields a luxuriant vegetation. The social conditions of the inhabitants are not unlike those of the Mecca pilgrims, as they have to work all day under a blazing sun and to sleep at night in the open exposed to malarial effluvia. The cholera bacilli, therefore, when imported there from India regain their wonted toxicity under the telluric conditions and social habits of the inhabitants natural to them. The spontaneous outbreak of cholera in Spain in 1890 was due, he is certain, to a revivification of bacilli which had remained latent in the soil since 1885, as was the case also in the Paris epidemic of 1892. On the soil theory alone is it possible to explain this spontaneous origin of cholera which has occasionally occurred in Europe.

The similarity of Dr. Hauser's view on the development of cholera with that of those who are authorities on its behaviour in India is most striking. Such a sentence as the following, used by Professor Lane Notter when speaking of the endemic prevalence of cholera in India, is repeated over and over again in the pages of this book: "Provided a soil be porous or permeable to air, free from putrefaction, and free from any excess or marked deficiency of water, commas can live and multiply in it for an indefinite time."

In the second part of his work Dr. Hauser leaves the broad facts of the behaviour of cholera in actual epidemics in order to discuss the more intricate behaviour of the cholera bacillus in the laboratory, and he seeks to reconcile its behaviour under this changed condition with the phenomena incidental to it when in the natural state. Beyond conceding (1) that cholera is a contagious disease of which the comma bacillus is the exciting cause, (2) that the habitat of the bacillus is the intestine, and (3) that the symptoms of the disease are due to the absorption through the intestinal wall of toxines secreted by the bacilli, he accepts none of the views of Koch and throws the whole weight of his authority on the side of Pettenkofer. The position of the adherents of Koch he summarises thus: the comma bacillus can infect man directly by contagion, but for an infection of a wholesale character it is necessary for the bacilli to be distributed by water. Precautionary measures, therefore, resolve themselves into isolation of those who are affected and the provision of a water-supply of an irreproachable character. He proceeds to attack this view by showing (1) that comma bacilli are sometimes found in the dejecta of those who do not show definite signs of the disease, (2) that in some cases where the symptoms are most pronounced the specific organisms are absent, and (3) that the occasions in which bacilli have been found in water are extremely few. To those who have read the official reports on the outbreaks of cholera in Hamburg in 1892 and 1893, in Stettin and other places in the German Empire in 1893, and in Paris in 1892, the conclusion would seem to be inevitable that drinking water was the *causa causans*, however much its spread may have been aided by a filthy soil and insanitary dwellings. It is only fair to Dr. Hauser to say that he also has studied them and thinks that considerations of soil were not taken account of sufficiently by the investigators. In Russia, too, Dr. Clemow, in his book on the Epidemic of 1892 in that country, cites numerous cases where the washing of infected linen in ponds and water-courses was the signal for an explosion of cholera. It is difficult to understand how Dr. Hauser can cite Professor Netter, of Paris, as an opponent of the water-borne theory when it was he who, in conjunction with Professor Proust and Dr. Thoinot and Dr. Ogier, reported that the cholera in the suburbs of Paris in 1892 was limited to those places alone where Seine water was drunk although there was plenty of opportunity for its spreading in other ways.

Dr. Hauser is right in insisting that a good water-supply is not a sufficient protection against cholera and typhoid fever, but that it must be combined with good drainage and other sanitary work. Berlin, for instance, showed no appreciable diminution in its death-rate from typhoid fever on the introduction of an improved water-supply in 1857, but did so at once when the sewerage and drainage works were commenced in 1873, the diminution extending to each district synchronously with the completion of the work. In this connexion Dr. Hauser emphasises repeatedly the benefits that have accrued to Great Britain from the adoption in the large cities and in many of the port towns of this policy.

From his analysis of the great western diffusion of cholera since 1892 the late Dr. F. W. Barry stated as his opinion that "all explosions of cholera as to which detailed evidence has been forthcoming have been found on investigation to have been referable to specifically polluted water-supplies," and the statement sums up the general opinion in this country on the subject. Whether the study of Dr. Hauser's book will modify that view remains to be seen. It can with truth be said that it is the most brilliant exposition that has been made on the difficult subject of the relation of conditions of the soil to the spread of cholera and typhoid fever. He is at his best when describing the remarkable behaviour of the disease in his own country of Spain, and it is abundantly evident from his researches that the conditions of soil existing there are such as to favour the growth of the cholera comma bacillus when once introduced.

In the concluding chapters an account is given of the various international congresses which have been held, from that of Paris in 1851 to that of Dresden in 1893 and Paris in 1894, with regard to the defence of Europe against the importation of the disease. In it he points out that the acceptance by other countries in place of quarantine of such measures as the surveillance of persons coming from infected places, the disinfection of infected linen, and the compulsory notification by one country to another of a "foyer" of choleraic infection, was brought about by the action of Great Britain, which refused to be bound by an illogical, unscientific, and impracticable international convention.

Pictorial Atlas of Skin Diseases from Models in the Museum of Saint Louis Hospital, Paris. English edition. Edited and annotated by J. J. PRINGLE, M.B. Edin., F.R.C.P. Lond. London: F. J. Rebman. 1895–1897. In Twelve Parts. Price 10*s*. 6*d*. each part.

THE remaining parts of this interesting atlas are now before us. The first three parts and Part VII. have already received notice at our hands. The work has been completed with commendable regularity, aided no doubt by the fact that all the material from which the chromo-lithographs were made was complete from the first. We may now, therefore, take a survey of this work as a whole. As regards the artistic merits there can be no doubt that they are considerable and of very even quality, the lesions being nearly always well portrayed. The defects are due to their being taken from wax models instead of from life, so that the yellow ground tint and closed eyes where the face is represented give a corpse-like appearance that is somewhat unpleasing. This, however, is only an æsthetic defect and does not interfere with their practical utility. From the practical side it is also sometimes a drawback, as it is in some plates difficult to say from what part of the body the cast has been taken, and distribution can seldom be represented. Nevertheless, it is an undoubted professional gain to have this most important collection of excellent models brought as it were to our doors, and we feel rather inclined to ask for more than the fifty plates comprised in the atlas, than to carp at any drawbacks inherent in all wax models. Of the whole number of plates fourteen are devoted to inflammations, fifteen to syphilides, ten to infiltrating neoplasms, and seven to tumours of the skin, and there is a fair mixture of typical and anomalous or rare cases.

Owing to differences in French nomenclature and also to the French school holding views on many points, both clinical and pathological, different to ours, it was essential that the work should be presented to the profession in general in England, not only in an English dress, but with explanatory comments to reconcile real or apparent discrepancies between English and French views, and the publishers have been happy in their choice of Dr. Pringle as editor, which has ensured a smooth translation and has, moreover, added much to the practical usefulness of the atlas. As an example of this may be instanced Plate X. among many others, labelled by Dr. Hallopeau "Dermatitis herpetiformis in concentric circles." The editor very properly draws attention to the fact that this diagnosis is not above criticism and there is no doubt that it would be regarded by many dermatologists as the herpes iris of Bateman. So, too, in the note to Plate XVIII., "Chilblain lupus." The editor has obtained from Mr. Hutchinson the opinion that it is not the same as the chilblain lupus that he has described. We should not, however, agree with Dr. Pringle that the types of ecthyma, so-called, depicted on Plate XX. are not known in Great Britain; but this is a minor point, and on the whole the only fault is that Dr. Pringle has been too modest in his criticisms and his readers would have been pleased to have had more of them. We have therefore much pleasure in congratulating both editor and publishers on the completion of this English version of an important and interesting contribution to dermatology by our *confrères* across the channel.

Aphasia and the Cerebral Speech Mechanism. By WILLIAM ELDER, M.D., F.R.C.P. Edin. London: H. K. Lewis. Pp. 260. 1897. Price 10*s*. 6*d*.

DR. ELDER'S book is one of the best introductions which we know to the study of an interesting but difficult subject. Beginning with a historical sketch of the origin and development of current views in regard to aphasia it proceeds to deal with the reception, retention, and production of speech. The routes by which impulses subserving speech travel are next considered and the mechanism by which it is effected, viewed in the light of conditions showing its disorganisation. In the succeeding chapters the clinical varieties of aphasia are described and numerous cases are cited to strengthen or elucidate statements in the text. Finally, disturbances of the musical faculty and the surgical aspects of aphasia are briefly alluded to.

The book cannot be said to be profound, but it is comprehensive and at the same time unusually free from the difficult abstruseness which so often repels the reader from treatises on speech. It is pervaded throughout by the teachings of Wyllie, many of whose terms are adopted without sufficient explanation for the reader who happens to be unfamiliar with them. The well-known views of Bastian receive but little attention, but taking the book as a whole it will prove, we believe, to be most useful not only to the student but also to the practitioner who wishes to understand the elements of a very difficult subject. The book has a few diagrams and illustrations. We venture to think that the former would be more useful if they had a more complete description.

Monopolies by Patents and the Statutable Remedies available to the Public. By J. W. GORDON, of the Middle Temple, Barrister-at-Law. London: Stevens and Sons, Limited. 1897.

IN this work the author reviews the origin and growth of what is known as "Patent law" from the point of view of those against whom monopolies may in its name be wrongfully claimed and discusses the remedies provided. Medical men should find themselves in sympathy with Mr. Gordon, belonging as they do to a profession that has ever set its face against "monopoly" and claimed the fullest publicity and widest use for whatever benefits its members may have been able to confer on mankind. To readers who are not students of law or history it may be new that the original object of patent legislation was to crystallise legal principles that *forbade* the granting of monopolies by the Crown and to throw open rather than restrict trade and manufacture, while inventors were incidentally protected for a limited time and to a limited degree by sections specially passed on their behalf, such protection being granted to them on the one ground only that such encouragement to them would be for the public benefit, while it was further recognised that the creating of a monopoly in something hitherto unknown would not deprive those excluded from it of any right which they previously possessed.

For the benefit of those who care to study the subject in detail we may say that the book under review, while it should form a text-book for lawyers unequalled in the particular branch of Patent Law with which it deals so exhaustively, comprises matter such as is usually omitted in typical legal text-books, and is, moreover, written in a style calculated to interest the reader of intelligence desirous of studying in a concrete instance the principles from which laws proceed and the processes which govern their growth. We should mention particularly in this connexion the critical editing of the famous case of monopolies, with an interesting note on the personality of Fuller, of counsel for the defendant therein, whose speech has been cited as the judgment of the Court, the facsimile reproduction of King James I.'s Book of Bounty and some portions of the speculative dissertation which calls attention to the hitherto unused fourth section of the Statute of Monopolies. Whether this section will ever be exhumed and find a practical field of usefulness we are not prepared to prophesy, but we may point out that an equally untried remedy, much dwelt on by the author, that contained in the twenty-second section of the Patents Act of 1883, is even now apparently, if rumour is correct, being had recourse to with a view to breaking down a system of exclusive dealing instituted in connexion with the cycle trade. Whether, if this be so, it is a coincidence or whether we can compliment Mr. Gordon on having helped to set the machinery referred to in motion we are not aware.

JOURNALS AND REVIEWS.

The Journal of Pathology and Bacteriology. Vol. V. No. 1. January, 1898. Edinburgh and London: Young J. Pentland. Price, 12*s.* net. — This high-class periodical enters on its fifth year of existence with a varied list of contents and an abundance of illustrations. Dr. B. Roncali, of Rome, describes and figures appearances in the cells of certain malignant growths which he avers are of the nature of blastomycetes and not of "coccidia" as stated by others. He thinks that the parasitic nature of malignant tumours is indisputable and that the frequent failures in the recognition of the parasites or their being mistaken for cellular products is due partly to their limited number and partly to the degenerative changes they rapidly undergo. Dr. J. W. Eyre and Dr. J. W. Washbourn make a further communication upon the Pneumococcus in which they describe experimental researches testing the virulence of cultures, the protective and agglutinative powers of sera, &c. Mr. Walter Edmunds describes further Observations and Experiments on the Pathology of Graves's Disease, from which he concludes that the thyroid enlargement in that affection is of the nature of a compensating hypertrophy and that the parathyroids of dogs (which cannot by compensating hypertrophy pass into thyroid tissue proper) have as much, if not more, to do with preserving them from acute myxœdema than has the thyroid itself. There are several papers in the number which also appear in the Transactions of the Pathological Society of London, notably those by Mr. Shattock, Dr. Parkes Weber, Dr. Kanthack, Mr. T. Strangeways Pigg, Dr. G. Bellingham Smith, and Dr. Washbourn. Dr. R. A. Bolam describes Antral Carcinoma, Dr. F. Villy gives an account of the Bone Marrow in Cancer Patients, Dr. Misick (of Chicago) relates a case of Teratoma Hepatis, and Dr. Bertram Rogers one of Agnathia or Congenital Absence of the Lower Jaw.

St. Thomas's Hospital Gazette.—The first article in the second issue for the present year is a very readable account of the author's experiences of "Pioneering in Angoniland." An abstract of a paper read before the St. Thomas's Hospital Medical and Physical Society on Feb. 10th by Mr. Corner on the Comparison of Fractures and Dislocations in Man and Animals incidentally contains a suggestion as to the origin of the name "os sacrum." The "Hudibras" of Butler contains the following:—

> "The learned Rabbins of the Jews
> Write there's a bone, which they call Luz,
> I' the rump of man, of such virtue
> No force in nature can do hurt to.
>
> * * * * * * *
>
> From whence the learned sons of Art
> Os sacrum justly call the part."

St. Mary's Hospital Gazette.—The February issue of this journal contains among other interesting matter, including an account of the new buildings at St. Mary's Hospital, a clinical lecture on Prevalent Fallacies in the Diagnosis and Treatment of Certain Minor Disorders of Childhood by Dr. W. B. Cheadle. On the subject of Night Terrors, which are often a source of anxiety to parents and of worry and vexation to the medical attendant, Dr. Cheadle gives some practical hints.

The London Hospital Gazette for February opens with some editorial remarks upon the new medical school and other buildings now in course of erection. "A Visit to some of the Hospitals of Paris" will be read with interest. A very good reproduction of a portrait of Dr. A. Ernest Sansom, physician to the hospital, is presented with this issue of the *Gazette.*

St. Bartholomew's Hospital Journal.—The leading article in the February number draws attention to a defect in the working of the Act dealing with the compulsory notification of infectious diseases and suggests that the game of "bilking" the medical man of his fees as played by some vestries might come to a speedy termination if the resident staffs of hospitals "should insist that the fees be paid to some person at the hospital responsible for their distribution."

The Ophthalmic Review. Edited by PRIESTLEY SMITH, J. B. LAWFORD and others. London: J. & A. Churchill. Vol. xvii. No. 195. January, 1898.—This number contains the report of a case of upward coloboma of the iris associated with subluxation of the lens downwards by Angus McGillivray and good reviews of Fromaget and

Bordier on Visual Acuity and Amplitude of Accommodation; a paper by A. Terson on Partial Atrophy of the Optic Nerves following an extensive burn; and one by S. Baudry, on a New and Certain Method of producing Monocular Diplopia by means of a simple prism and its application in pretended blindness of one eye; and O. Lange writes on the Anatomy and Pathogeny of Unilateral Congenital Microphthalmos. There is also a report of the meeting of the Ophthalmological Section of the College of Physicans of Philadelphia.

Janus: Archives Internationales pour l'Histoire de la Médecine et pour la Géographie Médicale. Directeur, Dr. H. F. A. PEYPERS. Nov.-Dec., 1897. London: Williams and Norgate. Deuxième année, Livraison 3.—The interesting subjects discussed in the present number of this journal in different languages are as follow:—In English, the Introduction of Vaccination to the Southern Continent of America and to the Philippine Islands, by Dr. George Foy; and Outlines of the History of Diphtheria in Denmark and Germany, by Dr. J. Carlsen. In French, L'Impaludisme à Bornéo (Paludism in Borneo), by Dr. A. W. Nieuwenhuis; and Variations in the Composition of the Air in Intertropical Regions in their Relations to the General Pathology of these Districts, by Dr. Georges Treille. In German, Die Krankheiten eines Bergvolkes der Insel Java (The Diseases of a Mountain Tribe in Java), by Dr. J. H. F. Kohlbrugge, of Tosari; and Betrachtungen und Nachrichten über thierische Pfeilgift (Observations on Arrow Poisons), by Dr. Ed. Schaer.

The *Journal of Physiology*. Edited by MICHAEL FOSTER, M.D. Lond., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXII., No. 4. London: C. J. Clay and Sons. 1898. Price 7*s*.—This part contains nine original articles, together with the proceedings of three meetings of the Physiological Society. The original articles are the following:—1. The Vaso-constrictor Fibres of the Great Auricular Nerve in the Rabbit, by Mr. W. M. Fletcher. The experiments of Mr. Fletcher have led him to endorse the statement of Professor Schiff that ten days after the extirpation of the superior cervical ganglion with the upper part of the cervical sympathetic stimulation of the great auricular nerve causes exactly the same vaso-constriction as before the operation; hence Mr. Fletcher concludes, with Professor Schiff, that extirpation of the superior cervical ganglion does not cause degeneration of the vaso-motor fibres of the great auricular nerve, and he further finds that in the rabbit section of the third cervical nerve outside the vertebral canal completely abolishes the effect of stimulating the thoracic sympathetic or the ganglion stellatum; hence in this animal the ramus vertebralis of the ganglion stellatum contains vaso-motor fibres which pass to the ears by way of the third cervical nerve and the great auricular nerve. 2. The Cortical Motor Centres of the Opossum (Didelphys Virginiana), by Dr. R. H. Cunningham. The author compares the locations of the various excitable cortical centres in the hedgehog and opossum and has satisfied himself that the cortical centres of the marsupial opossum are on the whole not so well organised as those of the insectivorous hedgehog. 3. Further Observations upon the General Physiological Effects of Extracts of the Suprarenal Capsules, by Dr. Swale Vincent. The experiments recorded show in dogs increased muscular activity, tremors, and paresis ending in paralysis. Other symptoms are thirst and abundant micturition and sometimes vomiting. 4. A Comparison of the Physiological Actions and Chemical Constitution of Piperidine, Coniine, and Nicotine, by Mr. B. Moore and Mr. R. Row, with five figures in the text. 5. Preliminary Note on Certain Undescribed Features in the Secretory Function of the Uterus and Fallopian Tubes in the Human Subject and in some of the Mammalia, by Mr. C. J. Bond. 6. A Contribution to the Chemistry of Hæmoglobin and its Immediate Derivatives, by Dr. John Haldane. 7. The Influence of Pathological Conditions on Active Absorption of Oxygen by the Lungs, by Dr. J. Lorrain Smith. 8. Decerebrate Rigidity and Reflex Coördination of Movements, by Dr. C. S. Sherrington. Drawings are appended to this paper, showing the positions assumed by animals after the operation of total or partial removal of the brain. 9. The Physiology of the Salmon in Fresh Water, by Dr. F. D. Boyd, Dr. James C. Dunlop, Dr. A. Lockhart Gillespie, Dr. G. Lovell Gulland, Dr. E. D. W. Greig, Mr. S. C. Mahalanobis, Mr. M. J. Newbigin, and Dr. D. Noel Paton. This is a long and interesting article.

Practitioner.—The Renal Origin of Gout and the Treatment of the Disease are the subjects of an article by Dr. A. P. Luff, who recommends the use of colchicum, guaiacum, laxatives, and citrate of potassium, together with spinach and similar green vegetables. Mr. H. G. Howse writes on Some Forms of Rectal Disease. Dr. G. B. Hunt has a paper on the Relapse of Typhoid Fever, a complication which he admits is still unexplained. Sir Dyce Duckworth recommends errhines—e.g., ordinary snuff or veratria snuff—as expectorants. The medico-literary causerie is on Sir Thomas Browne.

Edinburgh Medical Journal.—Dr. Alexander Morison publishes a further instalment of his Morison Lectures on Relation of the Nervous System to Disease and Disorder of the Viscera. The paper is mainly histological and is illustrated with numerous photo-micrographs. Dr. Frederick T. Roberts concludes his contributions on the Physical Examination of the Chest. He deprecates the use of graphic or recording instruments and expresses the conviction that too much reliance is often placed on the cardiac dulness in the investigation of cases. Mr. E. H. Fenwick describes Two Successful Operations for the Removal of Calculi lodged in the Lower Third of the Ureter. There are four other original papers.

Scottish Medical and Surgical Journal.—The opening article is a clinical lecture by Dr. Alexander James on the Etiology and Treatment of Phthisis; he has occasionally found some improvement to result from the use of tar water in one-ounce doses thrice daily after food. Dr. John Thomson contributes a copiously illustrated paper on the Diagnosis and Prognosis of Imbecility in Infancy. Dr. P. G Borrowman describes a fatal case of tetanus in which a quantity of Tizzoni's tetanus antitoxin equal to 117 gr. of the dried serum was administered in nine injections. Dr. Jessie Macgregor gives a long abstract of Marinesco's work on the Pathology of the Nerve Cell.

The *Guy's Hospital Gazette* for March gives an interesting account by Mr. H. Collier, entitled "A Year's Physic at Guy's." The figures for the year's antiseptics are, perhaps, the most striking and instructive; they include such enormous quantities — 7253 gallons of 2 per cent. solution of lysol and 4480 gallons of 1 in 20 solution of carbolic acid (i.e., about a ton of the pure acid); that expensive article, iodoform, reaches 84 lb., while boracic acid totals 15 cwt. Perchloride of mercury comes to 47 lb., but as 1 in 1000 is the ordinary solution this represents a considerable quantity. Anæsthetics include 480 lb. of chloroform, 584 lb. of ether, 11,000 gallons of nitrous oxide gas, and 16½ oz. of cocaine hydrochlorate. Among drugs we notice confection of senna, 224 lb.; sulphate of quinine, 450 cz.; iodide of potassium, 106 lb.; sal volatile, 1084 lb.; and there is a fine sound of nutrition in 5021 lb. of malt extract with 600 gallons of cod-liver oil. We learn also that surgical dressings cost more than £1500 and that they included 135,000 bandages and about thirty-five miles of various antiseptic gauzes. Finally, 73,742 prescriptions were dispensed for out-patients, while for in- and out-patients combined half a million pills, 50,000 lb. of ointments, nearly 400 gallons of tinctures and 150 gallons of syrups were manufactured, and some six miles of strapping plaster were spread. The article should be read by all interested in either figure or pharmacy.

THE LANCET.

LONDON: SATURDAY, MARCH 12, 1898.

THERE is a plethora of Midwives Registration Bills. Firstly, there is the Midwives Registration Bill now before Parliament. Secondly, a Bill for the Protection of Pregnant and Lying-in Women and Newly-born Children by Promoting the Better Training of Women as Obstetric Nurses and their Compulsory Registration as Such has been published by our contemporary, the *British Medical Journal*. This Bill has been prepared by a sub-committee of the Parliamentary Bills Committee of the British Medical Association and has been forwarded to members of the Council of the Association for consideration prior to their next meeting. Thirdly, we have before us the draft of a "Sick and Obstetric Nurses Bill," which has been prepared by Dr. ALEXANDER McCOOK WEIR, of East Sheen. The preamble of this Bill asserts that "it is expedient to abolish the practice of midwifery by ignorant and incompetent persons calling themselves midwives and to protect poor parturient women and their infants from such persons, and to make better provision for the nursing of the sick and parturient poor and their children in England and Wales." Such a variously promoted group of measures may be taken as proof that poor pregnant or parturient women have much to be protected from. Their high rate of mortality has been guessed at and possibly exaggerated but no one denies the obvious risk to which they are exposed in the ignorance and the dirtiness of the midwives who, according to rough statistics, attend some hundreds of thousands of cases every year. Childbirth in civilised life is full of pain and even of peril, for which remedies must be found, and for the finding of which the medical profession is very deeply responsible. We are aware that there are some members of the profession who are quite prepared to let things remain as they are, not from any want of humanity, but from a belief that in some way the work is now done and that when situations become very dangerous the midwife sends for the medical man. The present situation they argue is tolerable and its evils are magnified by report; while under the *régime* of registered midwives they fear that midwifery as a science and an art will degenerate, not being kept up to the standard of the other great branches of practice—medicine and surgery. We recognise the truth of much of this, but the cry for protection of poor parturient women cannot go unheard.

There are wide divergences of suggestion in the three Midwives Registration Bills to which we have alluded. The first prohibits the use of any title signifying registration as a midwife on the part of those who are not registered and makes registration depend on certain training or standing as a midwife. The other two impose penalties in the shape of fines on unregistered women who habitually or for gain attend women during labour. The Bill of the Sub-committee of the British Medical Association makes the fine £5 for habitually and for gain attending lying-in women. Dr. WEIR would make it unlawful for any person (*male* or female) to assume the title of midwife, "or to practise as such for gain or otherwise," without the supervision and control of a fully-qualified and registered medical practitioner, and any person infringing this provision and neglecting to send for medical or surgical aid at a confinement shall be liable to a fine of £10 or in default imprisonment for a month. Mr. J. B. BALFOUR'S Bill provides a Midwives' Board composed of twelve registered practitioners, three elected by each of the three London medical corporations and three by the Incorporated Midwives' Institute. Besides these six members are to be nominated by the LORD PRESIDENT of the Privy Council. The Bill of the Sub-committee of the British Medical Association provides a board of twenty-four registered medical practitioners, to be appointed by the General Medical Council from, and so as to be representative of, the various districts of England and Wales. This board is to have very important functions. It has to frame rules for the training and examination of midwives and regulations for their conduct. By Mr. BALFOUR'S Bill these rules have to be subject to the approval of the General Medical Council; by the Bill of the Sub-committee of the British Medical Association they would be subject to that of the Privy Council. But in many other ways the Bills run on similar broad lines, so that we cannot think it would be difficult for their respective promoters to come to an agreement on the question. The vital point to be secured in any legislation is the effectual supervision of the medical profession over the practice of any midwives or midwifery nurses who are to be registered under such Bills. Some clear clause securing that in the most explicit terms should be inserted in the Bill itself. There is reason to believe that the promoters of Mr. BALFOUR'S Bill would not object to some such clause. Such a clause would go largely to meet our demands made on Feb. 19th and would still leave very useful and considerable functions to the Midwives' Board. But we would appeal to the promoters of the Bill before Parliament and referred by the Privy Council to the General Medical Council for its consideration to think over the constitution of their Midwives' Board. Three years ago this Board consisted of twelve registered practitioners. Now for some strange reason it is proposed to import "six persons" who are to be appointed by the LORD PRESIDENT and who may be laymen.

The Board should not exceed twelve persons, who should be registered medical practitioners elected partly by the General Medical Council and partly by the Corporations. Provided a clause is inserted in the Bill securing in a practical and fair way the supervision of registered medical practitioners over midwives in all parts of the country we are prepared to leave many details and the machinery of such supervision to the Midwives' Board constituted in such a manner and the rules and regulations of which shall be subject to the approval of the General Medical Council, not of the Privy Council, which cannot know things practically. One other point should be made clear in the Bill by Parliament—that is, that the midwife or midwifery nurse shall have no power to sign certificates of stillbirths, but that in all such cases a medical man shall be consulted. The letter of Mr. WIGHAM, which we publish to-day, deals in no captious spirit with the letters of Mr. ROWLAND HUMPHREYS and Mr. JOHNSTONE, M.P., in THE LANCET of Feb. 26th, the reasonableness of which, so far as they go, we also recognise. It shows the serious necessity for amendments which, after the contemplated legislation, will not leave the race of "Gamps" still free to "practise for gain" with the same deadly consequences as at present. Neither Mr. HUMPHREYS nor Mr. JOHNSTONE will expect the medical profession to acquiesce in legislation which will not cure the evils which are its only justification.

THE paper read by Surgeon-Captain ROGERS at the meeting of the Epidemiological Society, held on Feb. 18th, forms an interesting supplement to the paper read by Dr. CHILDS at the preceding meeting. Both dealt with the bearing of movements of ground-water upon the genesis and propagation of disease, the earlier paper treating of enteric fever in a temperate climate and the latter paper of malarial diseases in India. No disease has been more extensively studied for a longer period of time than malaria. It produces a higher contribution to the death-roll of humanity than any other single disease; and yet if we read the article on Malarial Diseases in HIRSCH'S classical work and then Surgeon-Captain ROGERS'S recent contribution to the subject we are impressed with the lamentable deficiency of exact knowledge which is still manifest notwithstanding all the industry of innumerable observers in the past fifty years. Much of this barrenness of result is due to the lack of organised coöperation and collaboration by observers at different Indian stations and at malarial spots in other parts of the world. Still more of the same barrenness of result is due to the fact that observations once started (as, for instance, on meteorological conditions and still more on ground-water levels) have not been continued for a sufficiently long series of years to develop their full value.

Holding these views we are glad to welcome Surgeon-Captain ROGERS'S valuable contribution on the subject. His observations have unfortunately not been continued over many years, but it is sincerely to be hoped that they will not be allowed to cease now that they are once started. They deal with the prevalence of malarial fevers in the dry district of Chota Nagpur. It is too commonly assumed that in malarial countries the disease is associated only, or at least chiefly, with swampy and with low-lying districts. Its endemic occurrence on the tableland of the Deccan, of which Chota Nagpur forms a mountainous portion, is a sufficient refutation of this supposition. At Doranda in this district Surgeon-Captain ROGERS was in charge of four hundred soldiers. The level of the ground-water was taken twice a week in three wells which immediately surrounded the lines and the mean of these three levels was taken to represent the level of the ground-water. The fever season is the rainy season, which lasts from the middle of June to the middle of October, more than 80 per cent. of the yearly fever cases occurring during this period. The fever did not, however, begin with the rain, but only began to increase (from six cases in the whole of the previous month to fifteen cases in the week) when the continuance of heavy rains had raised the ground-water level from 28 ft. to 16·5 ft. from the surface. With further rises of the ground-water the daily admissions for fever still further increased, while subsequently the fever ceased when the water had receded to 17 ft. In the following year a similar sequence of events was observed.

A comparison of the monthly fever-rate and the monthly rainfall over a series of ten consecutive years at the same station brings out the same points, the fever not increasing to any extent until a month after the beginning of the rainy season. Furthermore, in exceptionally wet years the fever was unusually great and in years of deficient rainfall the fever-rate was also very low. The year 1892 was remarkable for an almost complete absence of the usual increase of fever in the rainy season. If a causative relationship is to be considered as existing between the prevalence of fever caused by the operation of rainfall in raising the ground-water and driving the specifically polluted ground air in piston-like fashion into the men's quarters, this exceptional year must be regarded as a crucial test of the relationship. Surgeon-Captain ROGERS shows how the events of this year fit into the general rule for three reasons. There was exceptionally little rain in the early months of the year and the rainfall of 1891 had been unusually little in amount and short in duration. Furthermore the rainfall of 1892 itself was not only below the average but was so evenly distributed that less than 12 in. fell in any one month. The coöperation of these different factors must have caused the ground-water to remain at a level too low to permit of the expulsion of the specific miasma from the soil. Assuming that during the wet season the cases of fever are caused by the driving of the malarial organism out of the soil and its subsequent reception by the soldiers (by what means this is effected is still unknown), it is evident that the cases occurring at the end of the wet season and during the subsequent dry season must have a different origin. During the first half of 1893 (the dry season) there was more rain than usual, but very little fever; in the same months of 1889 there was very little rain and considerable fever. Surgeon-Captain ROGERS is of opinion from the above facts, and from the further fact that during these months the water-level is always from 25 to 35 ft. below the surface, that there can be no connexion between the contemporaneous rainfall and fever cases in the dry months. It is otherwise, if the cases of fever in the dry season are compared with the rainfall of the preceding wet season, a definite proportion existing between these two. The cases of fever under the latter conditions are compared by Surgeon-Captain ROGERS with those occurring in the water-logged regions of the Gangetic delta, "where the infection takes place by the organisms being carried up into the air by evaporation of moisture from the soil." It is more than doubtful whether the quiet evaporation of moisture ever carries with it solid particulate matter such as infective material must be. But while doubt may exist as to the particular mechanism there is no reason to doubt the possibility of malaria soil—rapidly converted into dust by tropical heat—being conveyed directly into the system by the respiratory tract or through the agency of food. We cannot agree, moreover, with the suggestion thrown out that "if malarial fever may be contracted by the inhalation of the malarial organisms, why should they not be also breathed out again?" This simple theory is advanced as a more likely hypothesis than the more elaborate mosquito theory. Assuming that the plasmodium malariæ is the specific infective agent it seems to us that such elimination of the infective matter by the lungs is even more unlikely than that of the tubercle bacillus in a case in which there is tuberculous meningitis without any lesion of the lungs. The improbability is even greater than suggested in this comparison in view of the biological characters of the plasmodium and of the fact that it is lodged within the corpuscles of the blood.

Surgeon-Captain ROGERS appears to us to have established the fact that there is a causative relationship between certain movements and levels of the ground-water and the incidence of malaria. The mere coincidence of the two events does not prove this, though if this coincidence recurs without a break it would be justifiable to advance the supposition that the phenomena stand in the position of cause and effect. But, as already shown, the method of *concomitant variations* has been applied, indicating that exceptional circumstances as to position and movements of ground-water cause corresponding variations in the amount and duration of the outbreaks of fever. We may draw attention to a practical point arising out of the observations at Doranda in Chota Nagpur. At the very time that the ground-water had risen to within 5 ft. of the surface of the ground in the lines occupied by the regiment *it was 25 ft. down only 200 yards away*, the great rise under the lines being undoubtedly caused by a road along one side of the area which materially interfered with the flow of the surface water from it. Had the regiment been lodged on the neighbouring ground where the water was always 25 ft. or more below the surface it is almost certain that a large amount of suffering to troops and of loss of public money might have been avoided. When will the Indian Government and its advisers learn that money spent on systematic scientific inquiry will more than repay them in improved efficiency of, and diminished expenditure upon, their troops, and that at the same time the knowledge gained must have a gigantic influence for good upon the vast native and civilian population of India?

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A STRONG Departmental Committee of the Education Department, including Dr. SHUTTLEWORTH and Dr. W. R. SMITH, under the chairmanship of Mr. SHARPE, Senior Chief Inspector of Schools, which was appointed to inquire into the provision of education for feeble-minded and epileptic children, has just presented its unanimous report in which are a number of recommendations of great importance to the public and to the medical profession. Between the imbecile child on the one hand and the normal child on the other is a large class (estimated to be 1 per cent. of those attending the elementary schools) who are feeble-minded and unable to be educated abreast of other children. For this class "special classes" have been instituted in London, Nottingham, Bradford, and other large towns, and the experience of the working of these is so satisfactory that the committee recommend their adoption throughout the country. They recommend that attendance at these schools should be compulsory and that the school authorities should provide for conveying the children to and from school or for boarding them out in the neighbourhood when necessary. With regard to epileptic children they recommend—we think wisely—that there is no sufficient reason for separating epileptic children who do not show any mental defect from ordinary children, but that special provision should be made for those who show mental deterioration. These should be placed in special homes where their health could be cared for and education given suitable to their capacity. These homes might either be provided by the school authorities or the children might be sent to some other homes for epileptics and maintained there out of public money, a proceeding already legalised for deaf and blind children. These recommendations will require legislative measures before they can be carried out.

Other and no less urgent recommendations of the committee, however, do not give rise to the same necessity for new legislation, and the most important of these have reference to the discrimination between the educable and non-educable children and between the educable children who can go to the ordinary schools and those who require to be sent to the special classes. This work of discrimination should certainly be done by a medical man. But it is most desirable that the medical examination should be conducted and the separation into classes effected on some uniform plan, and the committee strongly recommend the appointment of an official medical adviser to the Education Department who should direct what steps should be taken to decide which children are defective or epileptic and on what grounds homes should be certified for the reception of epileptic or defective children. In cases of difference of opinion between the scholastic and medical authorities the question could be referred to this adviser, whose decision should be final. The proposal to establish a medical adviser to the Education Department is one which we hope will be carried out without delay. In addition to these very important questions with regard to defective children there are many others dealing with the health of school children, such as certification by outside medical men, on which it is most important that there should be representation at the Education Office of the views of the medical profession, which at present are often ignored. There will be little difference of opinion as to the desirability of having special schools for the feeble-minded in large towns, but in country districts where the population is scattered there will have to be a central school for each district, and it is intended that those children who live at a distance shall be taken from their homes and compulsorily boarded-out in the neighbourhood of the school. For so strong a measure public opinion is hardly yet ripe and it would be wiser to begin with the towns first.

The class with which this report deals is a large and, it would appear, an increasing one. If some provision is not made for the education of these children, at a later period they will be unable to obtain occupation and will either become a constant burden on the rates or will drift into the criminal classes. Although, as we have hinted, some of the recommendations are rather too bold for adoption at present, we hope that the report will result in a great extension of the work which has already been done in London and elsewhere in special training of defective and epileptic children, and that no time will be lost in appointing a medical adviser who shall decide on the exact methods to be adopted in carrying out the recommendations of the committee, and who shall be a permanent official of the Department.

Annotations.

"Ne quid nimis."

LONDON UNIVERSITY COMMISSION BILL.

THE second reading of this Bill was moved by the Duke of Devonshire in the House of Lords on March 4th, and supported by Lord Herschell and Lord Reay. The Duke of Devonshire enlarged on the representative character of the deputation which had lately waited on him and had pressed on him the urgency of the question. The most important statement in his speech was the following: "I am inclined to believe that such opposition as exists to the proposals of the Commission as embodied in this Bill proceeds from a certain number of gentlemen—whether many or few I do not know—who have taken their degrees at London University at remote periods or who have not been directly brought into contact with university teaching, or who have not been able to obtain much knowledge of the progress made in university teaching either in London or elsewhere, and who entertain some vague and, I think, utterly groundless suspicion that any change in the constitution of the University will, in some way, tend to disparage the value of the distinction which they obtained formerly and of which they are still justly proud." Surely the Government will not allow an opposition thus described to defeat the Bill. The Bill will probably not be introduced into the House of Commons, where alone the strength of the opposition can be estimated, until after the passing of the Irish Local Government Bill.

INQUESTS WITHOUT MEDICAL EVIDENCE.

THE practice of coroners holding inquests and of juries giving verdicts without any medical evidence being called seems to be upon the increase and a very notable instance has just occurred at St. Helen's. The inquest was held by the county coroner, Mr. S. Brighouse, on March 2nd, to inquire into the death of John Rattigan, aged forty years. On Feb. 27th Rattigan was kicked in the "stomach" by a horse. He was seen by Mr. O'Keeffe, who is reported as saying that he would be all right next morning, and he was then taken to the Providence Hospital, where he died on the morning of Feb. 28th. The cook to the hospital deposed that he was with Rattigan when he died, which was about midday on Feb. 28th, and that he was present because the sisters asked him to be so. A juror remarked that he thought they ought to have some medical evidence and the coroner said, "I think the jury will agree with me that we might have some more evidence from the hospital as to what medical attention, if any, he received from the time of his admission up to the time of his death. At Bootle, where I hold a great many inquests, and at other places, the nurse who attends a patient and who was present at death comes before us to describe his illness and sufferings and to give any other evidence that may be required. That would be far more satisfactory here than sending the cook." The jury returned a verdict of "Accidental death," but added that they were not satisfied with the evidence from the hospital. The Providence Hospital certainly seems to be conducted in a remarkable manner, but if we may judge by the coroner's remarks it does not stand alone among Lancashire hospitals. What evidence was there that this unfortunate man died from the injury caused by the horse? And why do the hospital authorities of Lancashire delegate the duty of giving medical evidence to those who are not qualified to give it?

MR. ALFRED RUSSEL WALLACE AND THE MEDICAL PROFESSION.

MR. WALLACE, despite the manner in which at different times he has suffered pulverisation at the hands of Dr. McVail, and in his cross-examination before the Royal Commission on Vaccination, has written yet another pamphlet, in which, under the title of "Vaccination a Delusion; its Penal Enforcement a Crime," he reiterates all his old arguments, all his old fallacies, and, be it added, all his old sins of omission. On this occasion he takes up an altogether independent attitude and he "appeals from the medical and official apologists of vaccination to the intelligence and common-sense of his fellow countrymen." So strong, indeed, seems his bias against the profession as a whole that he has, we infer, not even condescended to seek the most elementary assistance of those members of it whose names are household words amongst the anti-vaccinationists, and alone he sets forth to tread the thorny paths of medical science. Before the bottom of the very first page is reached a serious calamity befalls him and he tells his "fellow-countrymen" that typhus (obviously not a misprint for "typhoid") fever is believed to be communicated by specifically contaminated water. Surely after this we see why he deemed it inexpedient to appeal to the medical profession. In the next page or two Mr. Wallace flounders badly and under the heading of "Vaccination and the Medical Profession" he urges the old but obviously illogical argument that "as the profession has a pecuniary interest in perpetuating vaccination it can form no unbiased opinion upon the value of the operation." Can the author support this charge against the profession? Would nothing accrue to it if vaccination were abolished and small-pox substituted, as the medical profession believes it undoubtedly would be, in its stead Would not the treatment of one case of small-pox for, say, three weeks more than counterbalance in a pecuniary sense the vaccination of many children? What, too, has Mr. Wallace to say as to the action of the medical profession as a whole in promoting in such an obviously self-denying fashion the growth of sanitary reform, which has done so much, according to the anti-vaccinationists, to check small-pox? Will he charge the profession with obstructing sanitary progress and with specifically polluting water-supplies in order that typhus (!) fever may flourish? But we cannot, Mr. Wallace tells us, even count properly. There is much evidence, he says, to show that "doctors are bad statisticians and have a special faculty for mistaking figures" — and he implies that his own mental processes are in an altogether peculiar degree fitted for accurate statistical research. Let us verify this implication by reference to the evidence given by Mr. Wallace before the Royal Commission, noting, by the way, that at his first interview he committed so many errors that he asked to be allowed a second interview in order to correct and amplify some of his statements. His final leave-taking of the Commission may therefore be regarded as his ripened judgment and the acme of his knowledge upon all points relating to vaccination. It is generally accepted that the evidence with regard to small-pox and vaccination as illustrated in our small-pox hospitals is at least of some value, but Mr. Wallace seems to think such a study, to say the least of it, inconvenient. Here is a question put to Mr. Wallace by the Chairman on the occasion of his first examination:—

> (Q. 7069.) "Have you examined the statistics with regard to the Metropolitan Asylum Board's hospitals?" (A.) "I have not paid much attention to them."

Similarly upon his second visit to the Commission, when he returned especially to supplement his evidence he was asked by Sir William Savory—

> (Q. 9729.) "Have you gone into the question of the Fever Hospital?" (A.) "I daresay it would be instructive, but as I say, the subject would be so tremendously vast, and the time required to hunt up evidence would be so enormous, that unless one lived in London one could not do it; and I live 120 miles away."
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> (Q. 9730.) "But you have made your reputation by thoroughly sifting evidence before you came to a conclusion?" (A.) "Some kind of evidence."

Does this mean that it is Mr. Wallace's custom to omit such evidence as tells against any thesis he may be interested in developing? All Mr. Wallace's evidence may be found in the third report of the Commission and we commend it to our readers. They will then understand why Mr. Wallace speaks of the report as a "feeble report," and why vaccination "never saved a single life." It is narrated in Sir John Simon's "Papers Relating to the History and Practice of Vaccination" that a certain Prince Kaunitz forbade two words to be uttered in his presence: the one was "small-pox" and the other "death." We expect Mr. Wallace's best friends omit all reference to Dr. McVail or to the Royal Commission on Vaccination when in the presence of this distinguished expert on inductive and deductive methods.

WATER-BORNE ENTERIC FEVER AT ILLOGAN.

DR. A. E. PERMEWAN, the medical officer of health of the Redruth rural district, has recently issued a concise report upon an outbreak of enteric fever at Illogan, and the condition of affairs revealed is such as to make us ask why these things have been allowed to continue until an epidemic brought them into public notice. The infected water was supplied by the Camborne Water Company, who have, it appears, two sources of supply—one at Curgenwyn and the other at Boswyn—while a common main conveys the water to Illogan and to Camborne, at which latter place there was a severe outbreak of enteric fever simultaneously with that at Illogan. The Curgenwyn water is collected into three storage reservoirs which are fed from a spring in the hill above. Reservoirs Nos. 2 and 3 are, we are told, properly protected against pollution, but No. 1 reservoir, which is the lowest and through which the water from Nos. 2 and 3 has to pass before it reaches the main, is apparently liable to be specifically polluted at any moment by means of the drainage from Curgenwyn entering the leat which conveys the water from the spring to the reservoir. How long this evil has been seen we are not told. The state of affairs at the Boswyn source of supply was, unfortunately, no better. Here water is stored in an open cemented tank fed by means of a pipe from some deep springs near. By the side of the tank there runs a stream which carries off the surface water from the watershed, and which water was, as occasion required, turned into the tank by means of a arranged for the purpose. At one of the cottages in this catchment area there is no closet whatever and excrement is thrown round about on the surface of the ground. Close to this cottage is a pool of stagnant water into which heavy rains wash the excrement referred to and from which in times of storm there runs a rivulet which enters the stream passing, and at times partly supplying, the Boswyn tank. The rest of the story is simplicity itself. In October and November three cases of enteric fever occurred at the cottage on the pool; the excrement was deposited round about, was washed into the pool, and so eventually into the Boswyn tank. In Camborne and Illogan enteric fever—obviously water-borne—soon appeared; the stream water was intercepted, the Boswyn tank disused, and the fever ceased. Now the "water company is taking steps to prevent any further pollution of their service." Into the outbreak of enteric fever at Camborne Dr. Bruce Low has recently inquired and we shall doubtless soon have the pleasure of noticing one of his masterly reports with which we are now so familiar; we trust, too, that his report will contain a map of the district concerned. But how many other water companies have gathering grounds, springs, reservoirs, and other devices like unto this?

MEDICAL CORONERS.

AN election is about to be held for the office of coroner to the Stockton Ward of Stockton-on-Tees. Among the candidates is Mr. W. J. Beatty, L.R.C.P. Edin., &c. Another candidate is a lawyer. There can be, of course, no question as to which of these two gentlemen is the more suitable candidate for the office. A coroner should always be a medical man. Not only is it his duty to hold an inquest into the cause of death—a function essentially medical—but it also rests with him to decide whether a death is natural or unnatural, whether the cause of a sudden death is known or unknown, and whether a death has or has not been a violent one. Again, in the matter of viewing the body the coroner, if a medical man, may gain some valuable information from the mere appearances which the corpse presents—appearances which would be a sealed book to any but a medical man. A useless inquest is not only a travesty of law, but it inflicts unnecessary pain upon the relatives of the deceased and trouble upon the jurors which might well be spared. or all these reasons it is most desirable that the very responsible office of coroner should be held by a medical man and we most sincerely hope that the electors of the Stockton Ward will think so too.

HOSPITAL REFORM.

THE Bradford and District Medico-Ethical Society, a body which has done excellent work for the medical profession in fighting the Bradford School Board on the certificate question and in many other ways, has been moved by the recent occurrence of the annual meetings of subscribers to medical charities to make a pronouncement upon the question of hospital abuse. In a letter to the local press the society points out what cannot be too often pointed out, that nearly all hospitals give as reason for support the fact that the number of patients seeking relief increases year by year. This is a false argument, for "the largeness of the crowd in the hospitals is no indication whatever of the value of the work done by them." This, of course, is perfectly true, but the difficulty is to get the public to see it. An increase in the number of patients of a thousand or so a year and a certain amount of debt are the means by which an ordinary hospital lives—the debt especially is an excellent lever for extracting guineas from the charitable. And yet the Bradford society says the present incomes of the Bradford charities are sufficient and even superabundant if only the suitable and really poor cases were treated. The society goes on to refer to the harm done by the penny-a-week system of subscriptions; from being a purely voluntary subscription this penny has come to be in many cases a compulsory one and is looked upon as giving to him who pays it an absolute right to treatment for any ailment, however trivial, and also the right to attend for any length of time. The Bradford society concludes by imploring the public to consider these matters. We only hope it will, and that not only in Bradford, for the reform of hospital abuse rests with the public more than with anybody else. The Hospital Reform Association has, we are glad to see, addressed a memorial to the Governors of the Cardiff Infirmary, whose annual meeting was held on Feb. 28th. This address lays stress upon the same points as those dealt with by the Bradford society and was, we trust, not without its due effect upon the minds of the Governors.

THE NOTIFICATION OF MEASLES AT BLACKPOOL.

SINCE as far back as the year 1879 measles has been notifiable in Blackpool and an epidemic of this disease during 1897 has led Dr. Jasper Anderson, the medical officer of health of the district, to compile an interesting report, which he has recently presented to his sanitary authority. It may be noted that Blackpool at the census of 1891 had a population of 23,846 and since that date it has materially increased. From 1880 the notifications of measles have been as under:—

—	Cases.	Deaths.
1880	119	3
1881	4	—
1882	266	17
1883	16	1
1884	68	2
1885	130	2
1886	233	10
1887	37	—
1888	88	5
1889	180	2
1890	173	8
1891	248	10
1892	48	—
1893	122	4
1894	320	6
1895	106	2
1896	147	4
1897 (to Sept. 4th) ...	732	22

It is, however, necessary to bear in mind in studying these figures that since 1891 more care has been taken by means of house-to-house inspection to discover cases of the disease in question. The epidemic of 1897 began, it seems, with imported cases, Blackpool as a resort of pleasure for a large and scattered population being especially liable to these introductions of disease from without. Measles when introduced soon spread and in the week ending April 17th no less than sixty-six cases were notified. On April 21st all the public elementary schools with one exception were closed, and a fortnight after this the week's notification fell to thirty-six, the numbers continuing to decrease until a localised outbreak caused a further rise. Dr. Anderson furnishes evidence to show that the scholars of different schools became infected one after another and the fact that "explosions" of the disease occurred in connexion with the scholars from particular schools supports a thesis that infection was actually contracted at school. The fatality-rate of those attacked during the first year of life was no less than 14·6 per cent., in the second year 11 per cent., in the third year 4·3 per cent., in the fourth year 1·2 per cent., and in the fifth, be it noted, 3·3 per cent. Above this age there was but one death and that in a pregnant woman, aged thirty years, who was confined on the fourth day of the disease. It is an interesting fact that the child was born with the eruption of measles and died when thirty hours old. When a case of measles is notified in Blackpool the measures taken are nearly identical with those practised in connexion with scarlet fever—i.e., the infected house is visited and isolation enjoined, and notices are sent to the schools if necessary, to the public library, and to the laundry involved. Memoranda are forwarded to the head of the house setting forth the penalties for the exposure of infected persons or things, and the precautions necessary to be taken when (*a*) the patient remains at home, and (*b*) the patient is removed to hospital. The school attendance officer is furnished with, and supplies, any necessary information, and when a fortnight from the onset of the rash has elapsed an inspector calls to ascertain if disinfection can be carried out. From among the 732 cases which occurred 64 were removed to hospital, there being out of these 64 patients but one death. In the invaded houses there were 833 children under fourteen years of age who were exposed to infection, and of this number 351 had previously suffered from the disease. Of the 482 children who had not before had measles 179 contracted the disease, while of the 351 who had previously been attacked only 17 became affected. Dr. Anderson considers that the methods of prevention adopted led to good results inasmuch as of the 482 children presumably susceptible to measles only 179 contracted the disease, or, as he expresses it, 303 children were prevented from developing measles. Perhaps, however, it would be more correct to say that the 303 children were shielded from the continued exposure to infection. The evidence that the fatality-rate of the disease was diminished by the efforts of the sanitary authority is very strong, as it appears that in the neighbouring town of Fleetwood with a population in 1891 of 9274, which was invaded simultaneously with Blackpool, there were during the second quarter of 1897 30 deaths from measles, whereas in Blackpool there were but 19 deaths. In Fleetwood there is no compulsory notification of this disease.

THE EFFECT OF STETHOSCOPIC PRESSURE IN PHYSICAL EXAMINATION.

IN the *New York Medical Journal*, Dec. 4th, 1897, Dr. Henry Sewall has called attention to the modifying effects of pressure on the sounds heard in the use of the binaural stethoscope and its value in the physical examination of the heart. It is strange that some of Dr. Sewall's observations with regard to an instrument in such constant and universal use have not been anticipated. The sounds heard in auscultation are made up of two elements—those emitted by the body which originates the vibrations and those which arise from resonance. If a watch be suspended in a small box from one of its sides and a binaural stethoscope passed lightly over the outer surface of that side the watch will be heard loudly everywhere, but if the bell is applied with increasing pressure the sound gradually dies out and usually fails except opposite the area of contact with the watch. But with the straight wooden stethoscope the effect of pressure is rather to increase the sound. The explanation of the difference is that sound is conducted by the stethoscope itself in the case of the wooden instrument and by the contained air in the binaural instrument. Pressure on the former has only the effect of increasing the contact of the rim, on the latter it damps the vibrations of the surface included by the border of the bell which are the chief source of the sound conducted by the inclosed air. In the normal chest, pressure on the chest piece of the binaural stethoscope placed under the second right costal cartilage obliterates or reduces the second sound; at the apex the first sound is maintained, though altered in quality and diminished in intensity from obliteration of resonance tones. This observation is of practical importance, for a feeble contraction may give rise to a powerful resonance note when the fundamental tone of the thorax is a harmonic of the first sound, the elimination of which will enable a better idea to be formed of the energy of the heart. The outline of the heart may in many cases be determined with greater certainty by stethoscopic pressure than by other means, by noting the diminution of sounds when the border of the ventricle is passed; similarly the retention of sounds to the right of the sternum indicates close contact of the heart and enlargement of its right side. Dr. Sewall puts forward provisionally the following conclusions as to the results of pressure in the use of the stethoscope. Powerful basic systolic inorganic murmurs disappear. Aortic direct murmurs disappear at the apex, but the mitral direct is strongly preserved though it fails in its area of transmission towards the axilla. The presystolic and tricuspid regurgitant murmurs are well preserved. The aortic regurgitant murmur is annulled at the second right cartilage unless there is aneurysm or dilatation of the aorta, but is preserved at the apex. Pleural and pericardial friction sounds are intensified; this fact has proved useful in the analysis of the subcrepitant crackles so commonly found in pulmonary disease. Whatever may be the position of Dr. Sewall's conclusions in the future he has certainly done a service in calling attention to the subject if only by pointing out an unrecognised source of fallacy in the estimation of sounds.

THE HEAT OF THE INCANDESCENT ELECTRIC LAMP.

The incandescent electric lamp is essentially a device which transforms electricity partly into light but mostly into heat. As is well known the carbon filament of the lamp is a substance offering great resistance to the passage of the current and the product of this resistance is light and heat. It is an instance of the translation of one form of energy into another. It may not, however, generally be known that the light produced is but after all only a small percentage of the energy thus manifested—some 5 or 6 per cent. only at the most. This fact is very important, bearing in mind a very common notion that the electric incandescent lamp is free from the heat rays. It is true that the lamp when working is not comparable with a flame or naked light, but at the same time the heat evolved is such as may lead to ignition. We are disposed to emphasise this point because the incandescent electric lamp is used for the purposes of illumination and decoration in shops without any regard to the possibility, nay, probability, of fancy goods being fired which happen to be contiguous. Indeed, so firm is the idea that the incandescent electric lamp is free from heat that it is frequently to be found buried in a mass of easily ignited and highly inflammable material. This is a mistake and care should be exercised with the electric lamp in its application in this connexion, but the risk, of course, is not so great as where naked lights are employed. We have found by experiment that on immersing a 16-candle power lamp (100 volts pressure) in half a pint of water the water boils within an hour and in proportionately less time when a 32-candle power lamp is substituted. If again the lamp be buried in cotton-wool the wool soon begins to scorch and ultimately to burst into flame. In one experiment which we tried the bursting into flame of the wool was accompanied by a loud report, due to the *im*plosion of the lamp. It clearly appears from this that the incandescent electric lamp cannot be regarded as an unlikely means of starting a serious fire, and shopkeepers, especially those who exhibit highly inflammable fabrics, should know that there is risk in placing such goods too close to the lamp. The lamp in contact with celluloid fires it in less than five minutes and therefore the danger is particularly obvious in the case of toy-shops where electric incandescent lamps are often suspended in the midst of toy celluloid balls.

THE SALE OF CARBOLIC ACID.

Legislation is at length to be directed to some restriction at any rate being placed upon the present indiscriminate sale of carbolic acid. It would appear from a reply given by the Home Secretary in the House of Commons on Tuesday that the Privy Council, while not thinking it expedient to include carbolic acid in the schedule of the Pharmacy Act, are of opinion that regulations should be made with regard to its sale and the sale of other poisonous substances, and in accordance with the promise given have prepared a Bill for the purpose which will shortly be introduced. Carbolic acid has only too frequently afforded an easy means of self-destruction and the number of cases of poisoning with this acid has increased alarmingly, as we have again and again pointed out, during the last few years. We hope that the Government will be expeditious in this matter in view of the great need there is for the passing of such a measure.

THE PLENUM SYSTEM OF VENTILATION APPLIED TO HOSPITALS IN HOT CLIMATES.

The application of the plenum system of ventilation to hospitals in places where hot seasons are encountered, as in India, opens up some points of great interest to the profession. We have already described in some detail the system as applied to the Birmingham General Hospital.[1] The advantages of the system in this case were pointed out and the possibilities of the system being utilised for the cremation of infected out-going air were also indicated. The application, however, of the plenum system of ventilation to hospitals in hot climates seems to us to suggest further advantages, and the proposal to adopt the system at the new General Hospital for Europeans in Calcutta is, considering the unfavourable conditions of such a climate with respect to the nursing and recovery of patients, a step in the right direction. The plenum system as opposed to the extraction system affords a much better chance of controlling the conditions in regard to temperature and humidity of the air in the wards. In England the temperature aimed at is, of course, as far as possible a constant one, but obviously in the winter the in-going air must be warmed. In hot climates it will be possible to reverse this process—that is, to cool the air and at the same time to reduce the moisture when excessive. By one and the same process the cooling of the air and the reducing of its humidity are effected, and those who attend the sick in hot countries know the great boon which these conditions when secured must confer upon the patient. The new General Hospital in Calcutta is being built at an estimated cost of £120,000, and it is hoped that the building will be completed in about five years. It is proposed, as we have already indicated, that the hospital should be ventilated during the hot and rainy seasons by cooled and dried air. During these seasons Calcutta has a climate of which the chief features are a temperature varying from 85° to 95° F. and a humidity which frequently reaches 90 per cent. The supply of air under constant conditions in regard to temperature and humidity must minister largely to the relief of patients suffering from cutaneous diseases and from an exhausted nervous system. Again, by this system the air is filtered and insect pests such as mosquitoes will be excluded. Punkahs can be dispensed with and patients under the salutary conditions of the air supplied to them will be free from excessive perspiration, from prickly heat, and from exposure to variations of temperature. This application of an artificial means of ventilating a hospital placed under widely divergent climatic conditions will be watched with interest, and we re inclined to think that the results will be satisfactory.

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[1] The Lancet, May 11th, 1895, p. 1203.

THE PHARMACY ACTS AMENDMENT BILL.

The first object of this Bill is, as the memorandum states, "to render persons who have passed the first or preliminary examination required by the Pharmacy Acts, and who are consequently registered as 'apprentices or students,' eligible to become student-associates of the Pharmaceutical Society of Great Britain instead of students as heretofore." The majority of the students of the society were not educated in the society's school, and the term has been consequently, therefore, incorrect and misleading. Other objects are to render every person whose name appears on the Register of Chemists and Druggists eligible to become a member of the society, and to alter the existing conditions under which the council of the society is elected and constituted. Two-thirds of the persons entitled to keep open shop as chemists are ineligible to become members, and they consequently have no direct representation on the council of the society. By the third clause of the Amendment Bill it is enacted that "every person who at the time of the passing of this Act shall have been registered as a chemist and druggist, or who shall hereafter become registered as a chemist and druggist, shall be eligible to be elected a 'member' of the society according to the by-laws thereof."

CORONER'S INQUESTS IN LIVERPOOL IN 1897.

In the return of inquests held before Mr. T. E. Sampson, coroner of Liverpool, during the year 1897 the total number of cases of death reported to, and investigated by, him amounted to 1666. In 633 cases inquests were deemed unnecessary. The total number of inquests held was 1033, including 640 males and 393 females. Of legitimate infants under one year there were 110 males and 98 females; and of one year and under seven years 59 males and 47 females. Of illegitimate infants (or unknown) under one year there were 7 males and 6 females; and of one year and under seven years only 1 female. Of children of seven years and under sixteen years there were 35 males and 17 females. Of youths of sixteen years and under twenty-five years there were 0 males and 16 females. Of adults of twenty-five years and under sixty years there were 294 males and 140 females. There were 85 males and 67 females of sixty years and upwards. In the case of one female the age was unknown. Post-mortem examinations were made by order of the coroner in 91 instances. Verdicts of murder were returned against 2 males and 1 female; and of manslaughter against 1 male and 6 females. 51 males and 22 females committed suicide whilst temporarily insane or otherwise. Verdicts of accidental death were returned in the cases of 243 males and 147 females. Injuries (causes unknown) accounted for the deaths of 25 males and 9 females. Of those suffocated whilst in bed with parents or otherwise there were 83 males and 83 females. Found drowned, there were 15 males and 8 females. Found dead (where the cause of death was unascertainable), there were 2 females. 129 males and 70 females died from excessive drinking. 2 males and 1 female died from disease aggravated by neglect by others. Want, cold, and exposure caused the death of 3 males. 1 male infant and 1 female infant died from want of attention at birth. 79 males and 40 females died from natural causes and 2 males and 2 females from other causes. 3 males and 1 female were stillborn. As regards newly-born infants 2 were males and 2 were females.

OUT-PATIENTS' INCONVENIENCES.

There can be no doubt that much of the inconvenience which besets the attendance of out-patients at the metropolitan hospitals is the necessary consequence of their number. We hear complaints that hours have been consumed in waiting, but the objectors are apt to forget that clinical examinations cannot be carried out by a glance or a dash of the pen. All avoidable delay should of course be prevented as much in the interest of the hospital and its officials as of patients who have ties of duty elsewhere. After every effort, however, enough time must be allowed for careful and efficient treatment. A contemporary reminds us of another and a somewhat serious inconvenience which constantly arises in this connexion—namely, that of waiting outside the hospital gate for admission to the waiting-room. This is a grievance which might as a rule be easily remedied by opening the gate half an hour or so earlier than is now customary. We are aware of no objection to such a course. An out-patient waiting-room is less vulnerable than almost any apartment and is not likely to receive any serious damage at the hands of its ailing frequenters. The experiment of earlier opening should certainly be tried and it is certain that the health of many patients would gain by this considerate reform.

PHARYNGEAL ABSCESS UNCONNECTED WITH SPINAL DISEASE.

In the March number of the *Phonographic Record* Dr. James Adam draws attention to a little-known and seldom diagnosed condition which is most common, in his experience, in young children. Dr. Adam has seen three such cases of pharyngeal abscess and refers to the case of the child of a "well-known and brilliant surgeon," thought by the parent and those in attendance to be suffering from meningitis until the spontaneous rupture of a pharyngeal abscess revealed the nature of the case. The disease, says Dr. Adam, is very insidious and the signs of it have to be searched for. The child is not very ill; the mother says the patient seems occasionally to have some difficulty in swallowing or breathing. The respiratory difficulty is not marked, especially at first, and the attack may pass off. Although summoned urgently the practitioner may see little to excite alarm. There may be no difficulty of breathing; the child is pale rather than livid. There is probably a slight rise of temperature and there is a slight enlargement behind the angle of the jaw on one side. A closer examination of the mouth will reveal nothing. In every case where a child is suffering from subacute, subfebrile enlargement of glands at the angle of the jaw, where no cause can be found anterior to the pharynx, the pharynx ought to be inspected, or, if it cannot be seen, palpated with the finger inserted in the child's mouth. If an abscess is found a puncture with a guarded bistoury cures the case. Of the superiority of digital exploration over visual examination of the pharynx there can be little doubt. Had it been recognised and practised adenoid growths would have been known to the older generation of surgeons, whilst we know of the case of an elderly woman who went from one practitioner to another and was told by each that there was nothing serious the matter, until she fell into the hands of one who, struck by the persistency and evident sincerity of the woman's complaints about her throat, passed his finger through her mouth and found the pharynx encroached upon by a mass of malignant disease bulging in the posterior wall. And yet to the eye the appearance of the throat suggested nothing abnormal.

THE HEALTH OF THE QUEEN.

WE are glad to be able to state that the Queen is in her usual health and leads her ordinary life. The fact that, notwithstanding the somewhat serious rumours which were prevalent, Her Majesty has been able, even in the present cold weather, to go out in an open carriage, should have been sufficient to allay any uneasiness in the public mind. The dissemination of incorrect and unauthorised reports regarding minor ailments is much to be regretted and may be the means of causing much harm and unnecessary anxiety.

MEDICAL OFFICERS AND BOARDS OF GUARDIANS: ANOTHER HARD CASE.

IN our issue of Feb. 19th, at page 522, we commented on the case of Wood *v.* The Stowmarket Guardians. We have since received particulars of another case in which the medical plaintiff was likewise non-suited in an equally legal and equally inequitable manner. The facts of the case are as follows. A tramp applied to Mr. Ord, of Mildenhall, Suffolk, for treatment. It was found that the tramp had a dislocated shoulder which Mr. Ord reduced, and then sent the tramp to the relieving officer for an order which he obtained and brought back to Mr. Ord. This occurred on Aug. 24th, 1894. Mr. Ord sent in his claim in September, but the guardians never answered in any way; they neither refused nor allowed the claim. After writing several letters Mr. Ord wrote to the Local Government Board and received an answer on May 24th, 1895. He brought his action in July, 1895, and naturally enough was non-suited on account of the time limit. As in Dr. Wood's case the latest date at which liability for payment ran was Dec. 29th. Both these gentlemen were non-suited strictly according to law, but we should very much like to know if there is no way of recovering the fees.

A STREET DANGER.

EVERYBODY knows how well the vehicular traffic of the City is managed and controlled by the police and the arduousness of their task increases day by day. This is a matter which largely affects the interests and well-being of the pedestrian public and therefore it is of the utmost importance that the police in carrying out their duty should not in any degree be handicapped. There is, however, a source of danger in certain parts of the metropolitan streets which the police cannot possibly avert. We allude to those crossings near to which a railway bridge is situated and over which there is considerable railway traffic. Let the case of Ludgate-circus be taken, for example. It is frequently necessary to stop at the foot of Ludgate-hill the traffic going westwards from the City to enable the traffic going north and south to pass. In our own experience, while the traffic thus going westwards happens to be stopped and the street is crowded with vehicles and horses a train passes over the railway bridge immediately above. Even if a whistle does not happen to be sounded there is a most distracting noise set up by the train passing over the bridge such as is admirably calculated to frighten a horse and to cause it to rear, "back," or "bolt." This may obviously lead to very serious results, and we remember on one occasion a policeman on duty being knocked down and seriously injured by the eccentricities of a horse thus startled. The chance of such an occurrence exists every day and it is possible for it to happen almost every five minutes. Cannot something be done to the permanent way of railways on railway bridges situated close to a congested line of street traffic so as to reduce such risks to a minimum? Surely engineering is not so far without resource and skill as to make the silencing of railway traffic in these particular localities impossible. We are certain that the police on duty at these points will agree with us as to the dangers to which a proximity of railway traffic in the way described exposes them and the public at large.

DEGENERATION OF THE SPINAL CORD IN LEUKÆMIA.

IN a recent number of the *Deutsche Zeitschrift für Nervenheilkunde*[1] Dr. Nonne, of Homburg, describes a condition which he found in two cases of leukæmia—viz., small patches of degeneration of parenchymatous character scattered over the surface of a spinal cord section. There was no affection of the grey matter or of the vessels. In one of the cases there was a slight sclerotic change in the posterior columns. There were apparently no nervous symptoms corresponding to these changes. In a succeeding number of the same periodical Professor Schultze, of Bonn, points out that as long ago as 1884 he had described changes identical with those mentioned by Dr. Nonne, as occurring not only in leukæmia but also in chronic nephritis. He also mentions that the degeneration of the posterior columns of the cord recently described in association with anæmia was long ago described by Simon as occurring in phthisis in the first and second volumes of the *Archiv für Psychiatrie*.

ANNUAL DINNER OF THE MEDICAL SOCIETY OF LONDON.

THE 125th anniversary dinner of the Medical Society of London was held at the Hôtel Métropole on March 9th, the President, Dr. Sansom, being in the chair. About 140 Fellows and their guests sat down, and among the latter were the Servian Minister, the Hon. Sydney Holland, Mr. McConnell, Q.C., Dr. Clifford Allbutt, Mr. Victor Horsley and others. The usual loyal toasts having been honoured, the toast of "The Medical Society of London" was proposed by Dr. Goodhart, and responded to by the President. The toast of "The Sister Societies," proposed by Dr. John Anderson, was acknowledged in an eloquent and humorous speech by Dr. Swanzy, the president of the Ophthalmological Society of the United Kingdom. Mr. Alfred Cooper proposed "The Visitors," on whose behalf the Hon. Sydney Holland and Dr. Griffith, the Master of the Society of Apothecaries responded. Mr. W. R. McConnell proposed "The Health of the President," which was received enthusiastically. "The Health of the Officers and Council" was proposed by Mr. F. C. Wallis, Dr. Frederick Roberts and Dr. Robert Maguire, the senior honorary secretary, replying. An excellent musical programme had been arranged by Dr. Maguire, which contributed greatly to the enjoyment of the evening.

ABSCESS OF THE BRAIN.

AT a recent meeting of the New York Neurological Society Dr. Peterson showed a specimen which is of considerable interest as illustrating a risk in connexion with cerebral abscess which is apt to be overlooked. The risk is that although the abscess may give rise to the most obtrusive symptoms other collections of pus may be present and may be unsuspected. The patient was a man, forty-one years of age, who had struck his head on a rusty spike and fractured his skull. The skull was trephined but the dura mater was left untouched. For two weeks after this the patient remained fairly well. He then gradually developed left hemiplegia with hemianæsthesia. There was neither aphasia nor involvement of the face or tongue. But there was left hemianopia and the fundus was "cloudy." Under the supposition that an abscess was present the skull was opened in the parietal region and an abscess was tapped and drained deep in the substance of the hemisphere. There was rapid and considerable improvement in the paralysis, but a few days later the patient became suddenly worse and died. There was no meningitis, but deep in the right hemisphere an abscess as large as a hen's egg was found. It is not definitely stated that this was a separate abscess from that which was tapped and drained or whether it was the result of a re-accumulation in the old cavity. Presumably it was the former, and the case shows that just as abscess in the brain in connexion with ear disease may be multiple so suppuration arising from another cause may occur in more than one place, so that evacuation of one abscess may not always be sufficient to save the patient's life.

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[1] Neurologisches Centralblatt, Feb. 15th, 1898.

A CONGRESS of Gynæcology, Obstetrics, and Pædiatrics will be held at Marseilles from Oct. 8th to 15th, Professor Pinard, Professor Pozzi, and Professor Broca respectively presiding over the three sections in the order named. A member's subscription is 20 francs (16*s.*). Intending readers of papers are requested to communicate before Aug. 1st with the general secretary, Professor Queirel, 20, Rue Grignan, Marseilles.

AT a meeting of the Council of University College held on March 5th Mr. J. S. Risien Russell, M.D. Edin., F.R.C.P. Lond., was appointed assistant physician to University College Hospital. Dr. Charlton Bastian was appointed consulting physician to the hospital and the title of Emeritus Professor of Medicine and Clinical Medicine was conferred on him.

THE Secretary for Scotland, Lord Balfour of Burleigh, has approved the appointment of Professor John Glaister, M.D. Glasg., of St. Mungo's College, Glasgow, to the vacant chair of Forensic Medicine in the University of Glasgow.

THE members of the United Faculties' Club of the University of London dined together at the Hôtel Métropole on Wednesday last. Sir Joshua G. Fitch presided and about forty members and guests were present.

H.R.H. THE DUKE OF CONNAUGHT, President of the City of London Hospital for Diseases of the Chest, Victoria-park, E., will preside at the festival dinner of the institution on May 12th, at the Hotel Cecil.

THE late Mr. Henry William Freeman, F.R.C.S. Irel., of Bath, has bequeathed by his will £1000 to the Middlesex Hospital "for the development of obstetric scholarship."

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—An examination for the certificate of this Association in nursing and attendance on the insane will be held on Monday, May 2nd, 1898. Candidates should obtain from Dr. Spence, Burntwood Asylum, Lichfield, a schedule to be filled up, signed, and returned to him four weeks prior to the date of the examination.

STROUD DISTRICT NURSING ASSOCIATION.—At the annual meeting of this association it was stated that 2240 visits had been made during 1897, about half of which had been quite free to the poor, whilst for more than 500 others only a nominal sum had been charged. The balance sheet showed that £138 had been raised, and there was a balance in hand of £2. The cost of furnishing the new home amounted to £153.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fourteenth meeting of the Royal Commissioners was held at the Westminster Town Hall on March 7th.

All the Commissioners were present with the exception of the Right Hon. John William Mellor, M.P. Sir George Barclay Bruce left soon after the resumption of the sitting.

The whole of the sitting was occupied by the examination of Mr. W. H. Dickinson, chairman of the Water Committee of the late London County Council. In the course of the examination the witness said that he was not sure that the newly-elected Council would take exactly the same views which he had expressed as being those of the late Council with regard to the various matters concerning arbitration. With regard to the memorandum which he had drawn up for the guidance of the Council in the year 1891 he said that the calculations he had then made were "not very serious." These calculations, it may be remembered, had reference to the purchase of the water undertakings, which were then roughly valued at £30,000,000.

Mr. DICKINSON was examined at some length with regard to the views of the late Council on the purchase of the undertakings of the water companies. He said that there was a difference of opinion between the parties into which the Council was divided as to the advisability of their purchase by the Council. The Moderate party objected to the purchase because if the undertakings were bought and the Council were placed, as it were, "in the saddle" they would not readily part with the property which they had obtained and that the temporary possession of it might prejudice the decision as to the ultimate management of the London water-supply. A Parliamentary Committee of the London County Council was instructed to prepare a Bill for the purchase of the undertakings and an arbitration clause was introduced to the following effect:—

> The consideration to be paid by the Council for the transfer of the undertaking (if determined by arbitration) shall be such sum of money as the arbitrators determine to be the fair and reasonable value of the undertaking having regard to all the circumstances of the case. In ascertaining this sum the arbitrators may receive all evidence and consider all contentions that may be urged on behalf of the Council and of the companies respectively as affecting the value of the undertakings and shall have full power to deal with the same or any of them in such manner as they in their absolute unfettered discretion may think fit. But no allowance shall be made for compulsory sale except so far as the arbitrators may award to meet the cost of re-investment.

Bills were drafted for the purchase of the businesses of the eight water companies by the Council. The Bills were presented for the second reading in the House of Commons in March, 1897, but were opposed by the Government and rejected. During the last session of Parliament Bills were promoted by the New River, East London, and Southwark and Vauxhall Companies and these were passed. After the appointment of the present Royal Commission the Water Committee prepared a series of resolutions which they believed would represent the opinion of the large majority of the Council. These resolutions were given by Mr. Cripps, the Parliamentary agent of the London County Council, at an earlier sitting of the Commission. Mr. Dickinson contended that the arbitrators should not be precluded by legal objection from examining all the circumstances of the case with regard to the undertakings of all the companies. He did not wish it to be understood that he thought that the arbitrator should have power to override Acts of Parliament, but he insisted that the arbitrator should consider the equity of the case in every individual instance.

In answer to Mr. CRIPPS Mr. Dickinson said that the arbitrator should have the largest possible power and that he should be unfettered and should have the greatest possible discretion allowed him. If the undertakings were not purchased Mr. Dickinson thought the companies should be placed under more strict obligations. He contended that Parliament in the year 1852 had not foreseen that the profits made by the water companies would be so great as they have been since that date, and he was of opinion that had the enormous increase in the rateable value of property been foreseen the statutory privileges given to the companies would have been withheld. The witness thought that if the present companies were to go on with the water-supply it would be necessary before any measures of control were carried out that the position of the companies should be reviewed with regard to their capital, to the charges they are allowed to make, and to the dividends they pay to their shareholders.

The CHAIRMAN asked the witness whether if purchase were carried out without this revision it would not be disadvantageous to the ratepayers. The statutes "unhappily" allowed the charges which were made by the companies for the water which they supplied. He asked the witness a number of questions with a view to elicit from him the manner in which he had in the year 1891 arrived at the conclusion that if the companies were bought out at the price of £30,000,000 the result to the water consumers would probably be an increase in the water-rents to the extent of about 30 per cent. Mr. Dickinson said that his calculations were not very serious, and that he did not possess a copy of them or a record of the method by which his results had been obtained.

Mr. CRIPPS suggested that Mr. Dickinson did not wish to be pinned to the memorandum, and the CHAIRMAN said that although he understood that the witness now repudiated his memorandum of 1891 he wished to be in a position to judge whether the conclusions at which he had then arrived were justified.

In answer to the CHAIRMAN, Mr. Dickinson said that if the undertakings of the water companies were bought an outlay of fifteen or sixteen millions above the purchase price would soon be necessary in order to commence the Welsh scheme.

In answer to Major-General SCOTT the witness said it would be necessary in order that the new supply should be ready by 1931 that they should begin to construct the works ten or twelve years before that date.

In answer to Mr. LE BOCK PORTER, Mr. Dickinson said that no resolution had been passed by the London County Council on the question of the control of the companies and that the Council had never had before them any definite scheme of control. They had, however, come to the conclusion that control would effect no permanent solution of the difficulty and that there would be no finality unless the undertakings of the water companies were purchased.

Major-General SCOTT pointed out that if there had been defects in the water service it appeared to him that they would have manifested themselves in detail and that cases would have arisen for the London County Council to bring into force the powers which they already possessed, and he asked how it was that the Council had not found occasion to use those powers. In reply Mr. Dickinson said that the companies had performed their duties better since the London County Council came into existence and that there were difficulties in the way of prosecution. The Chairman suggested that the difficulty appeared to be that the Council were unable to prove their cases. Mr. Dickinson thought that information with regard to the working of the companies' undertakings should be given to the Council. They had asked to be allowed to inspect the system of filtration adopted by the companies and had been refused. Witness thought also that they should know at what pressure the water was supplied and he said they had no means of knowing.

Major-General SCOTT asked some questions which showed the possible difficulties which would arise with regard to the distribution of the water between the Council and the extra-metropolitan authorities and

Mr. CRIPPS examined the witness at some length with regard to control. The witness said the Council had the powers which were formerly possessed by the Metropolitan Board of Works and that they had also the power of opposing Bills in Parliament and he admitted that the Council had spent a large sum, £38,000, in Parliamentary expenses, and that there had been much friction between the Council and the water companies. Mr. Cripps suggested that they had led a "cat and dog" life during the whole period of the existence of the London County Council and he asked Mr. Dickinson whether it would not be well if possible to put an end to that state of things. Mr. Cripps pointed out that under the Act of 1871 a water examiner and a public auditor were appointed. Mr. Dickinson said that with regard to the auditor's report he thought it would be well if the Council had power to be represented before the auditor. He thought also that the Council should have information with regard to the amount of water which was supplied for trade purposes and for private supplies. They had applied to the Local Government Board for information on this point and the Board had replied that it would involve too much trouble.

Mr. CRIPPS asked the witness if he did not think that the Act of 1852 was really an Act directed against competition between different companies and Mr. Dickinson pointed out that the Acts under which some companies were started were passed with the distinct idea that competition would ensue, and with reference to the consolidation of the gas companies into a monopoly he explained that there was this essential difference, that in the case of the water-supply no monopoly was possessed by any company. By special provisions in the Acts affecting water companies in country districts competition was prevented. The case of London was essentially different because no monopoly was given to any company. He thought that the management and control of the water-supply should be entirely in the hands of persons popularly elected.

Mr. CRIPPS asked the witness whether it was not advisable in the management of such an undertaking that some of these persons should have special knowledge of the subject, and asked whether there was any person elected to the Council who had such knowledge. Mr. Dickinson said that he himself had no such knowledge with regard to water-supply and that there was no guarantee that popularly elected candidates would have such knowledge. He thought, nevertheless, that it was best for the elected representatives to have the entire management of all matters relating to the water-supply.

The CHAIRMAN referred to a paper which was sent in by the London County Council in reply to a communication from the Commissioners. In this communication reference was made to questions affecting the control of the companies. Mr. Dickinson said the paper did not contain any scheme of control.—The CHAIRMAN thought otherwise. (The matter in dispute was not read at the meeting but will appear in the minutes of evidence.) Mr. Dickinson said that the general policy of the London County Council had been carefully summed up and that he thought the Council would wish that the conclusions at which they had arrived should appear in the Commissioners' report *in extenso*. It is as follows:—

1. The Council has accepted as being recognised by a long series of Parliamentary decisions as well as by the general opinions and actions of other public authorities the principle that it is expedient that water-supply should not be the subject of trade, but should be administered by authorities representing the public.

2. By its investigations into the question of the future supply of the metropolis the Council has arrived at the conclusion that there exists an urgent necessity for measures to be taken for providing a very large additional supply, and that such additional supply should be obtained from more ample and more suitable sources than the rivers Thames and Lee. The responsibility of deciding whence the future water-supply should be drawn ought to rest on the representatives of the consumers, and not on private companies.

3. Being of opinion that there are special circumstances obtaining in the case of the water-supply of London, such as, *inter alia*, the conditions under which the Metropolitan water companies obtained their powers; the fact that they were granted no monopoly and that competition was intended by Parliament to operate as a protection to the consumer; and the fact that most of them have nearly reached the limit of their powers to fulfil their obligations to the consumers, and a large expenditure for additional supply is unavoidable, the Council has maintained that the price to be paid for the undertakings of the water companies should be a sum awarded by an arbitrator having regard to all circumstances affecting each undertaking.

4. In elaborating its policy the Council has followed the recommendations of the Committee presided over by Sir M. White Ridley It has, in the words of recommendation (ii.) promoted "Bills in Parliament for the purpose of constituting itself the responsible water authority for London acting through a statutory committee appointed ...... partly in conjunction with the Corporation of the City of London." It has in accordance with (iii.) proposed to "purchase, either alone or in conjunction with such of the authorities of the outside areas as may be arranged, the undertakings of the eight water companies ...... by agreement, or failing agreement by arbitration within a fixed period." It has further complied with recommendation (v.) and has offered to the authorities of the outside area to allow these bodies to purchase "(*a*) so much of the works of distribution as is appropriated to the district of such local authority and of the right to a supply in bulk from the Council, or (*b*) some of the sources of supply which with their works of distribution it may be found practicable and advantageous to sever from the general scheme."

5. The Council's policy has throughout been in favour of a public acquisition of the water companies' undertakings. So far as appears from its resolutions of Dec. 10th, 1895, Jan. 28th, 1896, July 14th, 1896, and July 13th, 20th, and 27th, 1897, it may be said that its policy in this respect remains unaltered. But there exists amongst members of the Council a difference of opinion with reference to the question of ultimate management, a large number of councillors supporting the proposition to establish a Water Board for the entire area interested in the water-supply. The majority, however, attach great importance to the principle of the supply within London being administered by the representative authority of the county and are willing to meet the difficulties arising in reference to the treatment of the outside areas by

handing over to the authorities in those areas the supply of their districts wherever this course is practicable.

6. With reference to the question of further control no definite scheme has at any time been formulated by any section of the Council, and the policy of the Council has proceeded on the assumption that no system involving the continuance of private companies will afford a permanent settlement of the question. If, however, Parliament refuse to authorise the public acquisition of the metropolitan water-supply the Council is of opinion that it is necessary that there should be an entire revision of the position of the Metropolitan Water Companies.

The next meeting of the Commissioners will take place at the Town Hall, Westminster, on Monday, March 14th.

THE ARMY MEDICAL DEPARTMENT REPORT FOR 1896.

Second Notice.[1]

The Army Medical Report is published and issued with and without an appendix, the latter containing contributions dealing with matters of professional and clinical interest and army hygiene and the complete report is now before us. From our first notice it will be seen that the health of the troops serving at home and abroad in 1896 was on the whole very satisfactory; the ratios of sickness and mortality were lower than in 1895 and considerably below the average ratios of the preceding ten years. The progressive improvement taking place generally in the health of the army is a gratifying evidence of the beneficial influence which increased and improved barrack accommodation and the more favourable sanitary environment are gradually bringing about and the results speak well also for the care bestowed by the medical staff in these respects and in the treatment of the soldier when sick and disabled. We may parenthetically remark that the proposed large addition to the strength of the army will require, we presume, a corresponding addition to the barrack and hospital accommodation as well as an increased strength of the medical staff. Of course these results must be unfavourably influenced from time to time by the prevalence of epidemic disease among our troops, especially amongst those serving abroad. What is called a healthy and unhealthy year in India or elsewhere must necessarily give rise to fluctuations, and military expeditions of different kinds will also affect the results, for the increased sickness attributable to campaigns does not terminate with these but often remains to be harvested after the troops have returned to their quarters from active service in the field. Still, the relative freedom of late years from epidemic cholera among the European troops serving in India, to take one point, is satisfactory. Apart from malarial disease in India it is to the prevalence of enteric fever and venereal disorders that the sickness, invaliding, and mortality among our soldiers serving in that country are to be mainly attributed. Unhappily, too, venereal disease is not by any means limited to India, for it is very prevalent elsewhere, as in China and the Straits Settlements and the West Indies. The admissions from enteric fever among the troops serving in the United Kingdom in 1896 numbered 94 with 22 deaths, as against 137 with 35 deaths in the preceding year. The disease was somewhat more prevalent in Ireland than in England and Wales, while in Scotland there were only two admissions. The Channel Islands were entirely free from the disease and in the north-eastern, south-eastern, home, and Woolwich districts only single cases occurred. We may add that the present departmental volume contains a very interesting account of an outbreak of enteric fever at Pembroke Dock which, in the precision with which the causes of the outbreak were traced and established, partakes of the nature of a practical experiment and object-lesson in regard to the causation of this fever.

The districts showing the highest ratios of admission for venereal diseases among the troops serving in the United Kingdom were the Western, Dublin, and North-Eastern, with 239·6, 203·6, and 186·7 per 1000 respectively. *En passant* we may call attention to a rare and therefore interesting case (at page 15) of a young soldier who was fatally poisoned by a concentrated solution of quinine of which he had partaken. As regards recruiting, which possesses some interest at the present moment, we may say that in 1896 the number of recruits inspected during the year was 54,574. Of these, 23,111 were rejected as unfit, equal to a ratio per 1000 of 423·48. The remaining 31,463, or 576·52 per 1000, were found fit for the service. Of every 1000 recruits inspected 782 were natives of England and Wales, 87 were natives of Scotland, 119 were natives of Ireland—once the happy hunting ground of the recruiting sergeant—and 12 were born in the colonies or foreign countries. This proportion is practically the same as in the previous year.

The greatest number of recruits passed fit for service are between eighteen and nineteen years of age, the number at that age constituting nearly one-half of the total. The largest number of rejections on inspection is caused by defective development and the results in 1896 show an increase of 12·68 in the corresponding ratio for the previous year. The highest ratio of rejection was on account of deficient chest measurement. Defective vision was also a very frequent cause of rejection, the ratio being 40·72 per 1000, which was slightly higher than in 1895 There is not very much to detain us in the section comprising the sanitary reports of the various districts and stations of the United Kingdom. We much regret to notice that there are no increased facilities—at any rate, none on any adequate scale—for giving the soldier a warm bath. Every soldier should have the opportunity of obtaining a warm bath at least once a week and warm water should be laid on to the barrack bathrooms. It is highly desirable on hygienic grounds and on the score of personal cleanliness that this should be done, and it could be easily effected, as the baths are generally close to the cookhouses. The Royal barracks at Dublin, we are glad to notice, have been healthy and comparatively quite free from enteric fever since the drainage and the buildings themselves were reconstructed some years ago. Venereal diseases and enteric fever are still apparently unduly prevalent in Dublin and cases of the latter disease, although less numerous than formerly, are nevertheless noted in connexion with several of the barracks at that station. There was also an outbreak of scarlet fever at the Richmond barracks. It is of course very difficult, if not impossible, to ascertain how much of the sickness has been contracted by the soldiers outside, instead of inside, their barracks. We defer the consideration of that portion of the report dealing with the foreign stations, together with that of the useful and interesting appendix to the report, for our concluding notice.

WATER-BORNE TYPOHID FEVER.

Dr. Christopher Childs opened a discussion on the above subject at a sessional meeting of the Sanitary Institute on March 9th, Mr. Shirley Murphy in the chair. For convenience he considered the matter under three aspects—namely, (1) proofs that typhoid fever is frequently water-borne; (2) ways in which the infectious material is conveyed from the patient into water used for drinking; and (3) means by which this pollution may be prevented. Briefly dealing with the first two divisions he passed on to discuss the means by which pollution might be prevented, remarking that if we made full and proper use of the acquired knowledge at our disposal with regard to the causes of typhoid fever we should reduce the mortality of that disease to a minimum—from several thousands of deaths per annum in the United Kingdom to, at most, a few hundred, or even less. That was to say, if we could ensure general notification of the disease, isolation of cases where necessary, complete disinfection of the patient and his excreta, protection from sewer air and fæcal emanations, prevention of pollution of soil and of water with organic refuse and typhoid excreta, we should every year in England and Wales alone save some 4000 lives, prevent the prolonged sickness and suffering—otherwise to be expected—of some 40,000 to 50,000 individuals, and lighten the rates by some hundreds of thousands of pounds. Of all the measures available for the prevention of typhoid fever thorough disinfection, correction of insanitary conditions in houses, drains, sewers, &c., protection of the soil, and protection of water from pollution were the most important, and of these the last-named, the protection of our water-supplies, was the one measure calling for immediate action. Up to the present time little or no effective attempt had been made to secure a thorough and systematic prevention of pollution of our water-supplies throughout the whole kingdom. The clauses relating to water-supply in the Public Health Act of 1875, the Rivers Pollution Prevention Act of 1876, and the Public Health (Water) Act of 1878 were practically quite inadequate for securing a general protection of our waters from pollution. We relied chiefly upon our waterworks companies and our sanitary authorities for securing us against the introduction of poisonous material into the water with which the companies supply us and which we have to drink if we drink any water at all. But under the existing state of the law the obligations laid on the companies and the powers granted to the authorities for thorough and constant supervision were so insufficient that we had little or no ground for such confidence. For long we had adopted the pernicious habit of trusting almost entirely to chemical analysis—more recently also to bacteriological analysis—for detecting pollution, generally without investigating the surroundings of the source, of the tributaries, and of the course of the water-supply, and nearly always without securing constant inspection and supervision. Even if the analyses were made daily they would not enable us to prevent pollution. They could only detect the pollution after it had taken place.

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[1] The first notice appeared in The Lancet of Feb. 26th, 1898.

Thorough, systematic, and regular inspection of our water-supplies from their source to their distribution was the first requirement for the prevention of pollution, such inspection being supplemented by analyses (chemical and bacteriological) made and reported upon by experts at frequent intervals. The sanitary authorities should have free access to all parts of the water-supply of their district. Authorities representative of the chief interests concerned should be appointed for each watershed area of the kingdom, who should have the care and supervision of the waters within each respective watershed, who should take prompt measures to prevent any threatened pollution and to abolish any detected pollution of any water, and who should be responsible for the administration of the laws respecting the protection of water within their district.

A study of the existing laws respecting water-supplies and the pollution of water (as set forth in the Acts of 1875, 1876, and 1878) would show that they fall very far short of the requirements mentioned above. Probably the public were quite unconscious of the very inadequate protection which is afforded to us by these statutes against the dangers arising from the pollution of water. Considering that sanitary authorities were too often the greatest polluters and that they were constantly subjected to the influences of local and vested interests and to the incessant cry for the reduction of rates, it was not to be wondered at that the administration of these Acts had not been attended with success. The authority to whom the supervision and protection of our water-supplies should be entrusted should be representative of the most important interests within the district under its control and should be strong enough to be independent of local interests and local influences which might operate against the right performance of its duties. If we looked for a precedent of such an authority, we should find an excellent model in the Lee Conservancy Board, which had worked continuously and systematically during thirty years for the purification of the River Lee and had worked with pre-eminent success.

We could not hope for thorough and effective legislation against water pollution until the people could be roused from their indifference—until they could be made conscious of the disgusting contamination to which our water-supplies were so commonly liable and could be convinced of the danger to which they were themselves constantly exposed, and until they insisted upon the carrying out of those reforms which would afford them reasonable protection. There could be no doubt that the chief cause of this indifference was ignorance—ignorance of different kinds and degrees but common throughout all classes. Such ignorance could be dispelled only by persistent and systematic education, and it was for this reason that he ventured to suggest (by proposing a resolution to this effect) that that Institute, one of whose primary objects is "to diffuse knowledge relating to sanitary science" should (through its council) consider a scheme "for diffusing knowledge relating to the causes of typhoid fever and the ways of preventing it." The demands which he had advocated on behalf of the protection of our water-supplies might seem too large, too exorbitant, too adverse to vested interests, and too exacting from our water companies. But if these companies were doing their duty there would be little or no extra burden laid upon them. If they agreed with him he trusted they would give their assent to the following proposals:—

That the Council of the Institute be requested to consider the possibility of organising and carrying out a scheme for diffusing knowledge with regard to the causes of typhoid fever and the means of preventing it throughout the whole kingdom. That the Council of the Institute be requested to consider the best means for obtaining new and effective legislation for the protection of our water-supplies from pollution, whereby it shall be enacted that—

1. All local sanitary authorities shall have free access to the water-supplies—from source to distribution—which are distributed within their districts, whether the source and course of the water so supplied be within their district or not. That the sanitary authorities provide for the thorough and regular inspection of the water-supplies distributed within their districts and for the regular analysis of such water as often as may be deemed sufficient, and that the results of such inspections and analyses shall be regularly recorded and published.

2. That the waterworks companies shall prepare and publish records of their water-supplies; such records containing a full account of every source and tributary of the water-supply and a full account of all reservoirs, conduits, filter-beds, mains, and pipes by which the water which they supply is collected, stored, or conveyed to the houses supplied; such records also being fully illustrated by maps, plans, and sections, showing the relation of all houses, drains, sewers, cesspits, and all deposits of organic refuse in the immediate neighbourhood of any part of the water supplied by them, and that all such records, maps, plans, sections, &c., shall be freely accessible for the purposes of inspection to the sanitary authority within whose district the water is supplied and to every customer of the waterworks company.

3. That the waterworks companies shall be required to make regular, constant, and thorough inspection of all parts of the water supplied by them—from source to distribution—with a view to preventing wilful, careless, or accidental pollution; also to make regular analyses of the water supplied by them so often as may be considered necessary and to make and publish reports of all such inspections and analyses.

4. That waterworks companies shall be made responsible for the consequences of the pollution of water supplied by them if such pollution could reasonably have been prevented.

5. That wilful or careless pollution of any water-supply shall be regarded and treated as a penal offence.

6. That authorities representative of the interests concerned be appointed for each watershed of the Kingdom, who shall have the general care and supervision of the waters within each respective watershed, shall take prompt measures to prevent any threatened pollution and to arrest any detected pollution of any water, and shall be responsible for the due and effective administration of the laws respecting the protection of water within their districts.

The SECRETARY then read a letter from Dr. Sims Woodhead, in which he expressed his concurrence with the views held by Dr. Childs under the first two headings of his subject but ventured to express the belief that the conditions under which the foci from which the disease may spread are formed were too frequently overlooked. He also agreed with the opinion that although bacteriological and chemical analysis was valuable the careful examination and supervision of the supply areas would ultimately lead to the improvement of the supplies.

Major FLOWER was of opinion that individual action was the best means of getting rid of the pollution of rivers. He entirly agreed with Dr. Childs.

Dr. J. LANE NOTTER said that if they traced back the history of the matter for the last thirty years they would find that it was only since the people had come to use water freely that the actual necessity for dealing with the matter had become accentuated. He quite agreed that the watershed area should be under the control of a single individual. With regard to bacteriological and chemical examination more good would be got, he thought, from observation of the supply and its surroundings.

Dr. RIDEAL believed that conflicting interests were the stumbling-block to reform. He suggested that the difficulty might be surmounted if means were provided for filtering the water on the consumers' premises.

Dr. NEWSHOLME pointed out that the greater number of people in this country did not receive their water-supply from rivers but from wells. The first object of a water company was to secure a dividend. He did not agree that any new body should be created to deal with the matter, but that greater powers should be given to those local bodies who had already shown themselves anxious to deal with the subject.

Mr. WANKLYN expressed the belief that contaminated private wells were more responsible for the spread of typhoid fever than the water supplied by water companies.

Dr. LOUIS PARKES urged that a strong deputation should be formed to wait upon the Government. His own idea was that county councils should be invested with further powers, if necessary, to give them the sanitary control of the watershed areas of the country. Referring to a point mentioned in Dr. Woodhead's letter he said that although the typhoid bacilli might not be able to live for any length of time in open rivers when they got to private cisterns they met with conditions that enabled them to thrive—i.e., absence of light with the presence of organic matter.

Dr. **REGINALD DUDFIELD** was inclined to attribute the contamination of water to the defective state of drains and sewers.

Mr. **DEFRIES** did not agree with Dr. Rideal that it would be practicable to leave the filtering of the water to individual consumers.

Mr. **SHIRLEY MURPHY** said that the difficulty underlying the whole of this question was that human nature was not always to be relied upon and remedial measures had to be designed so that human nature might be less capable of inflicting injury. Water ought not to be supplied for profit whether by companies or by sanitary authorities. Water was a necessity for the community and the moment it was made a trading interest difficulties commenced. That was an important point and one to which the attention of the Legislature might be directed.

A vote of thanks having been heartily accorded to Dr. **CHILDS** for his paper the proposals which he had placed before the meeting were seconded by Dr. **PARKES** and it was unanimously agreed to submit them to the Council of the Sanitary Institute.

THE INDIAN FRONTIER CAMPAIGN AND ITS FIELD HOSPITAL SERVICE.

As medical journalists questions of policy do not concern us and we need therefore do no more than allude to Lord Roberts's vigorous vindication in the House of Lords of the so-called "forward policy." One thing, however, appears certain. From a political and financial point of view the question is likely to solve itself. It is practically impossible to prosecute this policy at the present time. The Indian exchequer could not bear the drain of a war of subjection to be followed by the cost of the maintenance of the requisite military force for holding the conquered country. The plague in India is probably at the present time the most serious matter that can engage the attention of the Indian Government. The number of deaths from plague in Bombay is increasing and the virulence of the disease shows no abatement, while there is a serious state of unrest and opposition among the natives—Hindus and Mahommedans—to the Government measures for its repression.

As regards the frontier war, the latest news from India is of a much more hopeful character. The Akka Khels are submitting and surrendering their rifles and it is expected that their action will be followed by the Kambar Khel section, in which case the war will be practically over. The plan and conduct of the late campaign in Tirah will no doubt give rise to a good deal of consideration and criticism, for while the courage, discipline, and conduct of the troops have been beyond praise some serious questions still remain to be answered. Sir William Lockhart's dispatches, so far as these have been published, have raised several points regarding the conduct of the operations and the appointments of the military staff which will have to be cleared up. Be this as it may, however, the medical department of the Army has, we have good reason to believe, done extremely well throughout the operations on the frontier; the sick and wounded have been well cared for, regard being had to the exceptionally trying conditions of the campaign, and the sanitation of camps and the health of the troops have been properly supervised. When all the facts have been collated and the medical and surgical history of the war has been compiled it will, we believe, be seen that the results attained have been eminently satisfactory. The frontier war has been the biggest one since the Kabul campaign of 1878–80. Thirty-six field hospitals and two field medical depots have been mobilised and some 3000 beds were provided in general hospitals. A few facts connected with Indian army medical organisation and administration may be of interest to our readers at the present time. There are some 68 British and native field hospitals ready packed and distributed between the several military districts in proportion to the strength of the garrison. These field hospitals are regularly exercised during peace manœuvres; and in order to prevent deterioration their stock and equipment are periodically transferred to station hospitals in exchange for fresh issues. The field hospitals are for 100 beds and are admirably designed for mountain warfare by being divisible into four separate and complete sections. Every regiment and battery, British and native, is supplied as part of its permanent equipment with sufficient medical material to enable it to move anywhere at once. Owing to the distribution of the equipment in districts a field hospital can be promptly mobilised, and on one occasion recently sixteen field hospitals were mobilised in twelve days. Separate wards, fully equipped even to carpets, are also set apart in station hospitals for officers. An officer in hospital pays a stoppage of 2 rupees per diem, which is inclusive of all charges, consequently the benefit of being accommodated and treated in hospital is brought within the means of the most junior sick subaltern. India has at the present time, too, a nursing service of fifty-two lady nurses (hardly sufficient for its needs), supplemented by an efficient staff of orderlies selected from intelligent soldiers who undergo a six months' course of training in addition to being instructed by the staff of lady nurses.

We hear that a medical officer of the French army, who has had great experience in Tonkin, lately visited the field and general hospitals in India and was greatly impressed with all he saw, and especially so with the field hospital organisation and the division of the hospitals into sections, which he considered unique. A medical officer of the Japanese army has also paid a visit to India with the object of inquiring into the hospital system and inspecting the field medical equipment and expressed his great satisfaction with the results of his personal investigation. We think, therefore, that people in this country who have relations and friends serving in India may feel confident that the Government of India, through its medical services, has striven to do its best for the sick and wounded soldiers.

A SECOND REPORT TO THE REGISTERED PRACTITIONERS OF ENGLAND AND WALES.

IT having been rendered necessary for me to bring to the notice of the profession in my first Report to the Registered Practitioners of England and Wales in January of the present year the very serious mistake committed by the President of the General Medical Council in his officially informing the Privy Council on July 1st, 1897, that unregistered foreign practitioners enjoy the right to practise medicine unrestrictedly in this country, I am glad to be able now to report that my letter of protest, though never answered, has been adopted by those who act in the name of the Council. The Executive Committee of the General Medical Council met on Feb. 21st, 1898, and took upon itself to respond in the name of the General Medical Council to a request of the Privy Council, dated Jan. 21st, 1898, that they should inform the latter, for the use of the German Government, of the facts relating to the practice of medicine in this country by foreigners, and further that they should afford the Privy Council in a second letter comments on a letter addressed to them by Mr. Bousfield who had drawn the attention of the Privy Council to the facts which I had published in my first report.

I need not repeat here in full detail the statements of the Executive Committee, but reference to the recently published minutes shows that in their reply to the Privy Council the Executive Committee have adopted my statements respecting the restrictions which the Medical Acts impose on foreigners as well as on other unregistered persons practising in this country and have thus abandoned the erroneous position assumed by the President on July 1st, 1897.

Though the Executive Committee have thus furnished the Privy Council with more accurate information, they have not withdrawn the erroneous letter of July 1st, 1897. The result, therefore, is that the Privy Council now has before it two official letters from the General Medical Council which are in absolute contradiction to each other.

There are further statements in the above-mentioned second letter of the Executive Committee to the Privy Council which are not only incorrect, but constructively misleading. These, however, I must deal with at the session of the Council in May next.

VICTOR HORSLEY, F.R.S., F.R.C.S. Eng.,
Direct Representative on the General Medical Council.
Cavendish-square, March 7th, 1898.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6573 births and 4454 deaths were registered during the week ending March 5th. The annual rate of mortality in these towns, which had been 20·4 and 20·9 per 1000 in the two preceding weeks, declined again last week to 20·7. In London the rate was 20·9 per 1000, while it averaged 20·6 in the thirty-two provincial towns. The lowest rates in these towns were 13 0 in Preston, 15 3 in West Ham, 15·7 in Blackburn, and 16·5 in Bradford; the highest rates were 23·9 in Sunderland, 24·0 in Birmingham, 25·0 in Bristol, and 26·1 in Gateshead. The 4454 deaths included 481 which were referred to the principal zymotic diseases, against 464 and 504 in the two preceding weeks; of these, 232 resulted from measles, 96 from whooping-cough, 66 from diphtheria, 37 from diarrhœa, 25 from "fever" (principally enteric), and 25 from scarlet fever. No death from any of these diseases was recorded last week in Portsmouth or in Burnley; in the other towns they caused the lowest death-rates in Plymouth, Bolton, and Halifax, and the highest rates in Gateshead, Bristol, Swansea and Leicester. The greatest mortality from measles occurred in Derby, Huddersfield, Gateshead, Blackburn, Bristol, Swansea and Leicester. from whooping-cough in Nottingham; and from "fever" in Gateshead. The mortality from scarlet fever showed no marked excess in any of the large towns. The 66 deaths from diphtheria included 38 in London, 4 in Liverpool, 4 in Leeds, 3 in West Ham, 3 in Cardiff, and 3 in Birkenhead. No fatal case of small-pox was registered last week either in London or in any other of the thirty-three large towns. There was one case of small-pox under treatment in the Metropolitan Asylum Hospitals on Saturday last, March 5th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on the same date was 2534, against 2871, 2781, and 2674 on the three preceding Saturdays; 175 new cases were admitted during the week, against 232, 233, and 199 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 438 and 416 in the two preceding weeks, rose again last week to 425, but were 139 below the corrected average. The causes of 73, or 1·6 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Oldham, Bradford, Newcastle-upon-Tyne, and in ten other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Salford, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the five preceding weeks from 17·4 to 20·5 per 1000, further rose to 21·8 during the week ending March 5th, and exceeded by 1·1 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12 3 in Leith and 19·3 in Paisley to 24·3 in Glasgow and 25·5 in Perth. The 659 deaths in these towns included 27 which were referred to whooping-cough, 20 to measles, 18 to diarrhœa, 8 to scarlet fever, 3 to "fever," and 2 to diphtheria. In all, 78 deaths resulted from these principal zymotic diseases, against 90 and 72 in the two preceding weeks. These 78 deaths were equal to an annual rate of 2·6 per 1000, which was 0 4 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 25 and 20 in the two preceding weeks, rose again to 27 last week, of which 19 occurred in Glasgow, 3 in Edinburgh, and 3 in Paisley. The 20 deaths referred to measles showed a further increase upon the numbers recorded in recent weeks, and included 18 in Glasgow. The fatal cases of scarlet fever, which had been 12 and 10 in the two preceding weeks, further declined to 8 last week, of which 4 occurred in Glasgow and 2 in Edinburgh. The 3 deaths referred to "fever" also showed a further decline from recent weekly numbers and were all registered in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 91 and 117 in the two preceding weeks, further rose to 142 last week, but were considerably below the number in the corresponding period of last year. The causes of 44, or nearly 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·5 and 31·2 per 1000 in the two preceding weeks, further rose to 32·5 during the week ending March 5th. During the past nine weeks of the current quarter the death-rate in the city has averaged 31·6 per 1000, the rate during the same period being 22·0 in London and 18·9 in Edinburgh. The 218 deaths registered in Dublin during the week under notice showed an increase of 9 upon the number in the preceding week, and included 16 which were referred to the principal zymotic diseases, against 11 and 9 in the two preceding weeks; of these, 7 resulted from "fever," 5 from scarlet fever, 2 from whooping-cough, and 2 from diarrhœa, but not one from measles, diphtheria, or small-pox. These 16 deaths were equal to an annual rate of 2·4 per 1000, the zymotic death-rate during the same period being 2·7 in London and 1·1 in Edinburgh. The deaths referred to different forms of "fever," which had been 4 in each of the two preceding weeks, rose to 7 last week. The 5 fatal cases of scarlet fever considerably exceeded the number registered in any recent week. The mortality from whooping-cough and from diarrhœa also exceeded that recorded in the preceding week. The 218 deaths in Dublin last week included 36 of infants under one year of age, and 64 of persons aged upwards of sixty years; the deaths of infants showed an increase, while those of elderly persons were below those recorded in the preceding week. Ten inquest cases and 7 deaths from violence were registered; and 84, or more than a third, of the deaths occurred in public institutions. The causes of 11, or 5 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING FEBRUARY, 1898.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during February in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 7·8 per 1000 of the population, estimated at 4,504,766 persons in the middle of this year. In the three preceding months the rates had been 12·7, 9·8, and 8·2 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in St. George Hanover-square, St. James Westminster, Marylebone, Hampstead, St. Martin-in-the-Fields, and Bermondsey; while they showed the largest excess in Fulham, Hackney, St. Olave Southwark, Battersea, Wandsworth, and Woolwich. Three cases of small-pox were notified in London during February, corresponding with the number in the preceding month; of these, 2 belonged to Poplar and 1 to Lee sanitary areas. No small-pox case has been under treatment in any of the Metropolitan Asylum Hospitals since August last. The prevalence of scarlet fever in London showed a further decline from that recorded in the four preceding months; this disease was proportionally most prevalent in Fulham, Hackney, St. Luke, Poplar, Newington, Battersea, and Woolwich sanitary areas. The Metropolitan Asylum Hospitals contained 2640 scarlet fever patients at the end of February, against 3731, 3507, and 3021 at the end of the three preceding months; the weekly admissions averaged 214, against 367, 272, and 232 in the three preceding months. The prevalence of diphtheria in London during February slightly exceeded that recorded in the preceding month; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, Hackney, Holborn, St. Saviour Southwark, Battersea, and Wandsworth. There were 1057 diphtheria patients under treatment in the Metropolitan

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING FEBRUARY, 1898.

(*Specially compiled for* THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1898.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhoea.	Total.	Annual rate per 1000 persons living.			
LONDON...	4,504,766	3	1206	969	—	139	4	22	360	—	2698	7·8	—	373	51	165	235	—	31	1	45	901	2·6	7399	21·4	143
West Districts.																										
Paddington	127,480	—	23	12	—	6	—	—	9	—	50	5·1	—	6	2	3	6	—	1	—	—	18	1·8	194	19·8	147
Kensington	172,174	—	40	21	—	4	—	1	12	—	78	5·9	—	10	2	3	1	—	—	—	1	17	1·3	255	19·3	166
Hammersmith	107,370	—	21	15	—	2	1	1	6	—	46	5·6	—	26	1	1	3	—	—	—	2	33	4·0	214	26·0	178
Fulham	125,275	—	65	43	—	2	1	—	7	—	118	12·3	—	15	3	7	3	—	—	—	2	30	3·1	178	18·5	139
Chelsea	96,713	—	24	18	—	3	—	—	8	—	53	7·1	—	12	2	2	6	—	—	—	—	21	2·8	153	20·6	114
St. George Hanover-square	80,608	—	11	7	—	1	—	—	4	—	23	3·7	—	3	—	2	3	—	—	—	—	8	1·3	95	16·4	100
Westminster	62,574	—	10	17	—	—	—	—	4	—	31	7·7	—	10	1	4	4	—	—	—	1	20	5·0	111	27·5	276
St. James Westminster	22,200	—	1	6	—	—	—	—	—	—	7	4·1	—	2	—	1	—	—	—	—	—	3	1·8	51	29·9	226
North Districts.																										
Marylebone	140,483	—	11	19	—	3	—	2	4	—	39	3·6	—	4	1	5	7	—	1	—	4	22	2·0	228	21·2	122
Hampstead	78,785	—	15	9	—	—	—	1	—	—	25	4·1	—	6	—	3	3	—	—	—	—	12	2·0	82	13·6	81
St. Pancras	243,416	—	49	40	—	6	—	2	17	—	114	6·1	—	13	5	7	5	—	4	—	3	37	2·0	440	23·6	132
Islington	344,616	—	83	74	—	15	—	4	22	—	198	7·5	—	49	3	13	13	—	1	—	1	80	3·0	516	19·5	154
Stoke Newington	34,660	—	3	6	—	—	—	—	3	—	12	4·5	—	4	—	—	—	—	—	—	1	5	1·9	39	14·7	122
Hackney	219,630	—	79	102	—	3	—	—	21	—	205	12·2	—	13	4	23	16	—	—	—	—	56	3·3	351	20·8	146
Central Districts.																										
St. Giles	37,519	—	2	4	—	—	—	1	6	—	13	4·5	—	1	—	—	—	—	—	—	—	1	0·3	57	19·8	55
St. Martin-in-the-Fields	12,424	—	1	—	—	—	—	—	—	—	1	1·0	—	—	—	—	—	—	—	—	—	—	—	11	11·5	71
Strand	23,284	—	3	6	—	1	—	—	1	—	11	6·2	—	3	—	1	—	—	1	—	—	5	2·8	48	28·9	167
Holborn	30,066	—	7	15	—	1	—	—	2	—	25	10·8	—	1	—	2	1	—	1	—	3	8	3·5	69	29·9	145
Clerkenwell	66,130	—	19	21	—	2	—	—	6	—	48	9·5	—	2	1	3	6	—	1	—	1	13	2·6	117	23·1	134
St. Luke	41,076	—	14	14	—	—	—	—	—	—	28	8·9	—	1	2	—	3	—	—	—	2	8	2·5	84	26·7	186
City of London	29,088	—	5	2	—	1	—	—	3	—	11	4·9	—	1	—	—	1	—	1	—	—	3	1·3	47	21·1	58
East Districts.																										
Shoreditch	121,485	—	26	18	—	2	—	—	13	—	59	6·3	—	11	—	—	17	—	2	—	3	33	3·6	255	27·4	177
Bethnal Green	129,027	—	44	19	—	4	—	1	20	—	88	6·9	—	9	2	4	23	—	—	—	—	48	4·8	264	26·6	168
Whitechapel	80,659	—	25	18	—	7	—	—	4	—	54	8·7	—	4	—	2	2	—	1	—	—	9	1·5	138	22·3	131
St. George-in-the-East	48,241	—	15	9	—	3	—	—	3	—	30	8·1	—	1	—	1	4	—	—	—	—	6	1·6	95	25·7	173
Limehouse	58,661	—	17	13	—	—	—	—	12	—	42	9·3	—	8	—	2	5	—	—	—	—	15	3·3	129	28·7	221
Mile End Old Town	112,528	—	28	14	—	6	—	—	12	—	60	7·0	—	11	2	6	15	—	—	—	1	35	4·1	212	24·6	140
Poplar	170,220	2	72	41	—	7	1	—	18	—	141	10·8	—	25	1	12	23	—	2	1	1	65	5·0	336	25·7	153
South Districts.																										
St. Saviour Southwark	24,562	—	6	10	—	—	—	—	1	—	17	9·0	—	—	—	—	—	—	—	—	—	—	—	57	30·3	185
St. George Southwark	60,461	—	14	16	—	—	—	—	5	—	35	7·5	—	5	—	3	—	—	2	—	—	10	2·2	113	24·4	121
Newington	123,183	—	48	33	—	5	—	—	15	—	101	10·7	—	7	3	5	—	—	—	—	2	17	1·8	222	23·5	168
St. Olave Southwark	11,288	—	9	2	—	—	—	—	—	—	11	12·7	—	—	—	1	—	—	—	—	—	1	1·2	25	28·9	79
Bermondsey	85,738	—	17	5	—	2	—	—	3	—	27	4·1	—	9	2	2	6	—	1	—	1	21	3·2	154	23·4	157
Rotherhithe	40,849	—	8	6	—	2	—	—	6	—	22	7·0	—	3	—	4	—	—	—	—	—	7	2·2	61	19·5	104
Lambeth	304,073	—	73	49	—	6	1	1	17	—	147	6·3	—	18	—	4	11	—	2	—	2	37	1·6	462	19·4	124
Battersea	171,921	—	73	59	—	4	—	—	16	—	152	11·5	—	17	2	8	7	—	—	—	2	36	2·7	270	20·5	180
Wandsworth	202,526	—	64	73	—	7	—	3	26	—	173	11·1	—	9	6	13	3	—	1	—	2	34	2·2	228	16·3	91
Camberwell	261,189	—	61	49	—	6	—	2	21	—	139	6·9	—	19	—	7	15	—	2	—	5	48	2·4	423	21·1	140
Greenwich	180,441	—	40	34	—	9	—	—	21	—	104	7·5	—	10	2	4	11	—	5	—	1	33	2·4	269	19·4	129
Lewisham (excluding Penge)	88,562	—	15	16	—	1	—	1	4	—	37	5·4	—	2	—	1	2	—	—	—	3	8	1·2	119	17·5	125
Woolwich...	41,478	—	25	8	—	—	—	1	4	—	38	11·9	—	18	2	2	—	—	—	—	—	22	6·9	88	27·6	170
Lee	39,717	1	13	12	—	4	—	—	2	—	32	10·5	—	—	1	1	—	—	1	—	1	4	1·3	51	16·7	78
Plumstead	62,531	—	27	14	—	4	—	1	2	—	48	10·0	—	5	1	3	2	—	1	—	—	12	2·5	88	18·3	112
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 30 cases of membranous croup.

† Including deaths from membranous croup.

Asylum Hospitals at the end of February, against 1042, 1066, and 1055 at the end of the three preceding months; the weekly admissions averaged 140, against 155, 151, and 132 in the three preceding months. The prevalence of enteric fever in London during February showed a marked further decline from that recorded in recent months; this disease was proportionally most prevalent in Whitechapel, St. George-in-the-East, Lee, and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 84 enteric fever patients at the end of February, against, 155, 116, and 106 at the end of the three preceding months; the weekly admissions averaged 11, against 17 in each of the two preceding months. Erysipelas showed the highest proportional prevalence in St. Giles, Bethnal Green, Limehouse, Rotherhithe, and Wandsworth sanitary areas. The 22 cases of puerperal fever notified in London during February included 4 in Islington, 3 in Wandsworth, 2 in Marylebone, 2 in St. Pancras, and 2 in Camberwell sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, February 26th, the deaths of 7399 persons belonging to London were registered, equal to an annual rate of 21·4 per 1000, against 19·0, 21·3, and 22·0 in the three preceding months. The lowest death-rates in the various sanitary areas were 11·5 in St. Martin-in-the-Fields, 13·6 in Hampstead, 14·7 in Stoke Newington, 15·3 in Wandsworth, 15·4 in St. George Hanover-square, and 16·7 in Lee; the highest rates were 26·9 in Strand, 27·4 in Shoreditch, 27·6 in Woolwich, 28·7 in Limehouse, 28·9 in St. Olave Southwark, 29·9 in Holborn, and 30·3 in St. Saviour Southwark. During the four weeks of February 901 deaths were referred to the principal zymotic diseases in London; of these, 373 resulted from measles, 235 from whooping-cough, 165 from diphtheria, 51 from scarlet fever, 45 from diarrhœa, 31 from enteric fever, and 1 from an ill-defined form of continued fever. These 901 deaths were equal to an annual rate of 2·6 per 1000; no death from any of these diseases was registered last month in St. Martin-in-the-Fields or in St. Saviour Southwark; in the other sanitary areas the lowest zymotic death-rates were recorded in Kensington, St. George Hanover-square, St. Giles, City of London, St. Olave Southwark, Lewisham, and Lee; and the highest rates in Hammersmith, Westminster, Bethnal Green, Mile End Old Town, Poplar, and Woolwich. The 373 fatal cases of measles were as many as 235 above the corrected average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in Hammersmith, Westminster, Islington, Limehouse, Poplar, and Woolwich sanitary areas. The 51 deaths referred to scarlet fever were 25 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in Fulham, St. Luke, Newington, Wandsworth, and Woolwich. The 165 fatal cases of diphtheria slightly exceeded the corrected average number; the mortality from this disease was highest in Fulham, Westminster, Hackney, Mile End Old Town, Poplar, Rotherhithe, and Wandsworth sanitary areas. The 235 deaths from whooping-cough were 54 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Hackney, Shoreditch, Bethnal Green, St. George-in-the-East, Limehouse, Mile End Old Town, and Poplar. The 31 fatal cases of enteric fever were 9 below the corrected average number; the highest proportional mortality from this disease was recorded in St. George Southwark and Greenwich sanitary areas. The 45 deaths from diarrhœa were 11 below the corrected average number. In conclusion, it may be stated that the mortality in London last month from these principal zymotic diseases was nearly 18 per cent. above the average, owing principally to the excessive fatality of measles.

Infant mortality in London, measured by the proportion of deaths of children under one year of age to registered births, was last month equal to 143 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in Hampstead, St. Giles, St. Martin-in-the-Fields, St. Olave Southwark, Wandsworth, and Lee; and the highest rates in Westminster, St. James Westminster, St. Luke, Limehouse, St. Saviour Southwark, and Battersea.

THE SERVICES.

Naval Medical Service.

THE following appointments are notified:—Surgeons George Gibson to the *Liberty*, Eustace Arkwright to the *Seaflower*, Ernest S. Reid to the *Martin*, Harold E. Fryer to the *Pilot*, Louis E. Dartnell to the *Wanderer*, and Edward F. Power to the *Nautilus*, all lent; Eric E. Kershaw to the *Victory*, additional for the *Research;* and Edward Cuffery to the *Halcyon*.

Army Medical Staff.

Surgeon-Major James McM. Bolster is placed on temporary half-pay on account of ill-health. The under-mentioned officers are seconded for service with the Egyptian Army: Surgeon-Captain George A. T. Bray and Surgeon-Lieutenant Charles F. Wanhill. Surgeon-Lieutenant Cochrane has left Woolwich for India.

India and the Indian Medical Services.

Surgeon-Colonel Eston, A.M.S., is brought on the Administrative Medical Staff of the Army, vice Surgeon-Colonel Atkins, retired. Surgeon-Captain Maynard is appointed temporarily to act as Second Resident Surgeon, Presidency General Hospital, Calcutta, during the absence, on deputation, of Surgeon-Captain F. O'Kinealy. The services of Surgeon-Major Crowly, A.M.S., are replaced at the disposal of the Military Department.

Volunteer Corps.

Rifle: 2nd Volunteer Battalion the Duke of Wellington's (West Riding Regiment): Surgeon-Major J. Sutcliffe resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the battalion on his retirement. 3rd Volunteer Battalion the Duke of Wellington's (West Yorkshire Regiment): Harold Hebblethwaite to be Surgeon-Lieutenant. 5th (West) Middlesex: Joseph Norwood Brown, M.D., to be Surgeon-Lieutenant. 22nd Middlesex (Central London Rangers): Surgeon-Captain G. Herschell, M.D., resigns his commission.

Volunteer Medical Staff Corps.

The Manchester Companies: John William Smith, M.B., to be Surgeon-Lieutenant.

Bill for the Sanitary Improvement of Bombay.

A Bill of a very comprehensive character for the improvement of Bombay has been introduced and has passed its first reading at a recent meeting of the Bombay Legislative Council. One of the many subjects calling for attention in Bombay is the drainage and the polluted state of a more or less water-logged soil. It is almost an axiom of sanitary science that no more water should be brought into than can be carried out of a city or station. The water-supply for Bombay is, we believe, ample enough, but what becomes of it? Does it not sink into the soil and only serve to increase the amount of the subsoil water? and has not this condition of things been going on for some time? The creation of open spaces in order that the air and sunshine may penetrate, the diminution of overcrowding of buildings and people, and the drainage and improvement of the soil on which the city stands are, it need scarcely be said, points of great sanitary importance. The employment of troops and search parties to hunt out concealed cases of infectious disease and measures for checking the spread of contagion by infected persons and articles are very necessary; but it is, after all, by the removal of the conditions favourable to the growth and development of the micro-organisms of disease that protection of a permanent kind is most likely to be secured.

The Cold in Peshawur and the Khyber.

The troops encamped in these positions have undergone much hardship during the past winter from cold and exposure, although their health has been good upon the whole. The weather, according to the latest accounts, was breaking. General Sir William Lockhart has been engaged in completing his arrangements for a forward movement in case the Afridis do not tender their submission and come to terms, which it is expected, however, that they will do.

Plague Riots at Bombay.

Advices from Bombay state that a serious riot broke out at this town on Wednesday afternoon last. A medical officer was followed to the hospital by a threatening body of

Mahomedan weavers, who afterwards fired the offices and stores of the hospital. Several officers were maltreated and a European plague inspector and three privates of the Shropshire Regiment were stoned to death.

Surgeon-Major-General Cleghorn, the Director-General of the Indian Medical Service, is about to proceed on leave from India for eight months and Surgeon-Major-General Harvey will, it is understood, act for him as head of the Indian Medical Service during his absence.

The Government of India has sanctioned the expenditure of Rs. 24,900 for the extension of the model dairy farm at Umballa.

Correspondence.

"Audi alteram partem."

"THE MIDWIVES REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—Mr. Garrett Horder would, I feel sure, desire to give us credit for a genuine attempt to solve a difficult problem, and I think therefore he should credit us with the provisions which appear in the Bill. He thinks the Bill should be stoutly opposed for four reasons—the first, that it would not prevent unregistered women from acting in the capacity of midwives. Parliament will not look at a Bill which legalises a monopoly. Practical legislation is what is wanted, hence no provision to prevent women practising as midwives unless they assume certain "titles" is inserted in the Bill. The next reason he gives is that the Bill does not prohibit midwives registered under it from assuming the title of Licentiate in Midwifery. It is perfectly true that the use of such a title is not expressly forbidden in the Bill, for it would then be merely a question of evading its terms if only such were forbidden as were expressly specified. Clause 5 (*f*) places the approval of the "rules for regulating, supervising, and restricting within due limits the practice of midwives" in the hands of the General Medical Council, and while the Council already imposes a standard for "Licentiates in Midwifery," on the other hand the assumption of such a title would prove at once that the midwife who assumed it intended to step beyond the province assigned to her under the regulations drafted for the special purpose of limiting her to her legitimate sphere, and therefore she would at once be liable to be struck off the register and forbidden to assume even the title of midwife. It would then be for Mr. Horder to prevent her from assuming the title of "L.M." Mr. Horder further objects to the constitution of the Midwives' Board. The only alternative proposal is that all the members of the Board should be elected by, virtually, the general practitioners of the country, whose interests are assumed to clash with those of the midwife. Surely Mr. Horder would consider this equally unfair to the midwife. Let Mr. Horder make some practical proposal for the solution of his difficulty. The last objection raised is that it would be impracticable for a medical officer of health—e.g., of a large town—to supervise all the midwives in his district. The clause to which Mr. Horder refers is as follows: "Every local sanitary authority throughout England and Wales shall on the passing of this Act appoint its medical officer of health *or other registered medical practitioner or practitioners* as the local supervising authority over midwives in the sanitary district," &c., If, therefore, the medical officer of health cannot or does not care to supervise the midwives in his district the sanitary authority has power to employ any number of medical men it may think fit for this purpose. Surely this is sufficiently elastic. For fuller details as to the policy under which the Bill has been drafted may I refer Mr. Horder to the current number of the *Medical Magazine*, in which an article is published under my signature.

I regret to see that Mr. Sers still does not believe in the great loss of life which takes place yearly at the hands of untrained midwives. I feel sure that if he realised that about 1000 mothers and probably 10,000 children lose their lives annually at their hands he would feel that there was some justification for the Bill without including the mass of suffering consequent upon such attendance. The "scheme of registration is an experimental process" just in the same way as the administration of a dose of castor oil is an experiment. Both are based on the result of preceding experiments in the same line; both may fail through the dose not being strong enough or through the result being disastrous. But by such "experiments" alone are we able to test the requirements of the case. The weight of evidence on all counts is against Mr. Sers.

I am, Sirs, yours faithfully,
F. R. HUMPHREYS, L.R.C.P. Lond.,
Honorary Secretary Midwives Bill Committee.
Buckingham-street, Strand, March 5th, 1898.

To the Editors of THE LANCET.

SIRS,—Your correspondents Mr. Rowland Humphreys, honorary secretary of the Midwives Bill Committee, and Mr. J. H. Johnstone, M.P., one of the backers of the Bill, whose letters appear in THE LANCET of Feb. 26th, invite criticism of it; therefore, while confining myself to one, but a very important, issue of the Bill I propose to particularly draw their attention and that of the profession to the inefficient penal clauses.

The section directed against non-registered persons is similar in construction to Section 40 of the Medical Act, which, as is well known, proves itself wholly ineffectual to stop unqualified practice so long as the unregistered persons do not themselves take protected "names or titles," no matter by what designation other people refer to them. Within my own personal knowledge there are several women in this city alone, called by others, known and largely employed as midwives, who do not describe themselves by taking up "the name or title," and that which has occurred in the past may and will occur again if the opportunity is offered; consequently it is reasonable to assume that if this Section is passed standing as it is it will be absolutely useless. It is needless to point out the futility of supplementing qualified medical work by examined midwives if they are simply to be a new creation wedged in between the registered medical practitioner and an uncleanly and ignorant lower stratum left to arise afresh outside the register and beyond the control of the law courts or of the proposed Midwives' Board. The prohibition of practice as well as the assumption of a name or title is absolutely essential if an attempt is to be made to attain the alleged objects of the Bill. The clause referred to, Section 3, subsection 2, reads—stripped of dates, &c.—as follows: "Any person who not being registered shall take or use the name of midwife," &c., shall be liable to a penalty. The corresponding clause in the draft Obstetric Nurses Bill it will be admitted is more adequate; it reads practically thus; "Any person whose name is not on the register who shall take or use the name of midwife, &c., or who habitually or for gain shall attend or undertake to attend lying-in-women," shall be liable to a penalty—"provided always that nothing herein contained shall apply to any person attending a woman during labour in a case of emergency when the services of a person registered under the Acts or of a duly qualified medical practitioner are not available." Here both assumption of name and practice are dealt with, and its superiority over that in the bill before Parliament cannot be gainsaid by those who have the protection of the public, to say nothing of that of the profession, at heart. Again subsection 4 of Section 2 of the Bill provides that "The certificate of registration shall not confer upon any woman any right or title to be registered under the Medical Acts in respect of such certificate or to assume any name, &c., implying that she is by law recognised as *a licentiate or practitioner in medicine or surgery* or that she is qualified to grant any medical certificate or any certificate of the cause of death." An examination in midwifery under the Medical Acts is only granted to an individual who has gone through a long course of all-round training and reading and it also includes the allied subject of gynæcology, but a person registered under this Bill by inference is not merely a "registered midwife," but a full "*licentiate or practitioner in midwifery*," because it will be noted the word midwifery in the above-quoted prohibition clause is deliberately omitted. This is prejudicial and unfair to the professional status. Moreover, legal doubts might even arise as to whether any rules which the proposed Board might impose upon midwives in attempting to limit their practice to the lying-in state alone might not be *ultra vires*. Further, where in the Bill is the penalty clause for a breach of this subsection? Why is not the liability to a legal fine also inserted in it and a declaration that such liability shall be in addition to the consequences following the breach of any of the rules of the Board relative to practice? Under such an amended proviso an aggrieved person, a local practitioner or society, could prosecute, and upon conviction the Board would practically be compelled to take notice of the offender—in fact, in the majority of cases it would relieve the board of a considerable responsibility and the trouble of investigation by the fact of the conviction in a court of summary jurisdiction—speedy and sure—having taken place before it would be called upon, perhaps months after, to adjudicate by way of suspension or removal from the register. An alteration of the sub-section might be suggested somewhat as follows:—"Registration under this Act shall not confer upon any woman any right or title to be registered under the Medical Acts or to practise as though she was or to assume any name, title, or designation implying that she is under the *Medical Acts* recognised as a licentiate or practitioner in medicine, surgery, *or midwifery*, or that under the said Acts or otherwise she is qualified to grant any certificate, including any death certificate, or that she is recognised by law other than as a registered midwife, and any woman on the register acting in contravention of this sub-section by assuming any name, title, or designation as though she was registered under the Medical Acts, or by granting any such certificate as aforesaid, or by practising medicine or surgery, or by practising midwifery further or otherwise than as a registered midwife, shall be liable on summary conviction for each offence to a fine not exceeding five pounds, provided always that such liability to a penal fine shall be in addition to and not in substitution for any act that may be done or any proceedings that may be taken by the Midwives' Board under the rules and regulations for the time being in force for the suspension of any woman so registered or for the removal of her name from the register."

Lastly, the Bill is absolutely silent on the question of midwifery training. Is it intended that such should be left to arrange itself? or is it intended to insert powers for the Board to arrange this by rules and regulations to be formulated by it? Either way it may be taken that such provisions alone on so important a subject will not be satisfactory to medical or public feeling. One matter must be insisted upon and that is that corresponding to the disability of medical men to employ unqualified help in their practices, homes, institutes, guilds and other suchlike places, whether in the nature of co-operative bodies or of universal providers, shall not arise to be happy baiting grounds for the reception of young women who have become "nurse-costume struck" or who have kicked against the restraints of home or of other occupations, to be "trained" by "registered midwives" to do unqualified work at the risk of the lives of the trusting poor intended to be protected by the passing of this Bill. Nothing short of a penal section in the Bill, permanent in its nature and not of the substance of "rules and regulations for the time being in force," declaring absolutely that no registered midwife shall keep, employ, or use unqualified assistants, by whatever name designated, will meet the demands for public protection. An aggrieved individual must have the power to set the law in motion quickly without waiting for delayed Board meetings held months after and miles away from the place of offence; then upon this firmer foundation "rules and regulations" may more properly be laid down.

These are a few questions on the penal clauses which claim the serious attention of the promoters seeking the public weal and of the profession which, yielding to none in its sympathy for the poor, has also in its keeping the dignity and proper protection of its calling.

I am, Sirs, yours faithfully,

Leeds, Feb. 26th, 1898. J. H. WIGHAM.

"THE ADMINISTRATION OF ANÆSTHETICS."

To the Editors of THE LANCET.

SIRS,—In reply to Mr. Paul's letter in your issue of March 5th I think there can be no doubt that the method which he uses has much to recommend it. We appear to hold very similar views. We both regard it as important to administer ether during the stage of muscular rigidity. We are also in accord as to the suitability of chloroform after the stage of rigidity has passed over. The only difference between us is that Mr. Paul employs chloroform at the commencement of the administration whilst I prefer, whenever circumstances permit, to use nitrous oxide or the A.C.E. mixture as the preliminary anæsthetic. The sequence of A.C.E.—ether—chloroform, to which I referred in my lecture, is, as Mr. Paul will see, almost identical with that which he employs. I have always hesitated to use chloroform in a routine way for inducing anæsthesia, although I must confess I have never seen a single instance in which after a few breaths of this anæsthetic and before the stage of rigidity has been reached any alarming symptoms have arisen. But as we have records of fatalities at the very outset of chloroform administration I think it better to use some other anæsthetic which will be equally pleasant to the patient and as satisfactory as, or even more satisfactory than, chloroform from the anæsthetist's point of view. I am glad that Mr. Paul has drawn attention to a point which I did not allude to in my lecture. He finds that by giving a full dose of ether with the chloroform just before the struggling stage this stage is almost invariably prevented. I have elsewhere referred to this in connexion with the use of A.C.E. and ether in succession. If anæsthesia be partly induced by the A.C.E. mixture and just as the stage of rigidity is commencing an Ormsby's inhaler charged with ether be then gradually applied, the patient will quickly sink into tranquil anæsthesia in a way that is little short of remarkable. Why struggling should thus be prevented it is difficult to say. Possibly the limitation of oxygen and the re-breathing of carbonic acid, both of which events must follow the application of the close ether inhaler, are responsible. Although Mr. Paul's method differs very slightly from those I have advocated it is satisfactory to me to think that we agree on main principles, and I am quite sure that by anæsthetising on such principles chloroform accidents may be rendered far less frequent than they have been.

I am, Sirs, yours faithfully,
FREDERIC W. HEWITT.

George-street, Hanover-square, W.

"THE USE OF A SPLINT AFTER REMOVAL OF THE BREAST."

To the Editors of THE LANCET.

SIRS,—I am pleased to learn from Dr. Priestley Leech's letter in your issue of March 5th that he has tried the method of keeping the arm at a right angle to the body after removal of the breast. I have at no time insisted that a rectangular splint is necessary to attain this object, but I believe that the patient will be more comfortable with a splint than without one for the first week or so.

Dr. Priestley Leech states that he did not in his three cases remove the underlying pectoralis major. Until the recent discussion at the Royal Medical and Chirurgical Society I was under the impression that this was the usual course pursued by modern surgeons. There are at least three objects attained when this course is adopted—(1) a very much larger amount of skin can be removed and yet the edges of the wound will accurately come together; (2) the axilla can be cleared out more rapidly and, what is more important, more thoroughly; and (3) the removal of a frequent seat of recurrence can be effected.

Personally I do not believe there is more appreciable shock in this operation than in the incomplete one. I do not employ drainage as a rule, and by the eighth day the wound is healed up.—I am, Sirs, yours faithfully,
EDWARD COTTERELL.

West Halkin street, March 8th, 1898.

"REMARKABLE MISADVENTURE WITH CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—*Apropos* of the "Remarkable Misadventure with Chloroform" at the Catholic Hospital at Herne, in Westphalia, mentioned by your Berlin correspondent in your issue of Feb. 26th, p. 611, the following experience as occurring to myself on Monday evening, Feb. 21st, may be interesting as another example of the decomposition of chloroform vapour in the presence of artificial light. I was asked by a colleague (Mr. C. H. Harding) in the morning to see a case of hernia which he had been unable to reduce, and finding it strangulated we informed the patient of the nature and danger of the situation. He was unwilling for any operative interference at first, but realising that it was that or death he agreed that if there were no abatement of the symptoms in the evening he would undergo the operation. The room was small and without a fireplace and with no ventilation. It was warmed by an oil stove and illuminated by an oil lamp and a candle. The operation was a prolonged one, owing to the size of the hernia (nearly a foot of bowel in the sac and a large quantity of omentum which was ligatured in several sections and cut off). The patient was a bearded man and as so constantly occurs with these patients a large amount of chloroform was required. On the drop bottle being replenished some half ounce was spilt. Almost immediately a most pungent, disagreeable smell was noticed by myself which seemed to attack the whole respiratory tract from the nose to the middle of the sternum. My colleague, who was anæsthetising, next said he was becoming overpowered and the nurse who was assisting me was seized with a violent attack of coughing. After the administration of stimulants my colleague felt better; and the window was opened and some of the pernicious fumes let out. Mr. Harding was the first to throw off the effect, having quite recovered the next day. The irritative effect lasted four days upon myself, during which time I could not take a deep breath without pain at the middle of the sternum and a fit of coughing. The effect lasted longest on the nurse, who was not clear five days after the operation. The room next morning was pervaded by a strong odour of chlorine, which my colleague compared to bleaching works. The amount of chloroform used was somewhat over three ounces and about half an ounce was spilt. The chloroform in question was prepared by Messrs. Duncan, Flockhart and Co., and had no odour of any free chlorine. In reading the Herne Catholic Hospital case we all came to the conclusion that we had had a very lucky escape.

I am, Sirs, yours faithfully,

JOHN J. WADDELOW.

Whittlesea, Feb 27th, 1898.

"CHARGES TO PATIENTS IN ISOLATION HOSPITALS."

To the Editors of THE LANCET.

SIRS,—I have read your criticism of Dr. Meredith Young's paper and letter [1] with some surprise. I have attended scarlet fever patients for nearly forty years and superintended an isolation hospital for several years, and can endorse his statement that efficient isolation in private houses is impracticable even in what would appear very favourable circumstances. It is in consequence of this knowledge having been thrust upon them by experience that ratepayers are willing to provide themselves with means of isolation elsewhere and for that purpose find money for erecting and maintaining a suitable building. It appears to me an absurdity that the unfortunate members should be made to pay twice over. It is only those in distress for whom the ratepayers build and maintain the workhouse, to which all who are unfortunate enough to require it are entitled to admission. It is equally absurd to ask recompense from those who require admission to their own hospital as to those who require admission to their own workhouse.

I am, Sirs, yours faithfully,

J. ADAMS, M.D. St. And.,
Medical Officer of Health, Barnes District,
Richmond Union.

Barnes, S.W., March 5th, 1898.

"A DEGREE FOR BRITISH PRACTITIONERS."

To the Editors of THE LANCET.

SIRS,—As your notice of my little book on the above subject suggests that my statement that a fluent candidate at the M.D. examination at the University of Brussels makes a better impression by occupying as long a time as possible in giving a systematic and complete answer to a query than does the less self-possessed candidate who gives incomplete and fragmentary replies, and has therefore to deal with a far larger number of questions in the allotted time "surely cannot really be the case," I beg the favour of your insertion of this further comment. That my statement is a fact will be borne out by any candidate who has been present at one of the examinations, and I think there can be little difficulty in defending the principle involved. The Belgian professors are not examining raw students, but men duly qualified in Great Britain to practise medicine, surgery, and midwifery, and surely when asked a comprehensive question such as "What do you know of enteric fever?" a man cannot do justice to his knowledge and his ability as a "doctor" unless he considers the nature, pathology, symptoms, course, treatment, and prognosis of the disease in due order. I maintain that a man who can do this impresses the examiner with his fitness to practise his profession with credit thereto, whilst the fragmentary and incomplete replies of the less able candidate make him appear more like an unfledged student than a practitioner.

I am, Sirs, yours truly,

CHARLES REINHARDT.

South Stoke, Reading, March 6th, 1898.

⁂ The words "surely this cannot be the case" referred to Dr. Reinhardt's statement that it was impossible for an examiner to interfere when a candidate had once embarked on his answer.—ED. L.

MR. HORSLEY AND THE BUSINESS OF THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—Mr. Horsley's letter in the columns of THE LANCET of the 5th inst. gives further evidence of the obstructionist tactics with which his attempts at reform are systematically met. As Mr. Horsley was elected to the Council precisely that he might advocate a less apathetic policy and a less autocratic government, the electorate should take steps to show the Council that Mr. Horsley has the full approval and absolute confidence of his constituents in the fearless and straightforward policy which he has adopted. This end can perhaps best be attained by a public meeting of the profession before the May session of the Council. There is not the least doubt that such a meeting would cordially endorse Mr. Horsley's action and effectually prevent any affectation that he lacked the "mandate" of the electors. The ground would thus be cleared and a plain issue raised. Those who support the present unconstitutional methods of procedure or non-procedure and those who are determined to suppress every attempt at reform will have the advantage of knowing that their action is opposed to the wishes of the profession whose interests they are supposed incidentally to protect. Those also, if any, who doubt if Mr. Horsley has the support of the general practitioners will have their doubts resolved.

I am, Sirs, yours faithfully,

HAMILTON HALL.

Frant, March 5th, 1898.

HOSPITAL ABUSE IN GLASGOW.

To the Editors of THE LANCET.

SIRS,—Would you allow me to correct a trifling misapprehension on the part of your Special Commissioner as reported in your last issue? My friend Dr. Erskine advocates the municipalisation of hospitals. *I do not*. What I maintain is that our parochial (Poor-law) hospitals are our State hospitals and that they ought to administer to the medical and surgical necessities of the poor. Outside of this the hospital question is one of private and commercial enterprise. People who despise the State hospitals for their necessities ought not to be commiserated when *professors* in Glasgow compete for clubs for the remuneration of 2*s*. 6*d*. per annum!

I am, Sirs, yours faithfully,

D. CAMPBELL BLACK.

Glasgow, March 6th, 1898.

"THE TREATMENT OF BURNS AND OTHER SURFACE WOUNDS."

To the Editors of THE LANCET.

SIRS,—My attention has been called to a letter in THE LANCET of March 5th, p. 677, under the above heading. The writer, Dr. G. Archdall Reid, is quite right in thinking that the method described by him has been tried before—in fact, I myself strongly advocated its use in THE LANCET of Nov. 14th, 1896, p. 1373. I am very glad Dr. Reid has found it so satisfactory, as I firmly believe that for burns, skin grafting, and surface wounds generally it only wants to be tried to be far more extensively used than it is now. The principle can be adopted even in cases where the burn extends right round the limb, at any rate in children, by slinging the limb as for a fracture treated by Bryant's method and fixing a sort of meat-safe cage over it. If, too, in suitable cases the part affected is at once thoroughly cleansed with antiseptics most if not all of the dangers of sepsis and absorption of poisonous substances may be done away with. The part is kept clean without fear of absorption of the lotions used.

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[1] THE LANCET, Feb. 26th, p. 593, and March 5th, p. 676.

I am, Sirs, yours faithfully,

King's College Hospital, March 7th, 1898. J. R. BENSON.

TEST-TUBE REACTIONS BETWEEN COBRA POISON AND ITS ANTITOXIN.

To the Editors of THE LANCET.

SIRS,—We beg leave to correct an error in your report of the communication read by us before the Pathological Society of London on March 1st. The quantity of serum necessary to neutralise 0·1 milligramme of cobra poison should read 0·1 c.c. and not 1·0 c.c. Further, the explanation offered of the fact that multiple doses of pyocaneous toxin are not neutralised by corresponding amounts of serum is Wassermann's, not ours.

We are, Sirs, yours faithfully,

J. W. W. STEPHENS,
W. MYERS.

March 8th, 1898.

*** Our report was perfectly correct, but a decimal point escaped impression.—ED. L.

"THE FELLOWSHIP OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON."

To the Editors of THE LANCET.

SIRS,—Although one cannot expect to do much with an unreformed corporation whose proceedings are kept secret under oath, yet I was glad to read your annotation on the subject of advancement to the Fellowship of the College of Physicians. Any Member of the College who gets elected as an assistant physician (unless he is an obstetric) to a London hospital, and who, as such, "devils" for the physicians, is just as certain of his Fellowship as if he proceeded to that higher distinction at his will and at his own time. But there the certainty of the Fellowship ends: no matter whether a Member has "distinguished himself in medicine" in the provinces or in any of the public services, unless he has the stamp of a London hospital staff he might as well have contented himself with any of the minor medical qualifications. He will never be a Fellow, or if he is it will be when he is of a certain age and reputation and can very well afford to care no more for the empty honour.

I do not begrudge the young London physician anything which enables him to make a better living than he otherwise would do or which ornaments the prospectus of the London hospital schools. The young London physician is handicapped enough as it is by having to live in a style far beyond his means; but there might be some consideration shown to men in other departments of medicine who from whatever standpoint you like to regard them are as worthy as their London *confrères* and are as likely from their social position to maintain and uphold the dignity of the College and, if the whole truth were told, have distinguished themselves in the practice of medicine quite as much as the young gentlemen who see out-patients and make themselves generally useful to their seniors at the London hospitals in the certain hope of being promoted by them to the Fellowship.

The boycotting of obstetric physicians—of asylum physicians—men who have greater responsibilities and the medical care of more patients than any hospital physician in London, must have been observed by the profession at large. But owing to the secresy which is maintained in the College deliberations the part which personal spite plays in preventing a man from obtaining his Fellowship may be known only to a few. There have been Fellows whose love of justice has been in conflict with the obligation of their oath of secresy, and they have told a tale which showed how entirely at the mercy of one individual is the chance of a Member obtaining his Fellowship if anything is said against him *in camerâ*. So petty a thing, too, as a man's asking a personal friend to nominate him is quite sufficient to damn him in the eyes of the immaculate censors.

I am, Sirs, yours faithfully,

M.R.C.P. (AND LIKELY TO REMAIN SO).

March 8th, 1898.

TRANSPOSITION OF THE HEART ALONE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 26th, at page 607, Mr. W. H. Brown, of Leeds, mentions an interesting post-mortem examination in which the heart was found on the right side and was the only transposed viscus. Transposition of the abdominal viscera generally and even of the lungs have frequently been noticed, but a transposition of the heart alone is extremely interesting. There is, unfortunately, no mention in Mr. Brown's note of whether the aorta turned to the left as in mammals or to the right as in birds. The commonly accepted explanation of the transposition of unsymmetrical viscera is the retention and development of a right aortic arch instead of a left one, and it would add much to the value of the case if Mr. Brown could give us some further particulars of the relations of the cavities of the heart, the pericardium, the aortic arch, and the position of the aortic trunk in regard to the spinal column.

I am, Sirs, yours faithfully,

March 8th, 1898. ANATOMIST.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Plague in Bombay.

I REGRET to have to record the death from plague of Miss Morgan, one of the English nurses who had been on duty at the General Plague Hospital at Poona, and also that Dr. H. W. Bruce, on duty at Malegaun, has had a severe attack of plague. He is fortunately now out of danger. A European nurse at the Parsee Plague Hospital has also contracted the disease. It would appear that the supposed immunity of Europeans is perhaps questionable, as when exposed to infection the frequent occurrence of cases proves their vulnerability. Under ordinary circumstances they are placed under slight dangers of infection compared with natives, while their mode of life also safeguards them from contracting, or succumbing to, the disease.

An important scheme of great magnitude is about to be carried out in Bombay. Four camps have been prepared with accommodation for nearly 20,000 people. It is proposed to empty one of the most populous and most infected districts of the city. The most insanitary houses will then be opened up by the military engineers and the whole will be thoroughly disinfected and limewashed. After about a week the people will be permitted to return to their homes and then another district, if necessary, will be treated in the same way. This method has been adopted in several other towns with great success and it seems a great pity that such a move was not taken here much earlier.

The extent and virulence of the epidemic have been rising week by week until last week 2195 deaths were recorded, of which 1257 were officially returned as due to plague. This mortality equals a death-rate of over 135 per 1000 per annum. As the returns show great increases under the heads of fevers and phthisis it is reasonable to suppose that the number of deaths from plague has been very much larger. There is fortunately some indication that the epidemic has reached its height. In addition to plague a large number of cases of relapsing fever are admitted into the fever hospital. Many interesting cases illustrate that the two diseases can run concurrently in the same patient. The mortality of relapsing fever is only about 10 per cent., whereas that of plague at the present time is nearly 80 per cent. The prognosis when the two diseases occur together does not seem to be rendered more grave. Small-pox is prevalent and a large number of cases of chicken-pox are also to be met with, but there are no deaths from the latter disease.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

New Home for Parish Nurses.

ABOUT eighteen months ago the select vestry decided upon building a new home for the nurses of the Liverpool Workhouse, of whom there are about a hundred. The building has just been completed and will be ready for occupation in a month or so. The estimated cost of the home, which will accommodate sixty nurses, is £11,350 inclusive of furniture and fittings. The building has been designed by Mr. Henry Hartley, F.R.I.B.A., and comprises basement, ground floor, and first and second floors, and is very usefully laid out. The basement contains a dining hall at the west end 51 ft. 6 in. by 29 ft. 6 in., with lavatory, cloak-rooms, and service-room immediately adjoining. At the north end of the building are the kitchen, scullery, pantries, servants' hall, and other domestic arrangements for the cooking department and servants. On the ground floor there are two large sitting-rooms, one 30 ft. by 24 ft. and the other 30 ft. by 28 ft. Arrangements have been made whereby the partition between the two rooms can be readily removed, being constructed with Stone's patent sliding shutters. A room 52 ft. by 30 ft. can be thus formed for lectures or other purposes where meetings of the nurses are required. On this floor there are laboratories, matron's room, and eighteen cubicles or bedrooms. On the first and second floors there are fifty-six bedrooms with linen-closets and store-rooms. There are bathrooms on each floor. The lavatory arrangements are placed in a sanitary tower on the south side of the building which is isolated from the main building by a ventilated corridor. The general arrangement of each floor is a central corridor 6 ft. wide with the various cubicles or other apartments leading off right and left. At each end of the building is a stone staircase communicating with the various floors and approached from the hospital side by an external entrance. The new home has communication on the ground and first floors with the existing nurses' home by means of a glass-covered corridor, so that the whole nursing staff will be brought into direct communication. The whole of the premises are lighted by electricity and heated throughout with hot water, the heating chamber being placed at the lower part of the sanitary tower.

Stanley Hospital.

Mention was made in THE LANCET of the intention of the corporation to station a horse ambulance at the Stanley Hospital in addition to other city hospitals; in view of these arrangements the committee of the hospital have decided upon opening the Sheldon and Kellett Smith wards, which hitherto had been unoccupied. The furniture for these wards has been generously provided by an old friend of the hospital at a cost of £250. The committee have made an appeal for increased support to enable them to meet the additional expenditure incurred.

Inquest on a Museum Specimen.

About a month ago a specimen fœtus which had been in use for a number of years for purposes of illustration in the physiological laboratory of University College was found not to have been hermetically sealed in the containing jar, with the result that the methylated spirits had partly evaporated, causing an unpleasant odour to exude from the jar. Under these circumstances the fœtus (a stillborn conception of seven months) was placed in an outer yard with high walls surrounding. By some unknown means the fœtus was thrown away into the College ashpit, the *débris* from which was in the ordinary course removed to the city destructor. When about to dispose of the load the man in charge discovered the dead body of an "infant" in the rubbish. The matter was duly reported to the city coroner, who upon investigation by his beadle found the particulars to be as stated above. Yet with all these facts unreservedly placed before him by the College officials the coroner not only decided upon holding an inquest but also ordered a post-mortem examination of the fœtus which, as stated by the officials of the physiological department, was found to have been stillborn and only a seven months' conception. In the light of the explanations made to the coroner's beadle as to the use made of the preserved fœtus for purposes of demonstration the general impression prevails that an inquest might without injury have been withheld and that far too much has been made of a very small affair indeed.

The New Coroner of Birkenhead.

Mr. Cecil Holden, who was recently appointed Coroner of Birkenhead in the room of the late Mr. Henry Churton, held his first inquest at Birkenhead on Feb. 26th. Mr. Holden, unlike his predecessor, is a solicitor, and this fact attracted many of his cloth to offer their congratulations. Mr. Cornwall, J.P., a medical practitioner, who was also present, congratulated the new coroner upon his election and expressed his approval of the appointment of a legal coroner in that "a medical man was too much inclined to call in expert evidence and on medical points to be both judge and jury; whereas a legal coroner was able to sift the evidence and to depend in medical matters upon skilled medical men who had experience in poisons and other matters." It is open to question how far these allegations against the fitness of a medical man for the office of coroner can be sustained; in fact, some of the best coroners in the kingdom belong to the medical profession and Mr. Cornwall would have done better in merely congratulating the new coroner upon his appointment (where no doubt he will prove himself very capable), omitting his remarks derogatory to the qualifications of medical men for the office, such remarks being contrary to the well-sustained opinions of many of his medical brethren.

New Infirmary for Toxteth.

A valuable addition to the accommodation for the sick poor of the Toxteth Union has just been completed. The new infirmary contains 412 beds, an administrative block, and a nurses' home. A well-appointed tile-lined operating-room is provided and is in the centre of the building readily accessible from all parts. An ophthalmic room is also provided. The administration block is centrally situated and is in direct communication with every ward; it includes among other arrangements a large dining-room for the staff, a well-fitted dispensary, and rooms for the lady superintendents and resident medical officers. The infirmary so far is intended for men only, a further addition for females being in contemplation.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

University of Glasgow.

THE Queen has been pleased, on the recommendation of the Secretary for Scotland, to signify her approval of the appointment of Professor John Glaister, M.D., to the vacant chair of Forensic Medicine in the University of Glasgow. Dr. Glaister is a graduate of the University in which he now becomes a professor; he is also a Fellow of the Faculty of Physicians and Surgeons of Glasgow and a Diplomate in Public Health of the University of Cambridge. For some years he has taught the subject of Forensic Medicine in St. Mungo's College, Glasgow, in which institution he has also taken charge of the Public Health Laboratory. He is an examiner in the same subjects on the Conjoint Board for Scotland and has for some time acted as police surgeon for one of the Glasgow city districts. Recently he was elected a Fellow of the Chemical Society and a Fellow of the Royal Society of Edinburgh. He is also a Fellow and member of council of the Royal Institute of Public Health, a member of the council of the Sanitary Association of Scotland, and president of the sanitary and social economic section of the Philosophical Society of Glasgow. He has written extensively on the subjects which he is now called upon to teach in the University and his book on "William Smellie and his Contemporaries," published in 1894, is well known. Professor Glaister has taken a prominent part in local public life and in numerous discussions on university questions has been one of the most conspicuous advocates of the policy of reform.

Faculty of Physicians and Surgeons, Glasgow.

Mr. James Grant Andrew, M.B., C.M. Glasg., having passed the necessary examinations has been admitted a Fellow of the Faculty.

St. Mungo's College, Glasgow.

At the March meeting of the Students' Society Professor Swanson delivered a lecture, illustrated with limelight views of various cliniques, on "Medical Education in Russia." Professor Swanson read a letter which he had received from Professor L. Levschine, director of the Surgical Clinique, Moscow, in which the director expressed his gratification at the effect produced on the minds of the visitors to the late Congress by the evidences of medical activity which Russia now presented and offered the assurance that "we will accept your countrymen who may come here to study with the utmost cordiality and affection."

Glasgow Humane Society.

Dr. Alexander Robertson, who has for ten years acted as secretary of the society, has found himself compelled by the pressure of other work to resign office and the council, in accepting his resignation, have expressed their high appreciation of his unwearied devotion to the work of the society and their regret that he should have found it impossible to continue to serve the society as secretary.

March 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Local Government Bill for Ireland.

THE Committee of Council of the Irish Medical Association met at the Royal College of Surgeons on March 8th in order to consider the following business—viz., the provisions of the Local Government Bill affecting the medical profession. The grand jury for the County Monaghan met on the 4th inst. and passed the following resolution unanimously: "We, the grand jury of the County Monaghan assembled at the spring assizes, 1898 beg respectively to call attention to the fact that in the Local Government Bill now before Parliament no provision is made for county infirmaries or fever hospitals. We consider the matter of such urgency that we believe the omission must have been an oversight on the part of the framers of the Bill. We trust, therefore, that they will remedy it at the proper time." In reference to lunatic asylums the grand jury of the County Longford passed unanimously a resolution: "That the Government, in order to give relief most urgently required by the cesspayers all over Ireland, should take over entire charge of Irish lunatic asylums in the same way that they have taken over the prisons, so that the Irish asylums should for the future be wholly maintained at the cost of the State as an Imperial charge.

"Cancer Curers" in Ireland.

In the *Irish Times* of March 5th, a long letter appears from Lord Maurice Fitzgerald, of Johnstown Castle, County Wexford, warning the people and peasantry to avoid the "cancer curers" so numerous in Wexford. If persons of influence throughout the kingdom would follow Lord Maurice Fitzgerald's example, and thus warn their less instructed neighbours of the perils of quackery, they would be conferring a great boon on the community.

The Meath Hospital.

A very successful matinée was given at the Empire Theatre on March 5th, in aid of the funds of the Meath Hospital and County Dublin Infirmary, under the distinguished patronage of their Excellencies the Lord-Lieutenant and the Countess Cadogan, Field Marshal Lord Roberts, V.C., and Lady Roberts, and Major-General Gossett, C.B., the officer in command of the Dublin district.

Water-supply for Coleraine.

Mr. Atton, Chief Engineering Inspector of the Local Government Board, held an inquiry in Coleraine on March 2nd concerning the application of the Coleraine Town Commissioners for sanction to a loan of £5000 for the purpose of providing an additional water-supply for the township. No opposition was offered to the scheme. The proposed reservoir will contain 4,000,000 gallons and the promoters counted upon a supply of about 70,000 gallons per diem. The supply would enable the highest cisterns in the town to be supplied. The matter now rests in the hands of the Local Government Board.

Nurses for the Sick Poor in Belfast.

At the annual meeting of the Society for Providing Nurses for the Sick Poor held on March 2nd in Belfast the report showed that the nurses paid 18 955 visits and that 710 nursing requisites (such as beds, armchairs, air-cushions, &c.) were lent. There is a balance in the bank of £1082 12*s* 3*d*. to cover the expenses of 1898 and also a sum of £210 to be invested.

The Ulster Medical Society.

The March meeting of this society, which was largely attended, was held in the Pathological Laboratory, Queen's College, Belfast, on March 3rd, the President (Dr. J. A. Lindsay) being in the chair. Papers were read by Professor Symington on Cranio-cerebral Topography (with lantern and other illustrations); by Dr. Lorrain Smith on the Pathological Effects of Breathing Oxygen at High Pressure (with demonstrations); by Dr. Cecil Shaw on Sympathetic Ophthalmia; and by Dr. Tennant on Degeneration and Necrosis in Tumours (with microscopic specimens). Demonstrations were given by Professor Thompson on a Method of Showing the Effects of Peptone and Albumoses on the Kidney; by Professor Sinclair on (*a*) Subcutaneous Epithelial Tumour of the Neck and (*b*) Tumour of Kidney; by Dr. Lorrain Smith on Museum Specimens Preserved by the Formalin Method; by Dr. McKisack on a Series of Microscopic Specimens from a case of Malignant Structure of the Intestines; and by Dr. Houston on a Rare Form of Epithelioma of the Skin.

Omagh Lunatic Asylum.

A special meeting of the Governors was held on March 4th to consider the report of the committee appointed to draw up recommendations on the reports made by the sanitary expert to the Inspector of Lunatics and by Dr. Courtenay and Mr. W. Roberts. The inspection arose from complaints made by the resident medical superintendent as to the insanitary state of the house. The high death rate existing during 1897 was owing to an epidemic when 96 patients had died. The committee recommended that instead of the present mode of appointing attendants and nurses applications for appointment to all vacancies on the staff, excluding the medical assistant, matron, clerk, storekeeper, and land steward, should be accompanied by the usual testimonials and addressed to the resident medical superintendent, who after a personal inspection of the applicants should recommend for appointment those who were best fitted for the position. A warm discussion took place as to who should make appointments and it was finally agreed that the appointment of anyone from the supplemental list would depend upon their being physically fit for appointment, and that the resident medical superintendent should fill from the supplemental list any vacancy that might be created on examination, the examination to be held on the day of appointment. The committee approve of Dr. O'Farrell's recommendation to appoint a committee of Governors to inspect the house at least once a month. The consideration of that part of the report which referred to the insanitary state of the house was put off for the present. Dr. McKelvey was elected medical officer in room of Dr. Moore resigned.

An Interesting Medico-legal Case.

A case has just been tried at the Limerick Assizes which raised some interesting medico-legal questions. A man named Evans was charged with the murder of his wife. Soon after the deed had been done Evans was arrested, but as he was found to be insane he was removed to the district asylum. When the case came up for investigation at the assizes a jury was empannelled to decide in the first instance whether he was in a condition to plead. Mr. O'Neill, resident medical superintendent of the asylum, stated that the mental condition of the prisoner had considerably improved and that he was in a condition to plead and appreciate what went on in court. Mr. O'Neill, in reply to prisoner's counsel, stated that the prisoner was still partially insane and, answering a question of the judge, said he was not in a condition to be discharged from the asylum, but added that he now had a lucid interval and was in a position to instruct his legal advisers. Accordingly the jury brought in a verdict that the case should proceed. The judge instructed the jury as to the law bearing on such cases and in the course of his charge remarked that it was a melancholy thing that the police-sergeant as far back as 1892 charged this man with being a dangerous lunatic, but the magistrates were not quite satisfied. The jury brought in a verdict that the prisoner was insane at the time he killed his wife and the usual order for his detention was made.

Dinner and Presentation to Dr. Oakshott.

On Thursday last a farewell dinner was given at the Imperial Hotel, Cork, to Dr. Oakshott, senior assistant medical officer of the Cork District Asylum, on the occasion of his departure to take up the duties of medical superintendent of the Waterford District Lunatic Asylum. The chair was occupied by Dr. Oscar Woods, medical superintendent of the Cork Asylum. The following day Dr. Oakshott was the recipient of an address and handsome presentation from the officials and attendants of the Cork Asylum.

March 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Suprarenal Extract in Addison's Disease.

AT the meeting of the Hospitals Medical Society held on Feb. 25th M. Beclere showed a young man, aged twenty-eight years, suffering from tuberculosis, but without any marked pulmonary lesions. In addition he had at one time all the symptoms of Addison's disease, but he had lost all these in a short space of time and had remained free for the space of three years. The chief point of interest in this case was that the patient had been treated with suprarenal extract administered in various ways, both given internally in capsules and also given in the form of a watery glycerine extract which was injected under the skin. The suprarenals used were those of the calf. Nothing of note happened during the treatment and it was reasonable to suppose that the giving of the suprarenal extract had contributed very largely to the cure of the patient. M. Beclere compared the treatment of patients suffering from Addison's disease by suprarenal extract with that of patients suffering from myxœdema by thyroid extract and came to the following conclusions. In myxœdema the beneficial action of the thyroid extract is obvious after only a few days' treatment; in Addison's disease, on the other hand, at least two months elapse between the commencement of treatment and the appearance of beneficial results. In myxœdema the benefits are only temporary—i.e., the patient must continue the treatment throughout the remainder of his life. In Addison's disease the benefits of the treatment last for some five months after the administration of the extract has been left off and in the case he was citing the improvement must not only have continued but have really increased, for the patient had remained well for three years. The fundamental differences between the mode of action of suprarenal extract and thyroid extract were as follows. Thyroid treatment acted by supplying the organism with substances which the myxœdematous person could not manufacture for himself, while in the case of suprarenal extract the most reasonable hypothesis seemed to be that it brought about a compensatory hypertrophy of those portions of the suprarenal capsules which remained healthy and this hypothesis agreed with the results obtained by hypodermic injections of suprarenal extract in animals. M. Gaillard said that he had tried this treatment in an analogous case and had obtained no result whatever. M. Widal had tried it in a patient who was a typical case of Addison's disease, and who had a tuberculous family history; he could tolerate from ten to twelve grammes daily of suprarenal capsules from the sheep. No alteration occurred in the amount of pigmentation. The patient left off treatment highly delighted with the increase in his strength, but returned at the end of some weeks just as weak as before and with gastro-intestinal troubles in addition. He died shortly afterwards. M. Widal, however, believed that the treatment was worth trying provided that it was begun quite early in the disease. M. Hayem had treated a patient in 1894 with doses of from ten to fifteen grammes of calf's suprarenal capsules per diem. As in M. Widal's case the weakness was much relieved after some two or three months' treatment, but no difference was noted in the pigmentation. The improvement lasted for ten months, but finally gave way and the patient died in 1896.

Professor Grimaux and the Zola Trial.

M. Grimaux, formerly Professor of the Faculty of Medicine and still a member of the Academy of Sciences and Professor at the Ecole Polytechnique, was subpœnaed as a witness on M. Zola's side in the recent trial. He attended at the court and gave it as his opinion that the famous writer had done quite right in publishing his notorious letter of accusation against the Etat Major. He added that both M. Zola and Captain Dreyfus were completely unknown to him. These remarks were the cause of great excitement among various officers, many of whom had been pupils at the Polytechnic and consequently of Professor Grimaux. So that evening, in the corridors of the Palais de Justice, when Professor Grimaux offered his hand to these gentlemen, they refused to take it and turned their backs on him. In consequence of these incidents the Minister of War, in whose hands are the direction of the Polytechnic School and the nominations of the professors, considering that the position of Professor Grimaux would be intolerable with regard to his pupils, suspended him from office. On March 5th at the meeting of the Society of Biology, as soon as Professor Grimaux made his appearance Professor Charles Richet rose and made a little speech. He reminded the members that it was the custom in that society to congratulate any member who had recently attained any distinction or decoration or had been nominated to any important post. He therefore thought they ought to congratulate Professor Grimaux on account of his suspension, for it was an honour to him as a sign of the independence and dignity of his character. Professor Grimaux, who was much affected, expressed his thanks and the society voted that its congratulations should be entered on the minutes, all the members present except five agreeing to this.

Acquittal of Dr. Laporte.

The Court of Appeal has acquitted Dr. Laporte, who it will be remembered was condemned by the Court of First Instance for having caused the death of a patient in whom he had performed craniotomy. The Advocate-General has in addition withdrawn all accusations against him.

The Treatment of Eczema and Psoriasis by Scarification.

At the meeting of the Therapeutical Society held on Feb. 23rd M. L. Jacquet said that he had only found the scarification treatment of psoriasis applicable to isolated patches. It was useful above all in psoriasis which occurred upon portions of the body generally uncovered, such as the hands and face, and also in women for patches occurring on the chest and the upper part of the back. M. Jacquet has treated in this fashion two patients and both were speedily relieved without any scar following. The scarification was done in several sittings after careful removal of the surface of the patches. This was repeated twice a week for two months in the one case and for a slightly less time in the second. This method is only applicable, says M. Jacquet, to patches of limited size and especially to those which are objectionable by reason of their situation. Perhaps, however, the success which he had obtained in these two cases was due to the fact that the disease had been for a long time in *statu quo* and was not, as in some others in which he had tried it, still spreading. The advantages of this method are also apparent in cases of eczema. M. Jacquet has treated cases of eczema of all kinds. His figures can be distributed as follows: (1) three cases of lichenoid eczema on the backs of the feet, the hands, and the forearm; (2) a very chronic eczema in the pre-auricular region on both sides; (3) two cases of chronic eczema of the fingers; (4) three cases of eczema of the face in adults; and (5) four cases of eczema of the face in children. M. Jacquet's method of treatment was as follows. First of all a poultice made from potato starch is applied; it must be cold and often renewed. No antiseptics are used and the poultice is only taken off during the time of the operation itself. Secondly, the places are scarified with a sharp instrument in parallel lines, the superficial layer of the skin being divided to a depth of three millimetres. No cross cuts are made. Thirdly, the patches are dressed with wet compresses and on returning home the patient applies again the starch poultice, which must be kept on until the next sitting—that is to say, in the majority of cases for three or four days—in the course of which time every vestige of the scarification will have disappeared. If carried out in this manner the scarification is very slightly painful and is borne well. According to M. Jacquet from six to thirteen sittings are sufficient to bring about a cure.

March 8th.

FROME HOME FOR TRAINED NURSES.—The annual meeting of this institution was held on Jan. 28th. The treasurer's report showed receipts amounting to £484 and expenses amounting to £490, leaving an adverse balance of £6.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Enteric Fever Bacilli in Buttermilk.

ENTERIC fever bacilli have been found in fresh milk by several observers, but they usually perished when acid fermentation developed. The prevalence of enteric fever among the children of a board school in Hamburg where buttermilk was largely used induced Dr. Fränkel and Dr. Kister to inquire whether the source of the infection might be traced to this milk. According to a communication published by them in the *Münchener Medicinische Wochenschrift* they first ascertained what kinds of bacteria were able to live in buttermilk notwithstanding its strongly acid reaction; and in every instance they found certain saprophytes. Cultures of enteric fever bacilli were then added to sterilised buttermilk and kept at different temperatures—viz., on ice, at 22° C. (61·6° F.), and at 37° C. (98·6 F.). Some of the bacilli on the ice and also those kept at 37° C. remained alive till the third day, while some of those kept at 22° C. remained alive till the ninth day. The amount of acid present in freshly-made buttermilk was therefore not sufficient to destroy the bacilli in a short space of time. The experiments made with sterilised buttermilk proved that the bacilli of enteric fever developed together with the saprophytes, but the germs decreased rapidly in number after a certain time. At 22° C. there was a decrease of one-third after three hours and after twenty-four hours the bacilli had perished in about 50 per cent. of the cases. At 37° C. the bacilli lived a much shorter time, the consequence being that after eight hours examination gave a negative result in about 40 per cent. of the cases. These experiments accordingly prove that the infection of enteric fever may be conveyed by buttermilk.

The Disinfection of the Skin.

In the *Centralblatt für Chirurgie* Dr. Landerer and Dr. Krämer, surgeons to the Karl Olga Hospital in Stuttgart, describe a new method of disinfecting the skin previously to operations. They point out that the methods hitherto used are insufficient from a bacteriological point of view, as an investigation undertaken by Dr. Lauenstein, of Hamburg, showed that the skin was sterile in only 49 out of 124 cases examined. The bacteria are kept on the skin by its sebaceous secretion and are present not only on the external surface but also in the interior of the sebaceous glands. The usual cleansing with soap and ether may dissolve the superficial sebaceous substance on the skin but does not attack the bacteria in the subjacent strata. For this purpose gaseous disinfecting agents are necessary, that used by Dr. Landerer and Dr. Krämer being a 1 per cent. solution of formalin. After the usual application of soap and water a bandage moistened with this solution is put on the skin and covered with thin indiarubber. After six hours the bactericidal action is obvious and in from twelve to thirty-six hours absolute sterility is secured. When the bandage is kept on for more than two days the skin becomes indurated and the primary union of the divided tissues seems to be interfered with. In sixty patients treated in this way the wounds healed by primary union in all except three cases of hernia. Bacteriological examination proved that the skin was sterile in about 90 per cent. of the cases.

The Bathing of New-born Children.

In a paper read before the Hufeland Society of Berlin Dr. Neumann uttered a warning against bathing infants during the first few days after their birth, as he is of opinion that the cicatrisation of the umbilicus is hindered by bathing and that infection may arise from the germs present in the water. His views are strongly opposed by Dr. Schrader, assistant physician to the University Lying-in Hospital of Halle, who has written to the *Berliner Klinische Wochenschrift* stating that he has examined a series of 150 newly born children of whom one-half were bathed in the usual way whilst the other half were only washed. The stump of the umbilical cord was dressed with salicyl powder and cotton wool; in the case of the infants who were bathed this dressing was changed after each bath, but in the case of the infants who were not bathed the dressing was allowed to remain for several days. The temperature of the children was taken twice a day, the result being that of the 50 children 22 (14·7 per cent.) had a rise of temperature. In 12 cases the temperature rose only once above 38° C. (100·4° F.); 8 of the 22 had been bathed and 14 had only been washed. There was only one instance in which an infection of the umbilical wound appeared to be the cause of the fever and this case occurred in an infant who had not been bathed. In nine instances the umbilical stump was fœtid, but once only in a bathed child. It fell off on an average on the fifth day in the infants who had been bathed, but somewhat later in those who had not. As for the influence of bathing on the weight of the infant Dr. Schrader states that on the tenth day after birth the average increase of weight shown by 63 of these infants was 140 grammes for 32 who had been bathed and 132 grammes for 31 who had not been bathed. At the same time it was found that 19 of these infants had the same weight as at birth; 9 of them had been bathed and 10 had been washed. It was therefore obvious that bathing had no prejudicial influence on metabolism, neither was any harm done by it to the eyes, as alleged by Dr. Neumann. One case of slight catarrh of the conjunctiva occurred in each of the two divisions—those who had been bathed and those who had not been bathed.

Behring's Tetanus-antitoxin in Veterinary Practice.

Dr. Arndt, Government veterinary surgeon in Oppeln, has collected the cases of tetanus in horses which have up to the present been treated by Behring's antitoxin, and has published the results in the *Deutsche Medicinische Wochenschrift*. The first series contains 28 (*sic*) cases in private practice, of which 6 were injected on the first, 8 on the second, 3 on the third, 3 on the fourth, 2 on the sixth, and 1 respectively on the fifth, seventh, eighth, and ninth day of the illness. Of the horses treated on the first day 5 recovered and only 1 died; of those treated on the second day 3 recovered and 5 died. On the other hand, the cases treated on the sixth, seventh, and eighth days all recovered. Some observers considered that a temporary improvement was produced by the antitoxin even in fatal cases, whilst others believed that an originally slight attack was made worse by the injections. A diuretic action observed by Professor Dickerhoff of Berlin is denied by Dr. Casper of Frankfurt. The second series contains 28 cases treated in the Royal Veterinary Hospital in Berlin, 15 of which recovered and 13 died; of the latter 5 were in a hopeless state when brought to the hospital. The results of the injections are much better than those obtained without treatment, the ordinary death-rate being about 85 per cent. Recovery occurred from the ninth to the seventeenth day. Intravenous injections or double doses did not produce a quicker recovery. It was observed that the antitoxin produced by the Hoechster Farbwerke differed very much in strength. In a third series of 19 horses treated by an antitoxin of less strength there were 16 deaths. Dr. Arndt's statistics show that of 75 horses treated 33 recovered and 42 died. In cases complicated with pneumonia, pulmonary œdema, and cardiac debility the remedy proved useless.

March 8th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Typhoid Fever in Milan.

PROFESSOR BORDONI-UFFREDUZZI, medical consultant-in-chief to the city of Milan, has just delivered before its Royal Society of Hygiene an interesting lecture on the typhoid epidemic which raged last year in the Lombard capital and its environs. One point which he put in evidence will, I think, be borne out by the experience of other continental capitals—to wit, that within the last thirty years the fever, though not appreciably less frequent, is at the same time less grave in its symptoms, insomuch that many cases of undoubted typhoid fever are so mild and run so easy a course that they are not reported to the health authorities at all. In 1894 Milan had 468 cases of the disease and 269 deaths, while in 1897 she had 1525 cases and only 242 deaths. What raised the mortality in Milan last year was not the number of deaths occurring in the centre of the city but those occurring at the gates or in the environs, these outlying points receiving a large contingent of cases brought in from the neighbouring communes and having little or no connexion with Milan. Drainage and water-supply, though better than they were a decade ago, are, by the admission of Dr. Bordoni-Uffreduzzi, still far from being worthy of such an important centre as the Lombard capital—out of 904 dwelling-houses visited by typhoid fever only 83 were properly provided with drains and only 235 were in possession of "acqua potabile" (pure drinking-water). One theory as to the origin of last year's epidemic of typhoid fever Dr. Bordoni-Uffreduzzi had no difficulty in putting out of court—the excavations and disturbances of inert soil of which the city was the scene. The workmen employed in these, so far from being exceptionally stricken with typhoid fever, did not even contract malaria, the malady of which such operations are usually supposed to be productive.

The New "Istituto Antirabico" at Florence.

Milan, Rome, Naples, among Italian cities, are all provided with institutes in which the Pasteur treatment of rabies—its prophylaxis and its cure—is efficiently practised. That at Milan, indeed, as has been regularly shown by the reviews of its annual reports published in THE LANCET, falls little short of the parent institute in the success of its operations. Now—not a day too soon—Florence, for herself and for the Tuscan province, will shortly be equipped with an "Istituto" on similar lines and will thus complete the clinical resources of a school which has recently performed work so effective, particularly in the prophylaxis of the "pestis bubonica." Snake-bite, a lesion of exceptionally common occurrence in a population so prevailingly agricultural as that of Tuscany—a lesion, moreover, which, as THE LANCET pointed out in the exceptionally hot summer of 1896, can even in temperate latitudes prove rapidly fatal—will also find provision made for its expeditious and effective treatment in the new "Istituto," one of whose most active promoters, I may add, is the professor of clinical medicine, Dr. P. Grocco.

Public Security on the Riviera Lines.

The promptitude, energy, and success with which the authorities of the Alpes Maritimes ran to earth and committed for trial the miscreant who assaulted and robbed a lady in a railway carriage and afterwards threw her on the line in hopes that she would be killed outright by the next train may be taken as proof of the importance they attach to the safety of the travelling public in that favourite resort of the valetudinarian. Nothing could be more fatal to the prosperity of the Riviera Ponente than that such a daring and all but successful outrage should have been practised with impunity. Let us trust that the example of the French authorities will not be thrown away upon their Italian neighbours whose lines have yet to clear themselves of the notoriety incurred not only by frequent, if no longer systematic, luggage robberies, but also by deeds of violence not yet brought home to their authors. Within a twelvemonth of each other the route between Milan, Bologna, and Florence, much frequented at all times and particularly in summer for its balneary resorts of Salsamaggiore and Porretta, was the scene of two audacious acts of brigandage the victims of which are still without reparation or redress. Both acts were so like each other in plan and in detail that only one of them—the second—need be described as affording evidence of a supineness on the part of the authorities impudently utilised by the malefactors. Between Bologna and Porretta, *en route* to Florence, a first-class compartment was occupied by two travellers—one an Italian barrister, in lucrative practice, and another, an *employé* at the Carrara marble quarries at which he was paymaster. It was night, about 10 P.M., and the train was threading one of the forty and odd tunnels on the line when the door of the compartment suddenly opened and a man appeared with a loaded revolver, which he presented at the two passengers alternately. "I am poor," he said; "I want money desperately. Give me all you have instantly or I will fire." Taken thus aback and half asleep, as it turned out, first the one and then the other passenger gave up his purse or pocket-book with his watch and chain, and the robber, backing to the door and keeping the revolver still pointed at them disappeared in the darkness, carrying with him (*inter alia*) several thousand francs in notes to be shared with the accomplices whose collusion or coöperation (it is affirmed by the police) rendered his exploit practicable. Italians are possibly differently constituted from Englishmen who in similar circumstances (and two to one!) would have shown fight before being plundered so impudently. But, be that as it may, the moral of the incident lies in the fact that, instead of two able-bodied men, the inmates of the compartment might have been ladies or invalids, on whom the shock of the outrage might have proved very serious if not actually fatal. I have said that the robbery described was almost an exact replica of another perpetrated about the same time and place a twelvemonth before and that in both cases the authors are still at large. The fact is significant of the leeway yet to be made up in Italy for "pubblica sicurezza," the control of which has lately undergone one of its many periodical but inefficient overhaulings. Here (as in so much else Italian) want of funds lies at the bottom of the evils complained of, the service being underpaid and the police offices, central and provincial, so short of money that they cannot afford to telegraph such detailed descriptions of a fugitive criminal as would lead to his discovery and arrest.

The Borelli "Istituto Iatromeccanico."

Among the anatomists and physiologists who followed in the wake of William Harvey few were so prolific in ideas and so painstaking in induction as Alfonso Borelli, of Naples (1608–1679), "der geniale Professor in Messina und Pisa" whom Haeser in his "History of Medicine" eulogises as author of "des bahnbrechenden Werkes" *De Motu Animalium* published at Rome in 1680 and often reprinted elsewhere. Conformably to laudable custom his name has been utilised for an institute on the lines he laid down in that and other cognate treatises for the practice of "muscular therapeutics" and for the prosecution of physical education on a really scientific footing. The Institute, opened the other evening in presence of a large representation of the profession, Borelli's own Naples deputing Professor Corrado, is equipped with the most recent and effective apparatus for the evolution of the muscular powers as well as for improving the respiratory processes and developing "tone" in the neurasthenic. Orthopædics are also well provided for and the "Istituto," directed by Dr. Alessandro Mari and supported by leading consultants in medicine and surgery, is expected to form the kernel of a school in which "physical education" of a healthy and thorough character can be established for imitation in other Italian centres. The movement is a gratifying one and eminently reassuring for "Young Italy," of whose future it has become the fashion to take rather desponding views. The present Government is interesting itself actively in the same direction and the "Consiglio Superiore dell' Istruzione" at a recent sitting took steps for raising the "livello intellettuale degli insegnanti di Ginnasio" (the intellectual level of gymnasium teachers), mainly on the anatomico-physiological lines in which Borelli was a pioneer. The truth is, Italy is undergoing that best of "awakenings" at present, in which her men of science, particularly those of her medical schools, in parliament and in public, are creating an enthusiasm for more masculine ideals, physically and mentally, than those hitherto in favour with the "civiltà Latina."

The Bacillus Icteroides and Serotherapy in Yellow Fever.

THE LANCET has given a detailed account of Professor Sanarelli's discovery of this bacillus[1] and in subsequent issues has referred to the progress made by the same investigator in the serum treatment of yellow fever. From Montevideo (in whose university Professor Sanarelli holds the chair of Hygiene and whose Hygienic Institute he still directs) comes the announcement that at San Paulo that treatment is being practised on a considerable scale and "ottiene gran successo." An official report of the results, published under the eye of Professor Sanarelli himself, is awaited with interest.

March 5th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

The Budapest Pasteur Institute in 1897.

THIS institute had treated 1685 persons in the last year who had been bitten by animals suspected of suffering from rabies. In 58 cases it was found that the biting animals had been healthy ones. Therefore 1627 persons could be considered as bitten by really hydrophobic or suspicious animals. Of these 15 persons died from hydrophobia—i.e., 0·91 per cent. It must be pointed out that 9 of these 15 persons had presented themselves too late for inoculation and therefore the real death-rate of the inoculated must be reduced to 6 cases, which make 0·37 per cent. of the total. This must be considered a splendid advance if compared with the days when antirabic inoculations were unknown and the death-rate from hydrophobia amounted in Hungary in those times to 13·28 per cent. The Budapest Pasteur Institute came into existence on April 15th, 1890. The whole number of persons treated with antirabic injections since 1890 amounts to 8199. Of these 131 died from hydrophobia—i.e., 1·6 per cent. From this number 73 persons who presented themselves too late must be knocked off, and thus we get among 8126 persons treated in time a mortality of less than 1 per cent. Among the persons treated during the last year in the Budapest Pasteur Institute there were 3 who had come from Germany, 59 from Servia, 5 from Montenegro, and 1 from Bulgaria.

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[1] THE LANCET, July 3rd, 1897, pp. 60–61.

“The Beginnings of Mental Life.”

This was the title of a brilliant address delivered by Professor Donath at the annual meeting of the Budapest Hospital Association. He started with an interesting description of the faculties of some of the lower forms of animal life and concluded that mental life is an evoluted form of cell activity. He then criticised the address of Dr. Bucke at the last annual meeting of the British Medical Association at Montreal, in which it was stated that mental disorders are to be attributed to atavism. Professor Donath is of opinion that the principal cause of the spread of mental disorders in the present day is first to be sought in the very hard struggle for life and secondly, but in no lesser degree, to the spread of syphilis and alcoholism. It is very interesting to note that he tried to prove that mental faculties taken grossly are the same in the savage as in the civilised man and that it is principally the absence of mental exercise and the different mode of living which explain the lower mental standard of the former.

Death of Professor Schwimmer.

Professor Ernest Schwimmer, who held the chair of Dermatology at the Budapest University, succumbed on Feb. 25th to an attack of cerebral apoplexy. The deceased was born in 1837 in Budapest. He studied medicine in Budapest and in Vienna and in the latter place became an assistant to the late Professor Hebra. After four years' service in the hospital he went to Egypt, where he studied some endemic forms of diseases of the skin. He contributed many original papers to the medical press and by his elaborated studies on leukoplakia made his name soon known in the scientific world. He was for twenty-five years an active member of the teaching staff of Budapest University, where his loss will be long felt.

Feb. 27th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Position of the Medical Profession in Victoria.

THE retiring President of the Medical Society of Victoria, Mr. J. T. Brett, took as the subject of his address the Position of the Profession in Victoria and its Relation to the General Public. He stated that statistics showed unmistakeably that the medical profession was increasing in numbers vastly out of proportion to the general population and he considered the outlook for the ever-increasing accessions to the profession a poor one—a bare subsistence and that hardly striven for. One reason for this view, apart from the overcrowding of the profession, was the continued encroachments of the friendly societies. Patients who ought to pay proper fees join these societies while the class for which they were intended crowd the hospitals. Mr. Brett insisted that medical men must combine and see to it that a wage limit is fixed by the friendly societies and he thought that those bodies would themselves recognise the justice of the demand if fairly put before them by a united profession. If not, then the profession would have to establish a public medical service itself. The public hospitals were also greatly abused, and he did not think the proposals of the Charities Bill, introduced last session, would improve matters, and the passing of such a measure would only foist on the profession further burdens and responsibilities and deprive it of much of its just due. Reference was then made to quackery, which has lately attained vast proportions in Victoria, and Mr. Brett thought it was the duty of the profession to inform the general public how they were being deceived and duped, although such action might be misinterpreted and ascribed to jealousy and unworthy motives. The recent appointment of a layman to the position of coroner was referred to and Mr. Brett approved of the action taken by the various medical societies to protest against the appointment. He would go further, however, and protest against the Coroners Act itself. He thought skilled pathologists should be appointed by the State to examine and report to the coroner upon the cause of any suspicious deaths, who would then decide whether an inquiry was necessary. The treatment of medical witnesses in courts of law also came in for adverse comment. According to Mr. Brett the medical practitioner is called as an expert and treated as a criminal and counsel have not hesitated to impute to him venality and untruthfulness. His rightful place in many cases would be not in the witness-box but on the bench as a medical assessor.

The Inspector-General of Asylums in New South Wales.

Dr. F. N. Manning, the Inspector-General for the Insane and Medical Adviser to the Government of New South Wales, is in bad health and will probably shortly retire. It has been decided by the medical profession in New South Wales to entertain Dr. Manning at dinner on Feb. 9th, when he will be presented with a testimonial. Dr. Manning was born at Rotherthorp, Northamptonshire, in 1839, and studied at St. George's Hospital. He took his M.R.C.S. Eng. in 1860 and became M.D. St. And. in 1862. He was a surgeon in the Royal Navy for some years and saw considerable service with the Naval Brigade in the Maori war in New Zealand. In 1867 he was appointed medical superintendent of the Gladesville Asylum and in 1879 Inspector-General of the Insane. It was on Dr. Manning's recommendation that the Asylum for Idiots at Newcastle was established, the first in Australia. No member of the profession in New South Wales is held in higher esteem than Dr. Manning.

The Adelaide Hospital.

Troubles still continue at the unfortunate Adelaide Hospital. The medical superintendent, has now been suspended from his position by the board of management.

The Sydney Hospital.

For the positions of six resident medical officers to the Sydney Hospital there were twelve candidates, three of whom were ladies. The proceedings of the Board of Directors were conducted with closed doors, but it is understood that considerable discussion took place as to the advisability of electing women as resident officers. The women were not elected. Dr. Walter Cecil M. Clelland was elected medical superintendent. Dr. Thomas H. Kirkland has been appointed honorary assistant aural surgeon.

The Melbourne Hospital.

Some time ago the medical staff of the Melbourne Hospital called attention to the insufficiency of the accommodation for out-patients. A sub-committee of the staff of the Hospital Committee met and inspected the out-patient department and plans were drawn up for better accommodation, but as usual nothing was done for want of funds. The matter was again before the committee recently and it was decided that the Finance Committee should bring up a report on the subject.

Appointment of Public Vaccinator at Port Melbourne.

The Port Melbourne Municipal Council is aggrieved because the Board of Health recommended a medical practitioner residing at South Melbourne for the position of public vaccinator in preference to medical practitioners residing in the municipality. The Council protested to the Board of Health and getting no satisfaction appealed to the Minister of Health, who referred the matter back to the board with a request for the reasons which led to the appointment of the South Melbourne practitioner. It has been customary to recommend the health officer for the post of vaccinator and the board replied that one reason for not recommending the health officer in this instance was that he had stated on a public platform that he was an opponent of vaccination.

The Intra-peritoneal Operation for Abdominal Hydatids.

In the *Australasian Medical Gazette* for January Dr. Fiaschi, of Sydney, records five cases of abdominal hydatids successfully treated by Russell's method and advocates its adoption, its advantages being rapid and painless recovery, less danger of exhaustion and less danger of septic infection, and greater ease in treating cysts on the upper surface of the liver and spleen.

Jan. 25th.

Obituary.

JOHN ANDREW MALCOMSON, M.D. R.U.I.

ONE of the most simple, single-minded, and yet withal firmest and strongest of men has fallen in the very thick of the battle while fighting valiantly in the front rank, utterly regardless of self-preservation, in the person of Dr. Malcomson, who as medical officer of health of the borough of Middlesbrough performed his duties to the satisfaction and admiration of all for the last quarter of a century. The present epidemic of small-pox added so enormously to his physical and mental labours that his death, ensuing as it did from cerebral hæmorrhage within one hour in a man forty-six years of age, previously healthy as far as was known, and of robust physique, suggests but one conclusion, that he sacrificed himself in his over-zeal for the welfare of the town he served, and those only who knew him well can judge to what degree he would, and did, exert every atom of his powers both of mind and body.

Dr. Malcomson was a member of an old Yeoman family in Ireland and graduated M.D. at Queen's (now the Royal) University, Dublin, at the early age of twenty-one years; after a brief time in Oxford as an assistant he went to Middlesbrough in a similar capacity to the late Mr. Dickinson. Before many months had elapsed he obtained the vacant house surgeoncy at the North Riding Infirmary and very shortly afterwards resigned it for the appointment of medical officer of the New Fever Hospital, a post which his former principal, Mr. Dickinson, had resigned. He had now got his foot on the first rung of the ladder largely by what is called "opportunity" and "good luck," but he made good use of that opportunity, and the corporation, speedily recognising the sort of man he was, gave him appointment after appointment as it became vacant, so that at the time of his death he was, without any special desire to be so, a veritable pluralist. He was medical officer of health, medical officer of the Fever Hospital, of the Tees Port Sanitary Authority, of the Eston District Council and the Middlesbrough District Council, honorary medical officer of the North Riding Infirmary, and conducted a private practice as large as the time at his disposal would permit him to give attention to. Dr. Malcomson was "real grit" and was soon discovered to be so by the wily Yorkshiremen; hence his success, which has been all too great. Many years ago he treated a large post-pharyngeal abscess following scarlet fever in the writer's child which threatened immediate suffocation, a result which would inevitably have ensued but for the prompt tracheotomy and suction of the blocked tube by the mouth of the operator, showing a promptitude and courage of action and devotion to duty which it is greatly to be feared ultimately led him into the seductive paths of excessive enthusiasm and its frequent sequel—premature collapse.

Dr. Malcomson, as may be inferred from the foregoing, was a strictly upright and honourable man and gained the goodwill of all classes and of his professional brethren in particular. There was never any misunderstanding between the medical officer of health and the private practitioners of Middlesbrough and district. A genial nature and presence, a large share of Irish wit, more than an average share of tact and common sense, and a genuine belief in the goodness of mankind as a whole kept him out of many a difficulty which others less gifted would have got into. The Masonic brethren will be interested to know that he was a Past Master of his lodge and that the Provincial Grand Lodge had conferred upon him high office—that of Senior Grand Warden. When the news of Dr. Malcomson's sudden death spread in the town the effect was electrical; a real shock was felt by all, followed by a feeling of deep sorrow and regret. Ten years ago he married the only daughter of the late Dr. Smith, of Derry, whom he leaves with three children to bear the burden of an irreparable loss, for his married life was in true accord with his professional one. Dr. Malcomson died on March 1st and on the 4th was interred at the new cemetery, Middlesbrough, with all the honours of a public funeral. The attendance was one of the largest and most representative that has ever taken place in the town and was most indicative of the position he had held in the hearts of the public and his profession.

Medical News.

SANITARY MATTERS AT TORQUAY.—The sanitary committee of Torquay, acting upon the advice of their medical officer of health (Mr. Karkeek), have decided to abolish the old sanitary certificate and to issue in its place a formal report of inspection recording that the drains and pipes have been tested by smoke and found in good working order. There is to be a footnote repudiating any legal responsibility. Mr. Karkeek was anxious to secure the use of the water test, but the gradients are stated to be too steep in Torquay for its application.

EUROPEAN GENERAL HOSPITAL, CALCUTTA.—A new block of buildings in connexion with the Calcutta General Hospital and in its immediate vicinity is just now in course of erection and the ceremony of laying the foundation-stone was performed by the Lieutenant-Governor on Jan. 29th in the presence of a large gathering. A full account of the proceedings is published in the *Englishman*, the first speaker being the Hon. Mr. Glass, who gave an outline of the history of the hospital and of the various recommendations which had been made with a view to remedying its defects. He mentioned that the building, of which the foundation-stone was about to be laid, is the first of the large blocks or wards which will eventually take the place of the unsuitable structures forming the Presidency General Hospital. The central block was purchased by Government as far back as the year 1768 from a native gentleman, who it is understood built it as a place in which to entertain his European friends. The two detached wings were built in 1795. At that time the central block was used as a civil hospital, the eastern block as a European military hospital, and the western block as a hospital for sepoys—an arrangement which remained in force till 1870, when the two military hospitals were transferred to other quarters and the institution was applied to its present purpose of a general hospital for Europeans. The designs of the new building were prepared by Mr. W. Banks-Gwyther, A.R.I.B.A., under secretary, Public Works Department. After the laying of the stone Sir Alexander Mackenzie addressed the assembly in a long speech describing the various financial and other difficulties which had presented themselves. The committee appointed to consider the question of improving the hospital had estimated the cost of carrying out its recommendations at twenty-two lakhs of rupees. The committee had received a very valuable communication from Brigade-Surgeon-Lieutenant-Colonel A. Crombie making various suggestions as regarded the plan and style of the building. One of these suggestions was that as in England and in Europe hospitals were being provided with pure warm air, so in Bengal they should provide cool filtered air for the wards. He (Sir Alexander Mackenzie) was of opinion that it might be desirable to cool the air during eight months of the year, but for four months Calcutta enjoyed as good a climate as any other place and it would not be desirable to cool the air in the cold weather. With a view to obtaining further information Mr. Banks-Gwyther, who was going to England on leave, was instructed to consult the authorities of the Birmingham Hospital, where the introduction of pure warm air has been decided upon. With regard to another suggestion relative to accommodation for paying patients Sir Alexander Mackenzie said that special accommodation for the wealthier classes could not be provided in a public hospital maintained at the expense of the ratepayers, but if the European community came forward as the committee suggested and assisted in building and equipping a comfortable ward for well-to-do patients the Government would meet them half-way. He recognised the propriety of treating indigent planters and poor Europeans of gentle nurture in a more liberal way than was possible at present and a communication had been received from the Planters' Association of Assam offering, in commemoration of Her Majesty's Jubilee, to provide a sum for the endowment of a ward for indigent Europeans of that class.

The Roentgen Society.—A meeting of this society was held on March 1st at 11, Chandos-street, W., Professor Silvanus Thompson being in the chair. Mr. J. H. Gardiner read a paper on the Relation between the Photographic Action and Penetration of Roentgen Rays Generated at Different Vacua. Five stages of vacua were demonstrated. Curves were plotted, one of which gave a means of calculating the length of exposure and state of tube necessary to get a good radiogram of any given object. Mr. Wilson Noble followed with a paper on Various Makes of Tube and Varying Conditions of Vacua. He thought that, generally speaking, the higher the vacuum the better. By increasing the size of the electrodes resistance might be lessened, although it would not increase the amount of x rays. He had good results with double anodes and large tubes. Dr. Walsh showed a skiagram of Congenital Dislocation of the Hips by Mr. Noble Smith and Mr. Isenthal demonstrated a New Coil for M. Rochefort and M. Widys, of Paris.

Seamen's Hospital Society. — The annual meeting of the Seamen's Hospital was held on Feb. 25th at the Royal United Service Institution, the Bishop of London presiding. The statistics showed that during the year there were 2620 in-patients and 22,500 out-patients. The total ncome was £22,250 and the total expenditure £17,760. The Prince of Wales's Hospital Fund contributed £1413, ncluding £918 for the branch hospital; the American citizens in London subscribed, through the American Victoria Jubilee Fund, £1000 for the endowment of a bed; and the Queen also sent her usual subscription of 100 guineas.

Bristol Medical Dramatic Club.—The Bristol Medical Dramatic Club gave very successful performances of Mr. A. W. Pinero's comedy *The Magistrate* on the evenings of Feb. 15th, 16th, 17th, 18th, and 19th, at the All Saints' Hall, Clifton. The club practically commemorated its coming of age and for several years has given excellent dramatic entertainments in aid of the local medical charities.

Liskeard Cottage Hospital.—The second annual meeting of the subscribers to the Passmore Edwards Cottage Hospital, Liskeard, was held on Feb. 1st, under the residency of the Mayor. The report showed that the total xpenditure had been £304 and the receipts £506, leaving balance of about £200 in hand. There were seventy-six dmissions of patients during the year. The honorary secretary alluded with regret to the loss sustained by the eath of Mr. A. Hingston, the honorary consulting surgeon.

Diphtheria in London.—The amount of diphheria in London during the four-weekly period ended on eb. 26th was but little different from the amount chronicled uring the first four weeks of the current registration year nded on Jan. 29th. In the January period the total notified attacks was 901 and in the February period 39. The respective weekly averages were 225 and 35; and whilst in the earlier period there was invasion all the sanitary areas of London there was one excep- on in the later period. Again, there were in January ree districts having upwards of 50 notified attacks each d a total of 201, whilst in February there were four such stricts with an aggregate of 299 attacks. Other six stricts had only 23 cases in all. The registered deaths om diphtheria in the February period were 166 in number, 41 weekly, as against 163 in the preceding period; and e case mortality fell from 18·1 per cent. in January to ·7 per cent. in February. On the whole, therefore, the ta for February compared very favourably with the ening weeks of the year, whilst they in turn had own a satisfactory decline when compared with the ncluding months of 1897. But though this can be said London county the same by no means holds good in gard to the diphtheria mortality in the outer ring of the tropolis, the suburban districts, and especially certain of em, having given evidence of large mortality. Thus in e four weeks of January the deaths in the several weeks re 15, 10, 7, and 15, making a total of 47; but in the cceeding four weeks, making the February period, the gistered deaths in the outer ring were 15, 22, 18, and 23 spectively, yielding an aggregate of 78. The tendency to idemic proportions has therefore been growing in the burbs, a district which has less than one-third of the Greater London" population and two-thirds of the total htheria mortality in the February period.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Old Age Pensions.

Sir Walter Foster has introduced into the House of Commons a Bill to provide pensions for poor persons over the age of sixty-five years.

The Treatment of Habitual Inebriates.

In the House of Commons on Tuesday, March 8th, a resolution was passed declaring that it is desirable that the Government should introduce legislation dealing with the subject of the treatment of habitual inebriates. During the debate on the resolution the Home Secretary repeated his promise to undertake legislation in the course of the present session.

The Laws as to Dogs.

The Government have introduced into the House of Commons a Bill to consolidate and amend the laws relating to dogs. Mr. Walter Long, in his introductory statement about the Bill, said it was practically the same as that put before Parliament in 1894 with a few slight alterations based on the report of the Departmental Committee. It did not confer any new powers on the central authority nor did it supplant the muzzling regulations, but it gave to local authorities various powers, including powers to make by-laws as to stray dogs.

HOUSE OF LORDS.

Friday, March 4th.

London University Commission Bill.

The Duke of Devonshire moved the second reading of the London University Commission Bill and in doing so explained that the Bill was practically the same as the one introduced last session. The only alterations were alterations made with a view to removing any possible ground of opposition to the Bill and they were in the direction of restricting the power of any future Senate to alter the statutes or regulations made by the Statutory Commission in accordance with the provisions in the schedule of the Bill. As to any opposition there might still be to the Bill his Grace said he was inclined to believe that it proceeded from a certain number of gentlemen who had taken their degrees at London University at more or less remote periods and who entertained some vague and as he thought utterly groundless suspicion that any change in the constitution of the University would in some way tend to disparage the value of the distinction which they obtained formerly and of which they were still justly proud.—After a very short debate the Bill was read a second time.

HOUSE OF COMMONS.

Thursday, March 3rd.

Vaccination Prosecution.

Mr. Thomas Bayley asked the Home Secretary whether his attention had been called to the case of the following men—namely, Mark Smith, Adam Birdger, Wilson Porter, Thomas Sandells, Arthur Savage Turmed Cooke, and William Menlin—who had been convicted and sent to Worcester Gaol as criminals for objecting to have their children vaccinated, and whether, seeing such conviction was contrary to the unanimous recommendations of the Royal Commission on Vaccination, he would give effect to these recommendations by ordering their release?—Sir M. White Ridley said that this question was the first notice he had received of the case and he was not prepared to relieve these men from the consequences of their disobedience of the law on the grounds suggested in the question.

Friday, March 4th.

Disposal and Treatment of Sewage.

Mr. Chaplin, in reply to Lord Balcarres, said that the question of the appointment of a Royal Commission on the disposal and treatment of sewage was under consideration by the Government, but he was not at present in a position to make any statement as to the membership or terms of reference.

Army Medical Department.

Mr. Powell Williams, Financial Secretary to the War Office, replying to Dr. Farquharson, assured him and the House at large that the statement with regard to the changes proposed in the Army Medical Department will be made at the earliest possible moment—on the vote if that is the first opportunity.

Glycerinated Calf Lymph.

Dr. Farquharson asked the Lord Advocate whether the proposal to supply glycerinated calf vaccine lymph under certain conditions in England would be extended to Scotland.—The Lord Advocate replied: I am not aware what are the proposals referred to as having been made in England, but I understand that the Local Government Board are now considering arrangements for supplying glycerinated calf lymph in England, and the question as to the provision of a supply to Scotland will be duly considered in connexion with these arrangements.

Lead Poisoning in the Potteries.

This subject was again discussed on a vote on account for the Civil Service and Revenue Departments. Sir Charles Dilke, Mr. Tennant, Mr. Woodall, Mr. Allen, and other members made speeches calling attention to the wide prevalence of sickness and disease among the workers—especially among the girls and young women. The Home Secretary again explained the steps he has taken to have the matter inquired into and gave the assurance that if he found occasion for the services of a special committee he would not hesitate to appoint one. Mr. Asquith afterwards addressed the House. He spoke of the difficulty he had experienced when Home Secretary in dealing with this subject and confessed that the special rules then devised had proved inadequate for the purpose. He suggested that inventors should apply themselves to making a form of respirator which would protect the wearer against the inhalation of noxious gases and at the same time be comfortable in use; but while he did so he pointed out that even such a respirator would not meet the whole difficulty, and he further suggested that before people were engaged for this dangerous employment they should be examined by a medical man acquainted with its peculiar conditions and when engaged should be examined periodically thereafter. Experience, he said, showed great difference in the degree of susceptibility to the diseases associated with this trade.

MONDAY, MARCH 7TH.

International Maritime Sanitary Board.

Mr. George Curzon, Under Secretary for Foreign Affairs, stated, in reply to Mr. Henniker Heaton, that the International Maritime Sanitary Board in Egypt had 75 employés, of whom 18 were Italians, 17 British, 7 French, 4 Greeks, 4 Austrians, 1 Swiss, 1 Belgian, and 23 natives. An English veterinary surgeon had recently been appointed.

Scientific Teaching in India.

Mr. Schwann asked the Secretary of State for India whether he could say what was the result of the recommendation which he was understood to have made in the summer of 1897 to the Government of India in support of the establishment of a physical laboratory in that country for advanced scientific teaching and research, and, if so, what sum was to be allocated to that object and when would the work be commenced.—Lord George Hamilton replied: The Government of India reported in a despatch received last week that the initial outlay on a physical laboratory of the kind described would be Rx60,000, and that they regretted in the present state of the finances to be unable to entertain so costly a scheme.

Pharmacy Acts Amendment Bill.

This Bill was read a second time without debate.

TUESDAY, MARCH 8TH.

The Sale of Poison.

Mr. Woods asked the Home Secretary if he was aware that carbolic acid was allowed to be sold in mineral water and other bottles without being labelled as poison and that the Pharmaceutical Society had recommended on three occasions—February, 1882, February, 1886, and October, 1888—to the Privy Council that carbolic acid should be scheduled as a poison, and whether the Government would at an early date give effect to the promise of the Privy Council in this matter.—Sir M. White Ridley replied: I understand that the Privy Council, while not thinking it expedient to include carbolic acid in the schedule to the Pharmacy Act, are of opinion that regulations should be made with regard to its sale and the sale of other poisonous substances and in accordance with the promise given have prepared a Bill for the purpose which will shortly be introduced.

Poisoned Vinegar.

Major Rasch asked the Financial Secretary to the War Office whether the vinegar stated to have held arsenic, supplied to the troops at Hilsea, was a portion of the vinegar obtained by contract for the Government; and, if so, who were the contractors.—Mr. Powell Williams replied: As the supply of undoubtedly poisoned vinegar is still the subject of investigation by a court of inquiry I will reserve any statement upon it beyond saying that the cask affected was one of six purchased by the regimental canteen from the same firm and that the other five were innocuous. I am glad to be able to say that all the persons affected have completely recovered.

Measles and Mumps on the Britannia.

Mr. Goschen in reply to Dr. Farquharson, said that an epidemic of measles and mumps had broken out in the *Britannia* training ship. Proper and efficient provision had been made for nursing the sick by fully-trained attendants. The present and previous outbreaks of epidemic disease had been traced to infection brought by cadets to the ship and were not attributable to any insanitary condition.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Adams, Edward W., M.B. Lond., has been appointed House Physician to the Sheffield Royal Hospital.

Arnison, T. W., M.B., Ch.B. Vict., has been appointed Senior House Surgeon to the Salford Royal Hospital, vice J. P. Hall, resigned.

Barling, H. G., M.B., B.S., F.R.C.S. Lond., has been appointed a Consulting Surgeon to the Birmingham General Dispensary.

Basden, H. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Stanford-le-Hope Sanitary District of the Orsett Union.

Bastian, H. C., M.D. Lond., F.R.C.P., has been appointed Consulting Physician to the University College, Hospital, London.

Bryant, J. H., M.D., M.R.C.P., has been appointed Assistant Physician to Guy's Hospital, London.

Chatterton, H., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Superintendent for the Infirmary of the Parish of St. Pancras, London.

Courtney, Guy B., M.A., M.D., B.C., D.P.H. Camb., L.R.C.P., M.R.C.S., has been appointed Honorary Surgeon to the Ramsgate and St. Lawrence Royal Dispensary, vice R. T. Bowden, resigned.

Crookshank, F. G., M.D. Lond., L.R.C.P., M.R.C.S., has been appointed Second Assistant Medical Officer for the Berry Wood Asylum.

Dening, E., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Stow-on-the-Wold Urban District Council.

Farnfield, W. W., M.R.C.S., L.R.C.P., has been re-appointed Resident Medical Officer for St. Mary's Children's Hospital, Plaistow, E.

Fox, Edward J., B.Sc. Lond., M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon to the Salford Royal Hospital, vice T. W. Arnison.

Frew, J. F., M.B., C.M. Glasg., has been appointed Medical Officer for the Sixth Sanitary District of the Oldham Union.

Goodliffe, J. H., M.D. Aberd., has been appointed First Assistant Medical Officer for the Berry Wood Asylum.

Günther, T., M.D. Tübingen, L.R.C.P. Lond., has been re-appointed Medical Officer of Health by the Hampton Wick Urban District Council.

Hatfield, J. R., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Chirbury Rural District Council.

Higginson, C. G., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Resident Medical Officer for the Workhouse of the Chorlton Union.

Homan, W. T., L.M., L.Ch. Dubl., has been appointed Medical Officer for the Fourth Sanitary District of the Rixbridge Union.

Horner, W. E. L., M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed House Physician to the North Staffordshire Infirmary.

Iredale, J., L.R.C.P., L.R.C.S. Edin., &c., has been appointed Admiralty Surgeon and Agent for the Mablethorpe District.

Jellett, J. W. H., M.D. Dubl., B.Ch., has been appointed Medical Officer of Health by the Heavitree Urban District Council.

Laver, A. H., M.D. Durh., M.R.C.S., has been re-appointed an Honorary Medical Officer to the Jessop Hospital for Women.

Mackintosh, A., M.D. Glasg., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health by the Clay Cross Urban District Council.

Morris, Sylvanus Glanville, M.D., M.S. Edin., has been appointed Medical Officer and Public Vaccinator for the Western District of the Llandilofawr Union.

Mouillot, F. A. de T., M.D., B.Ch. Dubl., has been re-appointed an Honorary Physician to the Yorkshire Home for Incurables.

Muir, D. C., M.D. Glasg., D.P.H. Camb., has been appointed Medical Officer for the Abertillery Sanitary District of the Bedwellty Union.

Pratt, J. W., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Wiveliscombe Urban District Council.

Pronger, C. E., F.R.C.S., L.R.C.P. Lond., has been re-appointed an Honorary Ophthalmic Surgeon to the Yorkshire Home for Incurables.

Rickards, Edwin, M.B. Oxon., F.R.C.P. Lond., F.R.C.S., has been appointed a Consulting Physician to the Birmingham General Dispensary.

Russell, J. S. R., M.D. Edin., F.R.C.P. Lond., has been appointed an Assistant Physician to the University College Hospital, London.

Schaub, J. M., L.R.C.P. Lond., M.R.C.S., has been appointed Second Assistant Medical Officer for the Infirmary of the Parish of St. Leonard, Shoreditch.

Shepheard J., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health by the North Walsham Urban District Council.

Sidebottom, T., M.B., C.M. Edin., has been appointed Medical Officer for the Sixth Sanitary District of the Lincoln Union.

Smith, A. H., M.B., C.M. Edin., has been appointed Medical Officer for the Yarm Sanitary District of the Stokesley Union.

Solly, E., M.B. Lond., F.R.C.S., L.R.C.P., D.P.H., has been re-appointed an Honorary Physician to the Yorkshire Home for Incurables.

Stanley, A., M.D. Lond., B.S., L.R.C.P., M.R.C.S., D.P.H., has been appointed Medical Officer of Health to the Municipality of Shanghai, China.

Turner, William, M.B., B.S. Lond., has been appointed Surgeon to the Royal Hospital for Diseases of the Chest, City-road, London, E.C., vice A. Pearce Gould, resigned.

Tuxford, A., M.D. Edin., has been re-appointed Medical Officer of Health by the Boston Rural District Council.

Vines, Sidney K., L.S.A., has been appointed Junior House Surgeon to St. Mary's Children's Hospital, Plaistow, E.

Walter, E. C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Cholsey Sanitary District of the Wallingford Union.

Williams, Robert, M.B., C.M. Edin., has been re-appointed Medical Officer of Health by the Leominster Urban District Council.

Wood, R. E., L.D.S. Eng., has been re-appointed an Honorary Dental Surgeon to the Yorkshire Home for Incurables.

Wrangham, W., M.B. Lond., M.R.C.S., L.R.C.P., has been appointed House Physician to Leicester Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Aston Union.—Resident Assistant Medical Officer at the Workhouse, Erdington, near Birmingham. Salary £100 per annum, with furnished apartments, rations, washing, &c.—Applications to the Clerk to the Guardians, Union Office, Vauxhall-road, Birmingham.

Birkenhead Union.—Assistant Medical Officer for the Infirmary, Workhouse and Schools. Salary £80 per annum, with board, washing, and apartments, but no extra fees. Applications to the Clerk to the Guardians, 45, Hamilton-square, Birkenhead.

Borough Hospital, Birkenhead.—Junior House Surgeon. Salary £80 per annum, with board and lodging, but no wine, spirits, or beer.

Bethlem Hospital.—Two resident Clinical Assistants for six months. Apartments, complete board, and washing provided. Applications to the Treasurer, Bridewell Hospital, New Bridge-street, London, E.C.

Brecon Infirmary.—Resident House Surgeon, unmarried, who will also undertake Dispensing. Salary £70 per annum, with furnished apartments, board, attendance, fire, and gas. Three months' notice.

City of London Asylum, near Dartford, Kent.—Second Assistant Medical Officer, unmarried. Salary £100 a year, with board, lodging, washing, and attendance. Applications to the Clerk to the Visiting Committee, Guildhall, E.C.

Coton Hill Registered Hospital for Mental Diseases, Stafford.—Assistant Medical Officer. Salary commencing at £100 per annum, with two annual increases of £25 each to a maximum of £150, with board, lodging, and washing.

East London Hospital for Children, Glamis-road, Shadwell, E.—Resident Medical Officer for two years. Salary £50 per annum, with board, residence, and laundry.

Fisherton Asylum.—Assistant Medical Officer, unmarried. Salary £100 a year, with board, lodging, and washing. Apply to Dr. Finch, Salisbury.

General Hospital, Birmingham.—Resident Surgical Officer for one year. Salary £100 per annum, with residence, board, and washing.

General Infirmary, Northampton.—House Surgeon, unmarried. Salary £125 per annum, with furnished apartments, board, attendance, and washing.

Greenwich Union Infirmary.—Assistant Medical Officer for the Infirmary and Workhouse. Salary £120 per annum, with furnished apartments, rations, washing, and £3 per annum in lieu of beer, subject to statutory deduction.—Applications to the Clerk to the Guardians, Guardians' Offices, East Greenwich, S.E.

Gold Coast and Lagos Colonies.—Appointments in the Government Medical Service. Initial salary £350 a year, with free quarters (or allowances in lieu thereof) and free passage. Applications to be addressed to the Assistant Private Secretary, Colonial Office, London.

Guest Hospital, Dudley.—Resident Assistant House Surgeon for six months. Board, lodging, and washing in the hospital provided.

Hoxton House Asylum, London.—Clinical Assistant. Board, lodging, and washing provided and an honorarium of £40 a year.

Manchester Southern and Maternity Hospital.—Resident House Surgeon. Honorarium at the rate of £50 per annum and board.

Norfolk and Norwich Hospital.—House Physician, for two years, unmarried. Salary £60 per annum, with board, lodging, and washing.

Oldham Infirmary.—Junior House Surgeon. Salary £50 per annum, with board and residence.

Portsea Island Union.—Resident Assistant Medical Officer for the Infirmary, Workhouse, and Schools. Salary at the rate of £150 per annum, rising £10 per annum to a maximum of £200 per annum, with rations and furnished apartments, subject to statutory deductions. Applications to the Clerk to the Guardians, 1, St. Michael's-road, Portsmouth.

Royal Southern Hospital, Liverpool.—Resident Junior House Surgeon. Salary 60 guineas per annum.

Royal South London Dispensary, St. George's-cross, S.E.—Honorary Surgeon.

Scarborough Hospital and Dispensary.—Senior House Surgeon for six months. Salary £80 per annum, with board and lodging. Stimulants and washing not provided.

Seamen's Hospital, Cronstadt.—Resident Medical Officer. Bachelor or widower without children. Salary £180 per annum, free lodging, lights, fuel, and attendance. Applications to the Chairman of the Hospital Committee, British Consulate-General, St. Petersburg.

Stretton House Asylum, Church Stretton, Salop.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, rooms, washing, &c.

Swansea General and Eye Hospital.—House Physician for one year. Salary £50 per annum, with board, apartments, laundress, and attendance.

West London Hospital, Hammersmith-road, W.—House Physician and House Surgeon for six months.

Westminster General Dispensary, 9, Gerrard-street, Soho, W.—Third Honorary Physician.

Births, Marriages, and Deaths.

BIRTHS.

Appleton.—On March 6th, at Ferndale, Britannia-road, Fulham, the wife of Thomas Alfred Appleton, M.R.C.S., L.S.A., of a son.

Slater.—On March 3rd, at Osman House, Fortis-green, N., the wife of Leonard Slater, M.B., of a son.

Tweed.—On March 4th, at Higher Leyhill, Hembury Fort, Payhembury, Devonshire, the wife of E. Reginald Tweed, M.D., of a son.

MARRIAGE.

Rodgers—Parkinson.—On March 2nd, at Priory-place Wesleyan Church, Doncaster, by the Rev. Joseph Westcombe (brother-in-law of the bridegroom), John William Rodgers, M.B., C.M., of Redfield, Bristol, eldest son of the late John Marshall Prime Rodgers, of Queniborough Lodge, Leicestershire, to Helena Sophia, youngest daughter of the late George Parkinson, of Oakley House, Avenue-road, Doncaster.

DEATHS.

Brooks.—On March 9th, Eliza Catherine, the beloved wife of Dr. Brooks, of Ludlow, deeply regretted.

Lingwood.—On March 2nd, at Raymond House, Upton-park, Essex, Henry Edgar Lingwood, L.R.C.P. Lond., L.S.A., aged 40 years.

MacGrath.—On March 5th, at Lunham-road, Upper Norwood, Deputy-Surgeon-General Edmund J. MacGrath, of Kilbaron, Co. Clare, aged 60 years.

Pope.—On March 2nd, at Goldhawk-road, W., the residence of his son, Dr. Campbell Pope, Edward Pope, M.R.C.S., L.S.A., of Tring, Herts, aged 86.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (19th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (14th).—Society of Arts.—8 P.M. Prof. W. N. Hartley: The Thermo-Chemistry of the Bessemer Process. (Cantor Lecture.)

Medical Society of London.—8.30 P.M. Dr. S. Taylor: Gastric Ulcer.—Dr. E. Kingscote: The Vagus Origin of Asthma and its Treatment.

TUESDAY (15th).—Pathological Society of London.—8.30 P.M. Dr. Eden: Lantern Demonstration of the Age Changes in the Placenta.—Dr. M. Fletcher: (1) A Uterus and its Appendages with Pedunculated Tumours; (2) A Double Vagina.—Mr. D'Arcy Power: A Cyst from a Case of Ovariotomy in a Child aged four months.—Dr. R. Crawfurd: A Tumour of the Large Bowel.—Dr. W. Hunter: A Case of Acromegaly with Casts and Formalin Preparations.—Dr. L. Freyberger: A Congenital Tumour of the Left Kidney and Origin of the Left Vertebral Artery from the Aortic Arch in the same Subject.

WEDNESDAY (16th).—Royal Microscopical Society (20, Hanover-square, W.).—8 P.M. Mr. C. F. Rousselet: Exhibition of Mounted Rotifers.

North-West London Clinical Society (North-West London Hospital).—8 P.M. Annual General Meeting.

THURSDAY (17th).—Harveian Society of London (Stafford Rooms, Titchborne-street, W.).—8.30 P.M. Dr. W. Armstrong (Buxton): The Symptoms and Treatment of Gastric Dilatation.

Society of Anæsthetists (20, Hanover-square, W.).—8.30 P.M. Paper:—Mr. A. Coleman and Mr. H. Hilliard: On the Continuous Administration of Nitrous Oxide Gas for Prolonged Operations on the Mouth and Upper Air Passages. Clinical Cases.

FRIDAY (18th).—Epidemiological Society of London (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Dr. D. S. Davies (Bristol): Milk-borne Enteric Fever in Clifton in relation to Distribution, Incidence of Attack, and Character of Illness.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (14th).—Royal College of Surgeons.—5 P.M. Prof. C. Stewart: On the Vertebral Column, and some additions to the Museum.

London Post-Graduate Course.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. H. Tilley: Demonstration of Selected Cases.

The Sanitary Institute (Parkes Museum, Margaret-street, W.).—8 P.M. Dr. A. Hill: Diseases of Animals in relation to Meat Supply, Characteristics of Vegetables, Fish, &c., unfit for Food.

TUESDAY (15th).—Royal College of Physicians—5 P.M. Dr. J. R. Bradford: Observations on the Pathology of the Kidneys. (Goulstonian Lectures.)

West-end Hospital for Diseases of the Nervous System (73, Welbeck-street).—4.30 P.M. Dr. T. D. Savill: On Electricity in the Diagnosis and Treatment of Diseases of the Nervous System.

National Hospital for the Paralysed and Epileptic (Bloomsbury).—3.30 P.M. Dr. J. Taylor: Jacksonian Epilepsy.

London Post-Graduate Course.—Bethlem Hospital, 2 P.M., Dr. Craig: Alcoholic Insanity; Insanity with Syphilis; Insanity with Organic Brain Disease.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Epithelioma and Rodent Ulcer.

City Orthopædic Hospital.—5.30 p.m. Mr. J. Poland: Deformities of Bones after Injury.

Royal Institution.—3 p.m. Prof. E. Ray Lankester: The Simplest Living Things.

WEDNESDAY (16th).—Royal College of Surgeons.—5 p.m. Prof. C. Stewart: On the Vertebral Column, and some additions to the Museum.

London Post-graduate Course.—Parkes Museum, Margaret-st., W., 4.30 p.m., Prof. A. Wynter Blyth: Sanitary Appliances.

Hospital for Consumption and Diseases of the Chest (Brompton).—4 p.m. Dr. Fowler: Prognosis in Valvular Disease of the Heart.

Evelina Hospital (Southwark-bridge-road, S.E.).—4.30 p.m. Dr. G. Carpenter: The Differential Diagnosis of Abdominal Diseases. (Post-Graduate Course.)

West London Post-graduate Course (West London Hospital, W.).—5 p.m. Mr. P. Dunn: Cataract and Demonstration of Eye Cases.

THURSDAY (17th).—Royal College of Physicians.—5 p.m. Dr. J. R. Bradford: Observations on the Pathology of the Kidneys. (Goulstonian Lectures.)

Charing-cross Hospital.—4 p.m. Dr. Willcocks: Demonstration of Medical Cases. (Post-graduate Class.)

The Hospital for Sick Children (Gt. Ormond-street, W.C.).—4 p.m. Dr. Barlow.

London Post-Graduate Course.—Central London Sick Asylum, Cleveland-st., W., 5.30 p.m., Mr. Barwell: Clinical Lecture.

The Sanitary Institute (Parkes Museum, Margaret-street, W.).—Mr. H. R. Kenwood: Infectious Diseases and Methods of Disinfection.

Royal Institution.—3 p.m. Prof. J. A. Fleming: Recent Researches in Magnetism and Diamagnetism. (Tyndall Lecture.)

East London Hospital for Children (Shadwell, E.).—4 p.m. Mr. L. A. Dunn: Hernia in Childhood.

FRIDAY (18th).—Royal College of Surgeons.—5 p.m. Prof C. Stewart: On the Vertebral Column, and some additions to the Museum.

London Post-graduate Course.—King's College, 3 to 5 p.m., Prof. Crookshank: Actinomycosis and Glanders.

Royal Institution.—9 p.m. Mr. J. Mansergh: The Bringing of Water to Birmingham from the Welsh Mountains.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

***Lectures, original articles, and reports should be written on one side of the paper only*, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.**

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of* The Lancet *should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

OWEN *v.* GREENBERG.

An interesting case was heard on Wednesday last before Mr. Justice Darling and a common jury, when a Mr. Edward Owen, the proprietor of one of those medicines which "remove female obstructions," proceeded against Messrs. Greenberg and Co., advertisement contractors. The case, which must entail upon very many newspapers a revision of their advertisement arrangements, was briefly as follows. The plaintiff paid the defendants in advance the price of certain advertisements to appear in *Pick-me-up*, a weekly illustrated newspaper. *Pick-me-up* changed hands and the new owner refused to insert Mr Owen's advertisements, who therefore brought an action against the advertisement contractors for breach of contract and damages. The plaintiff did not give evidence to prove that he had received any damages over and above the loss of the money paid for advertisements which had not appeared in *Pick-me-up*. The defendants said that they were merely agents. The jury found that the defendants had acted as principals, that the plaintiff had sustained no damage, and that the contracts for insertion of the advertisements were immoral; the result of which findings was that the defendants took out of court again the amount which they had paid in. It is clear that this case offers many points for legal disquisitions, but we are not concerned with them. What we are gratified to note is, firstly, that the proprietors of a newspaper of large circulation have refused in unmistakeable terms and under circumstances that might have entailed trouble upon them, to be the medium for the publication of disgusting advertisements; and, secondly, that a jury have decided that contracts for such advertisements are immoral. We beg our readers to notice this verdict and *to bring it to the attention of all their patients*. If the public insisted that their newspapers should not contain filthy incitements to the procuring of miscarriage and abortion the trade of Mr. Owen and his like would cease, while after this verdict of a common jury we do not see how any newspaper with claims to respectability can wittingly insert advertisements having such an appearance. It is to be noticed that this man advertised his stuff at three prices—viz., 4*s.* 6*d.*, 10*s.*, and 21*s.*, per bottle, the price rising, as he said, with the strength of the nostrum, and that Dr. D. H. Attfield's investigations showed all three samples to yield similar analytical results.

LEVICO ARSENIO-FERRIC MINERAL WATER.

Messrs. A. and M. Zimmermann, of 9 and 10, St. Mary-at-Hill, E.C., in a communication to us regarding this now well-known ferro-arsenical water, state that they are now the sole consignees for Great Britain and the Colonies. The springs are situated at Levico, in the South Tyrol, and the waters yielded are of two strengths.

A GOOD RECORD OF WORK.

This week the Religious Tract Society's journal, the *Boy's Own Paper*, reaches its 1000th weekly number, a fact worthy of special notice considering the number of boys' journals—good, bad, and indifferent—that have appeared and disappeared during the past twenty years. The journal was started in answer to the demand of all classes for a serial journal for boys that, while sufficiently attractive to win and hold their interest, should be well written and possess a high moral tone. We are glad to learn that the *Boys' Own Paper* has been a successful affair from a business point of view from its inception, and this for two reasons. Firstly, it has often been our duty in expression of general medical opinion, to point out the harm that can be done to children by the dissemination of mischievous sensationalism, so that the success of a journal started in opposition to those which minister to ill-directed juvenile appetites is grateful to us. Secondly, out of the profits of the *Boy's Own Paper* the Religious Tract Society have made some very well-judged donations—for example, £600 to each of two life-boats, £400 to the Children's Ward of the London Hospital, and £750 to the Gordon Memorial Ward at Mr. Barnado's Homes.

"MR. HALL HAINS'S DEFENCE FUND."

To the Editors of The Lancet.

Sirs,—Would you be kind enough to acknowledge in The Lancet the under-mentioned subscriptions which I have just received for the fund? Mr. J. B. McIlroy, L.R.C.P. Lond., M.R.C.S. Eng., of Sydney, N.S.W. £1 1*s.*; Surgeon-Captain E. Caldwell, F.R.C.S. Eng., St. Helena, £1 1*s.* These subscriptions will be handed direct to Mr. Hall Hains. Thanking you in anticipation,

I am, Sirs, yours faithfully,

Herbert Carre-Smith

Turnham Green, Chiswick, March 8th, 1898.

CHINOSOL.

To the Editors of The Lancet.

Sirs,—Might I ask through the medium of The Lancet if any of your readers have had any extensive experienc of chinosol in general practice and what conclusions they arrived at as regards its efficiency. Quite recently I used it for the first time in a case of a scalded foot, where a moist antiseptic dressing was required for several days. I must say the result was most satisfactory, but before using it in a case where it was absolutely essential that one should have complete faith in the antiseptic employed I should be glad to hear if anyone has used it in surgery—either operative or general—with satisfactory results.

I am, Sirs, yours faithfully,

March 7th, 1898.

X. Y. Z

AN APPEAL.

In response to the appeal on behalf of Miss Caroline and Miss J. J. Ireland, aged respectively fifty-eight and fifty-six years, whose friends are making an effort to raise a sum of money to give them a small fixed income either by investment or annuity, £208 6*s.* have been received. Donations will be most thankfully received by Mr. Stanley Brown, Cypress House, Dulwich-common, or by Mrs. John Ireland, Bourne End, Bucks. Particulars of the case will be found in The Lancet, Dec. 18th, 1897, page 1634.

CRUSADE AGAINST SPITTING IN NEW YORK.

A MOVEMENT is afoot in New York to endeavour to stop as far as possible the habit of spitting in the streets, cars, and public buildings. This anti-expectoration crusade is being conducted by the Woman's Health Protective Association. The Health Board of New York have promised their hearty coöperation with the Association and will back up its efforts to abate the nuisance. It is stated that some of the street cars in New York are in such a disgraceful state from the prevalence of the spitting habit that they are not fit for a human being to enter. The President of the Association suggested as a remedy for this condition of things that the conductors should be supplied with tickets bearing the words: "Do not expectorate on the floor—by order of the Health Board," to be handed to passengers who are seen breaking the law. It is thought that this will give comparatively little offence to the offender and will thus prevent unpleasant scenes. On the reverse side of the ticket will be the words: "Keep this in your vest pocket," designed to prevent the violation of the ordnance against scattering papers on the sidewalks and in cars. The Association intends to devote most of its time to the expectoration question until it is settled either by the enforcement or repeal of the existing laws.

A DISCLAIMER REQUIRED.

A CORRESPONDENT draws our attention to the following testimonial which is being published in the lay press by the Trilene Company whose tablets, it is claimed, will safely reduce weight and cure corpulency permanently:—

> Surgeon-General E. S. Brander, M.D., writes: "As far as my experience goes your tablets form an excellent preparation for reducing weight."

Surgeon-Major E. S. Brander, M.B., is a *bonâ-fide* officer and medical man as we see from reference to the Medical Register and Directory. It is incumbent upon him to disclaim the unfortunate publicity he may be now receiving as the advocate of the extravagant claims of the Trilene Company.

INDISCRETION.

To the Editors of THE LANCET.

SIRS,—I have had occasion recently to notify three cases of puerperal fever to the medical officer of health for this district, all occurring in the practice of the same midwife and one fatal. The midwife has been suspended for four months by the medical officer of health, who asked her whether she was friendly with me, mentioning my name. A few days afterwards I hear that the midwife is going about saying that I am the cause of her suspension. Of course, this is the truth, but such a statement is calculated to harm a private practitioner who is only doing his duty by notifying these cases. Is it any part of the duty of the medical officer of health to mention the name of the notifying practitioner to the midwife or to anyone? Is it not a breach of confidence, for the medical officer of health is paid to execute this disagreeable task of suspending a midwife, and so ought to take all the blame? I shall be obliged if you will insert this letter in THE LANCET and give me a reply.

I am, Sirs, yours truly,
PILULA.
March 8th, 1898.

*** We consider the conduct of the medical officer of health, as described by our correspondent, very indiscreet.—ED. L.

THE LATE DR. CRONYN'S WILL.

A UNIVERSALLY respected, and able American practitioner has just passed away at a ripe age in Dr. Cronyn of Buffalo. Dr. Cronyn's high status as a citizen and a man of science renders the tribute which he pays in his last testament to THE LANCET (among other scientific serials) very gratifying to us. By his will he has left his valuable medical library for the use of his son, and afterwards to Niagara University, "on condition that subscriptions be kept up for THE LANCET, *Practitioner*, Sydenham Society's Publications, and *Brain*."

THE PRUDENTIAL ASSURANCE COMPANY, LIMITED.

THE report and accounts of this well-known company for the year 1897 have just been issued and show a considerable increase over the figures for 1893, large as they were. In the ordinary branch the number of policies issued during the year was 65,393, assuring the sum of £6,698,755, and producing a new annual premium income of £365,996. The premiums received during the year were £2,774,264, being an increase of £231,002 over the year 1896. The claims of the year amounted to £707,643. The number of deaths was 5038 and 656 endowment assurances matured. The number of policies in force at the end of the year was 497,327. In the industrial branch the premiums received during the year were £4,793,591, being an increase of £412,798. The claims of the year amounted to £1,[illegible]3,338. The number of deaths was 192,359 and 1876 endowment assurances matured. The number of free policies granted during the year to those policy-holders of five years' standing who desired to discontinue their payments was 60,848, the number in force being 549,889. The number of free policies which became claims during the year was 10,716. The total number of policies in force at the end of the year was 12,546,132; their average duration exceeds eight and a quarter years. The assets of the company in both branches, as shown in the balance-sheet, are £30,438,337, being an increase of £3,379,226 over those of 1896. A supplement showing in detail the various investments is published with this report. A sum of £50,000 was set aside out of the surplus for 1896 in celebration of the company's jubilee and a further sum of £50,000 has been set aside out of the surplus for 1897. This whole sum is to be divided among the members of the out- and in-door staff, not more than £50 to be awarded in any single case. The whole number of the staff is 15,000; we do not know whether the medical referees are included among this number, but as the flourishing condition of the company is in great part due to the care with which these gentlemen carry out their duties we should hope that they will be allowed to share in the profits.

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Mother.—A senior student may under certain circumstances assist a practitioner, but we do not think that this applies in the case under consideration. There is no society to which to apply for aid. The young man might, perhaps, obtain a post as dispenser in a town where there is a medical school so that he could continue his studies. This would be the best thing he could do.

American.—The degree is not registrable. The medical profession in Great Britain do not consider an unregistered practitioner as a qualified man, though legal decisions on the matter have been inconclusive. A person not on the Medical Register cannot hold appointments, sign death certificates, or act officially as a medical man.

Thesis.—There is not, so far as we are aware, any one treatise on fractures that would be useful to modern students, but such a treatise is unnecessary, as every information will be found in the standard works on surgery. Mr. T. Pickering Pick has written a monograph entitled "Fractures and Dislocations."

Candidate.—We regret that the question should have been overlooked. 1. Professor Coats's "Manual of Pathology." 2. Dr. Lauder Brunton's "Text-book of Pharmacology, Therapeutics, and Materia Medica." 3. There is not an atlas within the pecuniary limits named which we can personally recommend.

R. T.—We do not recommend individual practitioners, and the medical man in charge of the case is the proper person to suggest the name of a consultant.

J. A. R.—Much can be done by careful advice and plain speaking need not be indelicate. All parents and schoolmasters should be ready to deal with the matter.

Mater should consult the family medical man. There is nothing unusual whatever in the symptoms.

Mr. J. H. Thompson.—We have no information beyond that which is appearing in our columns.

B. G. Alpha has neglected to give his or her full name and address.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 10th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 4	29·80	N.E.	...	66	45	35	35	38	Overcast
" 5	29·82	N.E.	...	83	44	35	35	38	Cloudy
" 6	29·80	N.E.	...	66	44	33	35	38	Cloudy
" 7	29·98	E.	...	73	45	34	34	36	Fine
" 8	29·99	N.E.	...	47	42	34	34	36	Overcast
" 9	30·09	N.E.	...	56	46	36	37	40	Overcast
" 10	30·21	N.E.	...	64	44	35	35	37	Cloudy

During the week marked copies of the following newspapers have been received: *Newcastle Leader, Doncaster Chronicle, Bridgwater Independent, Richmond Herald, South Wales Daily News, Times of India, Pioneer Mail, Scotsman, Wolverhampton Chronicle, Southport Visitor, Lynn News, Leeds Mercury, Architect, Birmingham Post, Brighton Gazette, Western Morning News, Bristol Mercury, Bradford Daily Telegraph, Pullen's Kent Argus, Manchester Guardian, Builder, Sussex Daily News, Liverpool Daily Post, Leicester Post, Walsall Observer, Yorkshire Post, Sheffield Telegraph, Cheltenham Free Press, East Anglian Daily Times, Indian Daily News, Glasgow Record, Eastern Telegraph, Nottingham Daily Guardian, Financial Post, West Middlesex Herald, Public Health, Willesden Chronicle, Reading Mercury, Nottingham Daily Express, Local Government Chronicle, Hertfordshire Mercury, City Press, Sanitary Record, Mining Journal, Surrey Advertiser, Local Government Journal, Weekly Free Press and Aberdeen Journal, Oban Times, Minneapolis Tribune, Leith Observer, Advocate of India (Bombay), Liverpool Courier, Nottingham Evening Post, Yarmouth Mercury, Witney Gazette, Stockport Chronicle, Gloucester Standard, Darwen Post, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Mons. J. Astier, Paris; Messrs. Alldays and Onions, Birmingham; Messrs. Armour and Co., Lond.; *Archives de Parasitologie*, Paris; Anderson's College Medical School, Glasgow, Secretary of; Messrs. Arnold and Sons, Lond.; Aston Union, Clerk of; Aqua, Lond.

B.—Mr. B. W. Bond, Poole; Sir W. Besant, Lond.; Dr. A. I. Bolton, Constance; Dr. J. Rose Bradford, Lond.; Messrs. Brady and Martin, Newcastle-on-Tyne; Mons. J. Bardinet, Bordeaux; Messrs. Burgoyne, Burbidges, and Co., Lond.; Mr. W. Brown, Greenock; Bibliothéque Universitaire, Toulouse, Librarian of; Birkenhead Union, Clerk of; Bosco, Lond.; Borough Hospital, Birkenhead, House Surgeon of; Mr. L. A. Bidwell, Lond.; British Balneological and Climatological Society, Lond., Secretary of; Mr. H. Butterfield, Northampton.

C.—Dr. A. Cordes, Cahors; Mr. R. Campbell, Lond.; Mr. E. Campbell, Lond.; Mr. M. Cheyne, Lond.; Mr. W. H. Charlton, Newcastle-on-Tyne; Mr. H. Callaghan, Tottenham; Mr. J. M. Cronyn, New York; Mr. J. B. Cameron, Lond.; Messrs. T. Christy and Co., Lond.

D.—Mr. H. Downes, Lond.; Miss Dodson, Essex; Mr. R. Duffs, Liverpool; Dr. A. T. Davies, Lond.; Messrs. W. Dawson and Sons, Lond.; Sir W. Dalby, Lond.

E.—Dr. J. Erskine, Glasgow; Dr. M. D. Eder, Lond.

F.—Dr. P. J. Freyer, Lond.; Mr. G. Foy, Dublin; Messrs. J. S. Fry and Son, Bristol; Mr. J. K. Frost, Kingston; Mrs. Fryer, Lond.; Mr. H. Frederick, Lond.; Fisherton House Asylum, Salisbury.

G.—Mr. L. Gilbert, Chelsea; Dr. A. Gardner, Kirbymoorside; G., Lond.; Guest Hospital, Dudley, Secretary of; Miss F. Girdlestone, Sunningdale; Dr. L. Guthrie, Lond.; Mr. W. Gedrey, Blackburn; Messrs. C. Griffin and Co., Lond.

H.—Mr. L. N. Hobday, Amlwch; Mr. Victor Horsley, Lond.; Mr. J. Howell, Attleborough; Mr. W. Hay, Hull; Mr. E. Henry, Porthleven; Mr. J. Heywood, Manchester; Hoxton House, Lond., Medical Superintendent of.

I.—Dr. R. N. Ingle, Bedford.

J.—Dr. F. Jeffery, Bury; Messrs. Johnsen and Jorgensen and Co., Lond.; Mr. A. Jones, Lond.; Dr. C. E. Jennings, Lond.

K.—Herr S. Karger, Berlin; Messrs. H. S. King and Co., Lond.

L.—Mr. H. W. Littoms, Lond.; Mons. H. Le Soudier, Paris; Lozier Manufacturing Co., Lond.; Messrs. Longmans, Green, and Co., Lond.

M.—Dr. A. MacGregor, Lond.; Dr. J. Murphy, Sunderland; Dr. H. J. MacKay, Devizes; Mr. W. Milligan, Manchester; Medical Society of Victoria Melbourne, Hon. Secretary of; Signor E. Marelli, Genoa; Messrs. Mather and Crowther, Lond; Mutual Life Insurance Co. of New York, Lond., General Manager of; Mrs. Maw, Middleton; *Münchener Medicinische Wochenschrift*, Munich, Editor of; M., Lond.; Messrs. J. and C. Mott Stafford; Maltine Manufacturing Co., Lond.; Mr. A. Mottram, Norwich; Mr. A. H. Minton, North Devon; Mr. J. Mackenzie, South Kirkby; Dr A. McCausland, Lond.; Manchester Southern Hospital, Hon. Secretary of.

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The Goulstonian Lectures:

OBSERVATIONS ON THE PATHOLOGY OF THE KIDNEYS.

Delivered before the Royal College of Physicians of London

BY JOHN ROSE BRADFORD, M.D.,
D.SC. LOND., F.R.S.,
FELLOW OF THE COLLEGE; PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL; PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS IN UNIVERSITY COLLEGE; PROFESSOR SUPERINTENDENT OF THE BROWN INSTITUTION.

(*From the Laboratory of the Brown Institution.*)

LECTURE I.[1]

Delivered on March 15th, 1898.

MR. PRESIDENT AND FELLOWS,—In bringing before you the following observations on the pathology of the kidney I shall necessarily only touch the fringe of a large subject. The pathology of the kidney may be considered to include the study of at least three more or less separate classes of phenomena: (1) the mode of production of renal diseases; (2) the changes produced in the kidney by renal diseases; and (3) the remote effects produced on other organs or tissues by diseases of the kidney. I propose to deal mainly with the last of these questions and to a certain but very limited extent with the second, but not at all with the first, important as it is.

Diseases of the kidney may affect the general economy in one or more of the following ways: (1) the excretory activity of the kidney may be affected so that, on the one hand, the composition of the urine is more or less altered, and, on the other hand, the blood and tissues may possibly become contaminated with excessive quantities of substances normally excreted; (2) the production of dropsy; (3) the production of cardio-vascular changes; (4) diseases of the kidney are associated with profound changes in the nutrition and in the general metabolic processes of the body; and (5) the tendency to so-called secondary inflammations.

I propose to consider in these lectures a series of observations, experimental and clinical, dealing mainly with the questions associated with the excretory activity of the kidney (Section I.) and the influence of this organ on metabolism (Section IV.); a few observations dealing with Section III. will be detailed, but I have no observations to describe to you on either the causation of renal dropsy or with reference to the diminished resistance to microbic invasion that is so frequently seen in certain varieties of kidney disease.

As an introduction to the pathological side of the question it will be necessary to consider in some detail the physiology of the kidney.

THE PHYSIOLOGY OF THE KIDNEY.

The modern physiologist discusses the physiology of glands under the headings of external and internal secretions and according to this view the kidney would be placed in the former series, although some years ago Brown-Séquard hazarded the view that this gland also possessed an internal secretion. The kidney, however, is peculiar amongst glands, not only owing to the peculiarity of the arrangement of the circulation in it, but also owing to the extreme vascularity of the organ, so that quite apart from its functions as a gland the kidney has afforded a means of investigating various problems connected with the circulation and more especially with the vaso-motor mechanism. I think the very intimate relationship of the kidney to the vaso-motor mechanism is a factor that is sometimes overlooked by the more mechanical school of pathologists.

The physiological considerations that are of more immediate interest from a pathological point of view may be classified somewhat as follows: (1) circulation in the kidney; (2) the excretory activity of the kidney; (3) the synthetic activity of the kidney; and (4) the metabolic activity of the kidney.

I. Circulation in the kidney.—The circulation of the blood, as is well known, is carried on by the blood-pressure, but in different organs it is actually effected by very different means. In the case of the kidney there is what may be called a high-pressure circulation; the difference of pressure between the blood in the renal artery and that in the renal vein is brought about by the pressure in the artery being very high. This is due, in the first place, to the immense number of small arteries in the kidney, and, secondly, to the very abundant innervation that these receive from the vaso-constrictor nerve fibres. In the case of the liver there is a low-pressure circulation, the difference of pressure being effected, not by a high pressure in the portal vein, but by the blood being more or less sucked out of the organ by the low negative pressure in the right auricle and vena cava. In the lungs, where the vaso-motor supply is also comparatively slight, the circulation is very largely effected passively by the movements of respiration varying not only the amounts of air in the lungs but also the amounts of blood. Finally, in the spleen there is yet another means of effecting the desired object, as here the intermittent contractions and expansions of the organ must exercise a very powerful influence on the circulation through this organ. To return to the kidney, the blood-vessels are very abundantly supplied with vaso-constrictor nerves and these, like the vaso-constrictors distributed to other organs, are derived mainly from the dorsal region of the spinal cord. Vaso-constrictor fibres destined for all such vessels as are supplied by them leave the cord throughout the dorsal region and most abundantly through the lower half of the dorsal series of nerves. There are a few vaso-constrictor fibres derived from the upper dorsal region from the first to the fourth dorsal, and it is only when the sixth and eighth dorsal nerves are reached that the outflow of these vaso-constrictor fibres is at all abundant. The upper three lumbar nerves also contain such fibres distributed to the kidney amongst other organs.

All the above remarks apply to the dog, where there are twenty dorso-lumbar nerves, of which thirteen are usually reckoned as dorsal and seven as lumbar. It is remarkable that the kidney receives its vaso-constrictor fibres from such a very extended series of nerve roots extending as it does from the sixth dorsal above to the third lumbar below and there is no break in the series. Other parts of the body may receive their nerves from a fairly long series but not so long as that supplying the kidney; thus the fore limb is supplied from the third dorsal to the tenth dorsal and the hind limb from the tenth dorsal to the third lumbar. The kidney, however, is a "long" organ from a morphological point of view and this may account for the fact that it receives these vaso-constrictor fibres from some eleven spinal segments in the dog. The kidney not only receives its vaso-constrictor nerves from such an extended series, but each individual nerve root produces very marked effects on the renal circulation. It is not possible to diminish the volume of a limb (by excitation of the vaso-constrictor nerve supplying its blood-vessels) to anything like the same extent that the volume of the kidney can be diminished; doubtless this is in part due to the greater vascularity of the kidney, but it is also due to the very abundant nerve supply distributed to the renal vessels. The vaso-constrictor fibres pass down from the vaso-motor centre, probably in the lateral columns of the spinal cord, and it is of some interest that hemisection of the spinal cord above the level at which the renal nerves come off has no effect on the volume of the kidney. A number of experiments were made on the effect of hemisection of the cord at the level of the fifth dorsal, inasmuch as there is no appreciable outflow of renal vaso-constrictors until the sixth dorsal root is reached. Hemisection of the cord at this level fails to cause any dilatation of the renal vessels, but it also does not materially interfere with the conduction of impulses downwards from the vaso-motor centre to the kidney. Excitation of the vaso-motor centre causes, of course, constriction of the renal vessels, but if a hemisection be made at the level of the fifth dorsal the kidney on that side contracts on excitation of the vaso-motor centre, as far as my observations go, just as well as it did previously to the hemisection. Hemisection of the cord, however, causes dilatation of the limb-vessels although it fails to cause dilatation of the kidney of the same side. One half of the spinal cord, therefore, can maintain the tone of the vessels of both kidneys and can convey impulses freely from the vaso-motor centre. The fact that there is what may be called unilaterality with reference to the spinal vaso-constrictor supply for the limbs—and there is no such differentiation in the case of the fibres distributed to such a symmetrical organ as the kidney—is a point of some interest from an evolutionary standpoint.

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[1] Lecture II. was delivered on March 17th and Lecture III. will be delivered on March 22nd.

Vaso-dilator fibres.—Although the vaso-constrictor fibres spring from such an extended area of the cord the great bulk of these fibres is found in the lower dorsal and upper lumbar roots and here also by appropriate methods of excitation renal vaso-dilators can be demonstrated. Their action, however, is very slight when compared to that of the constrictors.

Reflex effects.—It is well known that the excitation of the central end of an afferent nerve causes reflexly constriction of the arteries of the body and especially of the blood-vessels of the abdominal viscera such as those of the intestines, spleen, and kidneys. This constriction does not normally cause any long-continued rise of blood-pressure owing to the fact that coincidently with it the heart is inhibited, partly directly by the action of the afferent stimulus on the vagus centre, partly indirectly by the heightened blood-pressure stimulating the ends of the vagi distributed to the endocardium. That, after all, is the great function of the vagus and as long as this mechanism is intact it is practically impossible to materially raise the general blood-pressure for any length of time. This is a factor probably of some importance in regard to the production of high tension in disease, as from a physiological point of view one would be inclined to say that no mechanical means could produce high tension as long as the nervous mechanism of inhibition and the relation between the vaso-motor system and the cardio-inhibitory mechanism were intact. The excitation of the central end of a posterior root causes (provided the vagi are cut) a rise of blood-pressure just as the excitation of any ordinary nerve does, but there are two differences of considerable interest. If a posterior root below the third lumbar nerve be excited the rise of blood-pressure is similar to that seen on excitation of the great sciatic; if, however, the central end of one of the upper lumbar or lower dorsal posterior roots be excited the rise of blood-pressure is far greater in amount and more sudden in its onset; in fact, the effect is quite different to that seen with the lower roots. The anterior roots of these nerves contain, as we have seen, the vaso-constrictor fibres distributed to the vessels of the viscera and these observations tend to show that these posterior roots also contain special afferent fibres capable of affecting the vaso-motor system to a far greater extent than the ordinary afferent fibres seen in sensory nerves. In other words, this great and sudden effect on the blood-pressure would tend to show that some posterior roots contain afferent fibres derived probably from the viscera and from the kidney amongst other viscera. The fact that there are such nerves distributed to the kidney and that the excitation of their central ends is capable of causing a very great effect on the vessels of the body generally is also a fact that may have some bearing on the production of high tension in certain renal diseases. The other point of interest about these afferent visceral fibres is that although their excitation causes a rise of blood-pressure with general constriction there is local dilatation of the kidney—in fact, this is the only method by which experimentally any very considerable dilatation of the renal blood-vessels can be produced.

It is a common belief that there is some intimate relationship between the state of the kidney vessels and those of the skin. It is possible that such is the case, but numerous experiments directed to this end have failed to demonstrate any such relationship. I would sum up the relationship existing between the renal and the general circulation by saying that the kidney vessels take part in almost all effects produced by reflex excitation of the vaso-motor centre and that the general blood-pressure can be profoundly affected by reflex stimuli reaching the central nervous system through the renal nerves, but that alterations in the calibre of the kidney vessels only are not capable of causing anything like so profound an effect.

II. The excretory activity of the kidney.—The most obvious function of the kidney is, of course, the removal of various substances from the blood stream and as is well known in performing this the kidney manifests marvellous selective affinity as shown by the fact, amongst others, that although there is some five times as much sugar in the blood as there is urea, yet the urine contains mere traces of the former and 2 per cent. of the latter. The elimination of water by the kidney is usually held to be determined ultimately by the rate of blood-flow through the organ and most diuretic substances causing an increased excretion of urinary water bring this result about by causing an increased rate of blood flow through the kidney. This is sometimes effected by dilating the renal vessels, the general blood-pressure remaining unaffected; at other times the same result is brought about by constricting the renal vessels and at the same time raising the blood-pressure. It is not essential for the action of a diuretic that the diuretic substance should cause dilatation of the renal vessels although the most potent and useful diuretics do this. Observations published by me in the Proceedings of the Royal Society, 1892, showed that the quantity of water excreted by the kidneys could be affected by excising portions of the kidneys. These results may be shortly summarised as follows. Excision of a portion of one kidney is followed by a slight increase in the amount of urinary water sometimes transient, in others more permanent in its duration, but unaccompanied by any permanent increased excretion of urea or by any deterioration in general health. The excision of portions of both kidneys is followed by a very great increase in the amount of urinary water; thus it may be trebled or even quadrupled in amount, and this increase is permanent and in some of my experiments has been observed as long as eighteen months after the operation. This hydruria is not accompanied by any other ill effects, the animal remains in good health and does not excrete any increased quantity of urea. Simple incision of the kidney with subsequent suture of the damaged organ or division of the renal plexus is not followed by any of these effects. The excision of a portion of one kidney and the subsequent removal of the whole of the other also causes this extreme hydruria and provided that at least one-third of the original total kidney weight is left such an animal will remain in good health for prolonged periods—e.g., eighteen months. There is no marked wasting and no increased excretion of urea takes place. Such an animal, however, is unable to excrete a concentrated urine and if very large amounts of nitrogenous foods are given the urea formed is readily excreted, but only thanks to a still further increase in the amount of urine. Such an animal resembles a case of diabetes insipidus or of contracted kidney, but the urine is not albuminous. The cause of the increased excretion of urinary water when the amount of available kidney is thus reduced is by no means clear; it is, however, not associated as far as my observations have gone with any very great increase of the general blood-pressure. It is similar to the increase seen in many renal diseases where the quantity of kidney substance is often greatly diminished in amount. Some physiologists have urged that the kidney not only excretes water, but also that it re-absorbs water, and it may be that if the quantity of kidney tissue is diminished the excretion may continue and the re-absorption fail; but, as said above, I am not prepared to explain the fact that when the kidney is thus reduced in amount by the experimental procedures mentioned above the urine passed is a copious dilute one. Normally an animal such as a dog, if it requires to excrete a large amount of urea, can do so in two ways, either increasing the percentage of urea or by increasing the amount of urine. In my experience the former is the more common, but these animals after the above partial nephrectomies are only able to effect the latter. There is a slight increase in the percentage of urea in the blood after this operation and it is possible that this may be the cause of the hydruria and, if so, there is still greater resemblance between this experimental hydruria and that seen in renal cirrhosis, since, as will be seen later, the blood in this malady may contain a notable excess of urea. This hydruria is also seen when the amount of kidney left is very small. Thus in one case approximately one-tenth of the original kidney weight was all the available kidney tissue left after the removal of a large amount of one kidney and the ligature of the opposite ureter, yet this animal excreted three times as much urinary water with one-tenth of the original kidney weight than it did with intact kidneys. This experiment shows well the extreme facility with which small fragments of healthy kidney will excrete the urinary water.

The excretion of urea.—The excretion of urea, like the excretion of water, is readily effected by these small fragments of kidney, but there is this difference that whereas all partial nephrectomies, single or double, slight or extensive, increase the amount of urinary water, to different degrees, it is true, the amount of urea is not increased by either single partial nephrectomy, or by double partial nephrectomy, or yet by the removal of one kidney and a portion of the other, provided always that at least one-third of the original total kidney weight is left to the animal. If, however, this limit be exceeded and only one-quarter of the original total of the kidney weight be left then the quantity of urea excreted is increased. This increase in the urea excretion is not so great as the increase in the urinary water, but it is considerable. Thus the amount of urea excreted may increase by half of its previous amount without any increase in diet, and more commonly, notwithstanding a diminution in the amount of food, owing to failure of appetite. The increased excretion of urea sets in from one to three days later than the increased excretion of water, so that the animals in which three-quarters of the total kidney weight has been removed present for the period of one or two days a condition of simple hydruria before the polyuria sets in. This polyuria is persistent and accompanied as it necessarily is with great emaciation it leads to death in periods varying from one to six weeks. These small fragments of kidney excrete urea abundantly and even as when in the case quoted above the amount of kidney is reduced to so small an amount as one-tenth of the original weight there is no evidence that the fragment is unable to excrete urea. In the cases where three-fourths or more of the total kidney weight had been removed the polyuria was marked and persistent and invariably led to death; where, however, two-thirds of the total kidney weight had been removed there was quite exceptionally a slight increase in the urea excretion accompanied by slight wasting, but this was never marked in amount or fatal in its course. This fact shows, however, that there is not an absolute line to be drawn between the two-third and the three-quarter cases and the main point of interest is that a very small difference in the amount of kidney substance will turn the scale from the condition of simple hydruria which is compatible with good health for prolonged periods to a condition of polyuria accompanied by great wasting and leading rapidly to death. In these fatal cases the body temperature falls, but there are no other signs of uræmia; vomiting, coma, convulsions, and dyspnœa are conspicuous by their absence, the only marked symptoms being progressive weakness, emaciation, and subnormal temperature.

Amongst the salts excreted in the urine the aromatic sulphates are of interest as showing that substances elaborated in the alimentary canal may be absorbed and excreted by the urine instead of being voided by the rectum and thus it is possible that when the excretory functions of the kidneys are impaired auto-infection from the alimentary canal may ensue.

III. Synthetic activity of the kidney.—The kidney is known to effect at least one synthesis—namely, the formation of hippuric acid from benzoic, and the view has been advanced that this organ also makes uric acid possibly from urea; that, however, is a question that from the physiological standpoint requires a great deal more investigation before it can be definitely accepted.

IV. Metabolic activity of the kidneys.—I have advanced the view that in addition to the well-known functions of the kidney enumerated above this organ has a further function of in some way influencing the metabolism of the tissues so that when the quantity of kidney substance present is greatly reduced the proteid tissues, and more especially the muscles, break down and liberate urea. This view is based on the following experimental facts: (1) when the quantity of kidney is reduced to one quarter of the original total kidney weight the quantity of urea excreted in the urine is increased; (2) the amount of urea in the blood is greatly increased at a time when this increased excretion of urea is going on; (3) there is great emaciation even if the appetite is maintained and the emaciation cannot be arrested by the most abundant diet; and (4) if the appetite be completely lost and no food be taken the amount of urea in the urine may remain at a level as high as that at which it stood when the normal animal was eating freely and maintaining its body weight.

I think it is clear from a consideration of these facts that after such operations the production of urea is increased, and in the light of the great emaciation and the muscular weakness that ensues it is at any rate probable that the urea is derived from the muscles. The increased production of urea is determined by the quantity of kidney removed, or, to be more accurate, by the quantity of kidney remaining. It is not brought about by any reflex effect produced on the nervous system by the operation. This is seen to be the case from the consideration of two facts: first, the removal of portions of both kidneys does not lead to this increased production, although under these circumstances the maximum mutilation is inflicted, and therefore if it were a reflex effect or indeed if it were due to any disturbance of the nervous system the increased production of urea ought to occur in these favourable conditions; and, secondly, the occurrence or not of polyuria depends entirely on the size of the fragment of kidney found post mortem and very often a greater mutilation and a more severe operation may result in the removal of quite a small wedge, whereas in another case a large wedge may be readily and easily removed. There is, however, no exception to the statement that whatever the mutilation or severity of the operation the question of the occurrence of the polyuria is entirely a question of the weight of kidney substance found post mortem. In this respect these kidney experiments present a remarkable resemblance to the experiments on the pancreas with reference to diabetes and to those on the thyroid with reference to myxœdema. In all these cases the results are entirely dependent upon the quantity of gland left. In the case of the thyroid there is definite evidence that the phenomena following its removal are at any rate largely due to the cessation of the action of an internal secretion; in the case of the pancreas this is also probable. Although it is quite possible that this is so with the kidney also there is no conclusive evidence to this effect, since for this to be the case it would be necessary to show that the ill effects seen after removal of the larger amounts of kidney can be arrested or at any rate benefited by the injection of the kidney extract, but such experiments have not as yet been carried out. Brown-Séquard considered that the so-called uræmia produced by the experimental removal of the kidneys could be benefited by the administration of kidney extract, but beyond this fact there is not, I believe, any clear evidence in favour of the view of the existence of an internal renal secretion, probable as such an hypothesis is for some reasons.

If the views advanced above are correct, that the kidney controls in some way the metabolism of the proteid tissues of the body, it is difficult to see how this can be effected except by the agency of an internal secretion, since the effect is not one produced through the nervous system, as division of the renal plexus not only does not produce any analogous effect but division of the renal plexus in no way modifies the effects of partial nephrectomy.

Another point of interest in the physiology of the kidney as bearing on the pathology is the amount of kidney substance necessary in order for life to be maintained. This can be deduced from a comparison of the two series of experiments—the fatal one where three-quarters of the total kidney weight had been removed and the other the non-fatal series where but two-thirds had been excised and where life was maintained for an indefinite period in good health. The comparison of these two series shows that when the animal possesses some 2 grammes or more of kidney per kilo of body weight life can be maintained in good health but when the amount of kidney substance is less than 2 grammes per kilo the typical disturbance of nutrition described above sets in and the animal dies. The normal amount of kidney in dogs such as those used in the above experiments is approximately some 6·7 grammes per kilo. The comparison of the kidney weight with the body weight gives practically the same result as the direct estimation of the kidney weight, that is to say that as soon as there is less than one-third of the original quantity of kidney the danger limit is reached and a very small amount of renal tissue will turn the scale. Prolonged life with much less than 2 grammes of kidney per kilo is impossible, but some experiments suggest that the duration of life even in the fatal series is influenced by the amount of kidney—thus the longest duration of life was fifty days and the amount of kidney was 2·1 grammes per kilo. In another case the duration of life was six days and the amount of kidney was 0·9 gramme per kilo.

Although the effects on metabolism are so marked when three-quarters of the total kidney weight have been removed and are so slight when two-thirds have been removed, yet the transition from the fatal to the non-fatal series is probably a gradual one. A careful analysis of the non-fatal series with the larger amount of kidney left shows that this series contains some animals where there was slight emaciation and some increase in the urea excretion, so that it is quite possible that these animals if they had been kept for a more prolonged period might have succumbed to a more chronic form of the disorder. When the quantities of kidney substance removed are still greater than three-quarters of the total kidney weight—e g., four-sixths, five-sixths, or even nine-tenths, the small fragments left excrete urea freely and I have quite failed by partial nephrectomy in producing a kidney fragment that was unable to excrete urea freely. For this reason, in addition to those mentioned above, I think it is evident that the disordered metabolism induced by the operation can in no way be related to any impediment in the excretion of urea, but that it must be dependent upon a disordered production, as mentioned above.

These operations, even when fatal, have not caused the development of any typical uræmic symptoms except a fall in body temperature; coma, convulsions, dyspnœa, and vomiting have been absent; diarrhœa has sometimes been present and in a few cases where the marasmus was of rapid development considerable quantities of indican have been found in the urine. Indicanuria is a phenomenon frequently associated with the breaking down of proteid material in the body either in the tissues or in the alimentary canal. In some observations it was present where no food was eaten and was thus similar to the increased excretion of indican seen in starvation.

The blood in the fatal series contains a great excess of nitrogenous extractives and more especially urea; the increase of urea in the blood in the fatal series may amount to as much as twenty times the normal. This increase in the blood is present at a time when the increased excretion in the urine is in full swing. The increase in nitrogenous extractives, however, is not confined to the blood, but it is also seen in the tissues such as the muscles, the liver, and the brain, and it is more especially marked in the muscles. The percentage amount of nitrogenous extractives is much higher in the muscles than in the liver and approximates to that found in the blood. Although in the case of blood the increase in the extractive matters is practically confined to an increase in the amount of urea this is not so in the muscles; here there is not only a great increase in the amount of urea—i.e., nitrogenous extractive soluble in absolute alcohol—but there is also a great increase in the nitrogenous extractives insoluble in absolute alcohol but soluble in rectified alcohol. Hence the increase in the total amount of nitrogenous extractive matter in the muscles is still greater than it appears at first sight when compared to those present in the blood. It is a little remarkable that the increase in the liver should be less than in the muscles, but this was always observed. Great as the increase in the blood is, yet owing to the fact that the muscles form the bulk of the body the great bulk of the increase in these nitrogenous extractives is in the muscles and not in the blood. As the increase in these nitrogenous extractives was so marked in the muscles, this suggested that these bodies were formed there directly from the muscle proteids as a result of the deficient amount of kidney. In order to check this observations were made on the distribution of nitrogenous extractives and of urea after (1) double nephrectomy and (2) injection of urea into the circulation after preliminary ligature of the ureters.

1. *Double nephrectomy.*—After complete double nephrectomy the distribution of the nitrogenous extractives in the body is very similar to that seen after partial nephrectomies described above. There is a great increase in the blood, a great increase in the muscles, and a smaller increase in the liver. The percentage increase in the muscles may equal that found in the blood as regards the amount of nitrogenous extractive matter soluble in absolute alcohol, but the increase in those insoluble in absolute but soluble in rectified alcohol is very great in the muscles and small or absent in the blood. Speaking broadly, in the blood the great increase is confined to bodies of the urea type, whereas in the muscles there is not only a great increase in this but also in bodies of the creatin class.

2. *The injection of urea.*—After the injection of urea the greatest increase is found in the blood, the next greatest in the muscles, and the least in the liver, so that here again there is a similarity of distribution, but there are at least two striking differences. In the first place the increase in the blood, muscles, &c., is confined to material soluble in absolute alcohol, and there is therefore no marked increase in the nitrogenous extractives soluble in rectified alcohol. In the second place, and of much more importance, is the fact that although the percentage in the muscles is greater than that in the liver it does not approximately equal that in the blood as is so frequently the case after double and after partial nephrectomy—in other words, after complete double or after partial nephrectomy there is a more uniform distribution of the increase of these extractives in the blood and muscles, but after the intravenous injection of urea the only great increase is in the blood. This, however, is not the case if the animal is allowed to survive the injection for some hours—then there is a more uniform distribution of the injected urea in the blood and múscles.

These facts are of considerable importance in estimating the significance of the increased amount of nitrogenous extractives found in the blood and tissues after double and after partial nephrectomy. The injection of 20 grammes of urea may cause a percentage increase in the blood equal to that seen perhaps in a case of double nephrectomy, so that it might be supposed that but 20 grammes of urea were retained in the latter case, whereas a comparison of the muscle extractives in the two cases shows that in the partial nephrectomy case the actual amount of urea in the body must be far and away greater than in the case of the injection of urea, although perhaps the percentage amounts in the blood of the two cases may be fairly equal. I insist on this great increase in the nitrogenous extractives in the muscles after partial nephrectomy, and at a time when the urea excretion is increased, as I think it is a fundamental point in estimating the significance of these experiments. It is only in the cases where three-quarters of the total kidney weight have been removed that this greatly increased amount of nitrogenous extractives is present in the blood and tissues. In the cases where two-thirds of the kidney weight have been removed and where life has been maintained and hydruria only produced a slight increase in the urea excretion was sometimes seen, and in these cases there was a slight increase in the amount of urea in the blood, nothing, however, comparable to that seen in the fatal series, but still an increase. Normally, in the dog 0·015 to 0·02 would be a fair average for the amount of urea per cent. in the blood. In the fatal series this may rise to 0·3 per cent., but the highest percentage seen in the non-fatal series was 0·06 per cent. This is another fact showing that no hard-and-fast line can be drawn between the non-fatal and the fatal cases and is, I think, further evidence that the kidney in some way controls the production of urea as well as its excretion. Inasmuch as in the three-quarter cases it is quite impossible to hold the view that the kidney fragment is unable to excrete urea and that the increased amounts in the tissues are due simply to retention, in the two-third non-fatal cases this view becomes still more untenable.

The general blood-pressure remains high both in the cases where two-thirds and where three-fourths of the total kidney weight have been removed, notwithstanding the marasmus and the cachectic condition of the animals in the latter series. In this respect the blood-pressure in these cases is in striking contrast to the general blood-pressure seen after double nephrectomy, as here it falls rapidly and greatly. The blood-pressure in the carotid after removal of three-quarters of the total kidney weight varied from 94 to 100 mm. of mercury. This height of blood-pressure is fairly comparable to that seen in the normal dog and it cannot be said to be increased absolutely, but seeing the wasted and feeble condition of the animal it has certainly increased relatively. I have, however, failed to produce experimentally by this operation any permanent increase in the blood-pressure at all comparable to the well-known increase seen in many renal diseases, and even in cases that survived and are still surviving the operation of removal of some two-thirds of the total kidney weight performed some eighteen months ago the highest blood-pressure observed in the femoral artery, as estimated by Mr. Leonard Hill's instrument, was but 130 mm. I have also been unable to satisfy myself that any cardiac hypertrophy was present after these operations; but that is a very difficult matter to settle in dogs owing to the great variations in the size of the heart normally, and hence the height of the blood pressure is really a better measure of the absence of greatly increased arterial tension than observations on the size and weight of the heart. These observations would tend to confirm the view that although heightened arterial tension is a familiar phenomenon in certain renal diseases and although often associated with renal disease in which there is a great diminution in the amount of kidney substance, yet it is not entirely dependent upon that diminution.

A Valedictory Lecture

ON

THE PROGRESS OF OBSTETRICS AND GYNÆCOLOGY.

Delivered at King's College Hospital,

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GENTLEMEN,—I have been asked to devote this lecture—the last which I shall have the privilege of delivering at King's College—to a consideration of the advances which have been made in the subjects which I profess since I assumed this chair, now more than five-and-twenty years ago. I had hoped that the fact of this being my last lecture would have passed unnoticed, but since it is not so I feel that the subject proposed to me is an appropriate one, and the more so as my inaugural address was on the Progress of Obstetrics and Gynæcology. As time goes on it is well to take stock of our movement with it. But that I should undertake to give anything like a comprehensive account of our gains in obstetrics and gynæcology in less than an hour would be an absurd and useless endeavour. I shall not attempt so impossible a task, but shall content myself with a brief allusion to one or two matters which I hope may prove of interest to you.

It is certain that there is no department of medicine or surgery the progress of which in recent years can in the least compare with that of which we can boast. That is because our subject is to a great extent a new one. When I came to this hospital, now thirty-five years ago, gynæcology was practically in its infancy. If you look at any book on the diseases of women of those days—I think Churchill and West were those most used—you will be astonished to find that the subjects which now chiefly occupy the attention of gynæcologists were altogether unknown. There is in them practically no allusion to most of the work with which we are now chiefly occupied. Even such every-day matters as ovariotomy were only beginning to be considered and were damned with faint praise. Morbid states of the Fallopian tubes, such as salpingitis, pyosalpinx, and the like, now known to play so large a part in the causation of pelvic disease, were unknown and curative processes now employed every day were undreamt of.

It was in the year 1854 that I became the pupil of that wonderful man Sir James Simpson, to whose initiative we may fairly ascribe much of the progress made within the last half-century in the departments of medicine I have mentioned.

> "He was a man, take him for all in all,
> I shall not look upon his like again."

Many have depreciated his work, called him ill-balanced and impulsive, lacking in judgment, and unreliable; and in a certain sense all this was true. But his boundless and contagious enthusiasm, his commanding personality, that indefinite something about him which men call "genius," his sweet and lovable disposition which made him never see anything but good in others who would admit no good in him, combined to make of him a leader and a teacher such as I have never seen equalled in the past and never expect to see in the future. His enthusiastic study of all advances in his favourite pursuits and the energy and zeal with which he advocated new methods and treatments, many of which have passed into the limbo of things that are justly forgotten, founded a school of disciples who have since worked hard at subjects which before his time were almost completely neglected. I crave your pardon for this brief allusion to my honoured master, since I am talking of ancient history unknown to most of you.

It is to my mind no objection to a man's work that all of it will not bear the test of time and experience. If that were always essential who is there amongst us whose work would stand? Take, for example, Henry Bennett's book on "Inflammation of the Uterus," which attracted a great deal of attention in its day. If ever there was a book which was thoroughly unsound, the views in which were completely untenable and the practice based on them most pernicious, surely it is this. And yet who shall say that Henry Bennett's work did no good? It did at least this: it directed attention to diseases of the reproductive organs in women, it caused them to be recognised, studied, and diagnosed, and in due course of time its errors were realised and its mistakes avoided. And so it is with many things which for a time received undue attention, such as Graily Hewitt's extravagant views on uterine displacements, which yet had an element of good in them, and other examples which I might give, but which I had perhaps better not dilate on. The lesson from all this is one sadly needed but rarely acted on—that is, a little less dogmatism and a little more charitable consideration for views which do not commend themselves to us. I might fill up the whole of the time allotted to me—and it would not be unprofitably spent—if I were to address you solely on the confident, absolute, and unhesitating condemnations passed by men who have no practical knowledge at all on the matters they condemn on such mooted points in modern gynæcology as trachélorаphé, the use of electricity in gynæcology, laparotomy in pelvic inflammations, total extirpation and morcellement of the uterus, and many similar topics I could mention.

The well-known definition, "Orthodoxy is my doxy and heterodoxy is other people's doxy," surely applies with remarkable force to all matters gynæcological. What I have said reminds me forcibly—and the remembrance should teach us a valuable lesson—of the days not so long ago when the benches of the Medico-Chirurgical Society rang with excited cries of "Down with these belly-rippers!" when Spencer Wells had the temerity to bring before it a paper advocating the performance of ovariotomy. Even after I came to this hospital I well remember urging ovariotomy in the case of a near connexion of my own who had a perfectly simple ovarian tumour. She was taken to several of the most eminent surgeons of the day, all of whom discouraged it, one of them telling her husband that it was "mere butchery." If there is one lesson more than another I should like to leave behind me here it would be that of charitable consideration for the views of others and deferred judgment. If I were asked what is it more than anything else which has enabled obstetrics and gynæcology to take their present position of course I should unhesitatingly say the principles of antisepsis. In directing attention to the changes these have produced I am of course mentioning an obvious truism. In this hospital at least, which may make the proud boast of being, so far as London is concerned, the *fons et origo* of antisepticism, since Lister came to us from Scotland, no word need perhaps be said of it. You are so imbued with the knowledge of it that it is to you, I hope and believe, a second nature. To you the things I have seen before it became known would be absolutely incredible. If I were to tell you what I have seen from septic surgery in my early days in India, where I passed two or three years after I qualified—nay, even were I to tell of things I have seen within these very walls in the way of abdominal surgery:

> "I could a tale unfold whose lightest word
> Would freeze thy young blood,
> . . . .
> And make each particular hair stand upon end
> Like quills upon the fretful porcupine."

I am not going to occupy your time by repeating the twice-told tale of what antiseptics have done for obstetric practice. That the very hospitals and wards which were, when I came here, hotbeds of puerperal septic disease are at this moment the safest place in the world for women to be delivered in is a very fairy tale of medical science which will always be remembered in connexion with the time I am talking of.

It is worth while recalling in this connexion a curious experiment made here just after I came, when a lying-in ward was established in what is now the Pantia-Ralli. The mortality was so terrible that we had soon to close it, and the experiment of having a labour ward in a general hospital will, I hope, never be tried again; but such is the safety of antiseptic midwifery that if it were the result, I fully believe, would be very different. It is a matter of deep regret that the mortality of ordinary domiciliary practice has not lessened with that of lying-in hospitals. This was conclusively shown only the other day in an interesting address by Dr. Cullingworth to the Obstetrical Society. It is certainly a preventable thing, and this should not be. But I am convinced that the blame does not rest with the medical profession. Those members of it who neglect antiseptics will certainly lessen day by day as younger men trained of late years get into practice. If ever some proper and effective control can be established over the midwives—or obstetric nurses, or whatever you choose to call them, who practice so largely among the poor—attending, it is startling to hear, more than half the confinements in the country—then, and only then, will the mortality of the domiciliary practice approximate to that vanished mortality of the lying-in hospitals.

But the gain from the use of antiseptics in midwifery is very far from being limited to natural labours. Several of the more serious conditions which were practically hopeless when I joined the hospital are now treated with success. The Cæsarean section was formerly considered an operation which was almost certainly fatal. Therefore it was never resorted to except under the direst necessity and under conditions which practically precluded the hope of recovery. Now, once more from the extension to it of the principles of antiseptics, as well as from our experience in abdominal surgery, this is no longer the dreaded thing it used to be, and it can be resorted to as an operation which affords a fair chance of recovery, the mortality in the hands of experienced operators being little more than that of some other operations constantly performed. There is another operative procedure which had practically fallen into disuse, that of symphysiotomy, which has again been brought into prominence, but more in other countries than in ours, which enables us sometimes to avoid the horrid alternative of destroying the living fœtus. This, again, is the direct result of the safety arising from antiseptics. One of the chief improvements in modern midwifery, however, is the enormous strides we have made in the treatment of that far from uncommon and dangerous condition, extra-uterine fœtation. Five-and-twenty years ago if an accoucheur was called in to a patient in early pregnancy who was collapsed and moribund he might and probably would have diagnosed the existence of a ruptured tubular fœtation with intra-peritoneal hæmorrhage, but he would have had to stand helplessly by and see his patient die. Now he would without hesitation operate with a fair chance of snatching his patient from the jaws of death and of adding one more to the many cases which have thus been successfully treated. Another not very dissimilar condition as to its effects, before practically hopeless—rupture of the uterus during labour—is now well within the hope of successful treatment. I have no intention of going over all that has been done within the last quarter of a century in midwifery. These are only some illustrations of our progress.

There is one subject, however, on which I feel called to say a few words and that is the modern practice in protracted labour from uterine inertia, and that because it has been strongly attacked by my friend Professor W. Japp Sinclair, of Manchester, in his recent address to the British Medical Association at Montreal. When I joined this hospital the old and I venture to think the bad practice was common of leaving women to linger on very many hours in powerless labour from an unfounded dread of the forceps. No doubt many of the more advanced practitioners were gradually shaking themselves free of it, but the textbooks all adhered to the old dicta. If you want to see what this practice led to I would ask you to read the account of the labour and consequent death of the Princess Charlotte of Wales which I have introduced into the more recent editions of my book on Midwifery. You will there see how that gifted Princess's life was sacrificed to thoroughly bad midwifery. Had it not been for this our present gracious Sovereign would in all human probability never have come to the throne. 'The extent to which the dread of instrumental interference was carried may be judged of from the fact that in the Rotunda Hospital at Dublin, between the years 1786 to 1793, the Master, Dr. Clark, used the forceps only fourteen times out of 10,387 deliveries, and during the Mastership of Dr. Labbatt (1815–1822) out of 21,867 births there is no record of the forceps having been used in a single instance. The first edition of my book on Midwifery was published in 1876 and I believe it to be the first systematic treatise in which the more rational and I think now generally adopted practice was openly advocated. This I did in fear and trembling and deemed it necessary to offer a sort of apology in the preface. Happily my fears in this respect were not justified, the views I enunciated were generally approved, and the practice I inculcated, with all proper reserve and safeguards I maintain, was generally adopted. It is very likely that the pendulum has swung too far in the opposite direction. Injudicious practitioners abound everywhere, but apparently far more abundantly in and about Manchester than in London, for certainly here I do not come across the enormous number of lesions which Professor Sinclair attributes to the use of the forceps, forgetful of the fact that the cervix used to tear and the perineum to lacerate long before the forceps were heard of. He forgets also, or at any rate minimises, the fact that in the good old times he so much laments lesions were abundant from *not* using the forceps which are hardly ever seen now, such as vesico-vaginal fistulæ. These are not made nowadays, because the forceps are more frequently used. So much is this the case that it is probable that most of the gentlemen I am addressing have never even seen the operation for their repair. Professor Sinclair, however, rather lets the cat out of the bag when he tells us that in the quarter of a century before the introduction of antiseptics, which is practically the quarter of a century before I assumed this chair, Dr. Matthews Duncan, whom he very properly takes as a type of the obstetricians of that time, and his contemporaries "were long busy in repairing the characteristic ancient injury of vesico-vaginal fistula, for they had the accumulated misery of a whole generation of women to cure and ameliorate." "The accumulated misery" of generation after generation of women living before Marion Sims's great discovery was left uncured and unameliorated.

Professor Sinclair does not mention one of the great glories of midwifery resulting from modern practice—that is, the practical abolition of the operation of craniotomy formerly so common. It would be a curious study to inquire what happened in the *tempora acta* in the hands of injudicious practitioners, who, I suppose, existed then as now. I have heard of one distinguished obstetrician at least, celebrated for his hostility to "progressive" practice, who when called in to a bad midwifery case exclaimed in emphatic Doric, "Man, what's the deeficulty? dang out the brains!" I wonder how many lacerated cervices or torn perinea should be taken as the fair equivalent of even one human life saved from the deadly perforator? Professor Sinclair sets himself to prove a most extraordinary thesis. Let me quote his own words: "A thesis which I shall endeavour to maintain to-day is that gynæcology has become so largely surgical as the direct result of surgical interference in midwifery practice. The accoucheurs are the providers of material for the gynæcologists." And again: "For the material of his ordinary daily labour the gynæcologist has to look to the accoucheur." Surely these extravagant statements cannot be seriously meant? I was under the impression that the surgical expansion of gynæcology was due to such operations as ovariotomy, the removal of diseased appendages, vaginal and abdominal hysterectomy, colpotomy, and the like, which the wildest imagination cannot say are the production of the accoucheurs.

If Professor Sinclair had been content to preach against injudicious excess in operative midwifery I should have heartily agreed with him and welcomed his address as sure to do good. But he does far more than this; he advocates in effect, if not in so many words, a return to the old bad times and disastrous practice against which, as one of the teachers and writers of textbooks he so much blames, I feel bound to raise my voice. I do not, however, intend this as an answer to his criticisms—that I have attempted more at length in the forthcoming edition of my book on Midwifery—but as a passing allusion to a topic of current interest.

That gynæcology is becoming, year by year, more and more surgical is a fact that cannot be denied. Indeed, nowadays a gynæcologist who cannot operate or handle a knife, or is not allowed to do so by the rules of his hospital, if such fossil institutions still exist, is very like a modern soldier prohibited from using gunpowder. If a gynæcologist must be either a surgeon or a physician then in future he must certainly elect to be a surgeon. But on this I should like to say a few words and to make them intelligible I must be a little retrospective. Many of our London hospitals are very ancient institutions and the more modern ones are modelled upon them. When they were founded midwifery was only practised by women and gynæcology did not exist, so that the staff was naturally formed by members of the old corporations of physicians and surgeons only. As time elapsed it became necessary to appoint obstetric physicians, who came in as interlopers, who were "neither flesh, fowl, nor good red herring." As they taught midwifery only they generally belonged to the College of Physicians. The first Fellow of the College of Physicians who had the boldness to shake off the shackles of precedent was the late Dr. Tyler Smith, of St. Mary's Hospital, who performed ovariotomy and has left a lasting name for himself in connexion with the operation, since he introduced into this country the intra-peritoneal treatment of the pedicle. I believe, although it was before my time, that he gave great umbrage by doing so.

Everyone who has the honour to belong to the College of Physicians is proud of it and fond of it, but it is a very ancient institution, and like other ancient institutions it is not altogether free from traditions and prejudices that are not altogether wise. Moreover, it has a good many Fellows who are by nature fine old crusted Tories, whom everyone loves and respects, who would like to keep the College very much as it was in the time of Henry VIII. Possibly some of these may still object to obstetric physicians operating when they have an aptitude for doing so and have such work to do. But if such views are still held, as is not unnatural, they have never done any practical harm. Under the judicious guidance of its successive Presidents the College of Physicians has been as progressive as such an institution can be expected to be or, indeed, in my opinion, ought to be. From it, at least nowadays, no difficulties arise. Of the views on this subject of one of the wisest and most liberal-minded of its Presidents, the late Sir Andrew Clark, there can be no doubt, for I have often heard him say that a man should do exactly what he thought himself most capable of doing and I have had practical proof of it by having on several occasions operated on gynæcological cases he sent to me for the purpose. But I am told, for I have not myself seen it, that there is a cloud, at present no bigger than a man's hand, rising in another quarter. I am given to understand that our friends the hospital surgeons, or some of them, dismayed, let us hope, by the operative successes of their obstetrical colleagues, are beginning to clamour for protection and are agitating for the enactment of a rule that no obstetrician is to operate unless he is a Fellow of the Royal College of Surgeons.

Now see for a moment what a grievance this would be. Take the case of a comparatively young obstetrician who has qualified by taking the very high diplomas of M.D. and M.R.C.P. Is such a man to be suddenly debarred from following the career for which he has prepared himself by being called upon without previous warning to pass the difficult examination necessary for admission to that very limited body the Fellows of the College of Surgeons?

A man's skill as an operator depends on his brains and on his fingers, not on the letters he writes after his name. I know Fellows of the College of Surgeons whom I would not trust to vaccinate a baby, and I know Fellows of the College of Physicians to whom I would unhesitatingly confide any operation they chose to undertake; and, *per contra*, if I were asked to select as obstetric physician to a hospital between a man who was an M.D. and F.R.C.P. Lond., whom I knew to be an inferior man, and a man who was a simple M.R.C.S. whom I knew to be a superior man, I would certainly select the better man of the two irrespective of his qualifications. If such a rule were to be enforced it would at once lead to a divorce between obstetrics and gynæcology. These subjects are each so large that I think it likely that such a separation will eventually take place by mutual agreement; but we are not prepared for it as yet, and to force it on by such an enactment would be to dislocate the teaching machinery of our schools. We boast of belonging to a country which has been wise enough to adopt free trade in commerce, yet we talk of adopting a protective measure which could not find a parallel in any other country of the world, in none of which do such mediæval distinctions between different branches of the profession exist.

Some of our more conservative friends tell us that we may with propriety interfere surgically in anything in midwifery, but that the moment any surgical interference is required in gynæcology the case must be handed over to the surgeons. I do not envy the position of an accoucheur, nor, for the matter of that, of his patient and her friends, who in deference to this opinion has acquired no surgical experience, when suddenly called upon to cope with such an obstetric emergency as a Cæsarean section, or a symphysiotomy, or a ruptured tubular fœtation, or a ruptured uterus. The plain fact is—and it is one which cannot be got over—that the evolution of medicine has produced a class of practitioners who are "physicians and surgeons" in a higher sense and the sooner sensible and unprejudiced men reconcile themselves to them the better.

I have been tempted to this somewhat polemical discussion because it is one of great moment and it is well that a senior member of the obstetric branch should have his say on behalf of his junior colleagues although he has himself no longer any personal interest in the matter; and I may speak all the more plainly because I have never myself experienced any difficulty of the sort and have always received the most kindly, generous, and ungrudging assistance from all my surgical colleagues in anything of an operative nature I have thought it right to attempt.

But do not suppose for a moment that in arguing in this way I am advocating over-much operative interference in gynæcology. None of you, I feel sure, to whom I and my work are well known will accuse me of want of caution in that respect. There is, I am constrained to admit, a good deal of unwise excess amongst us which is much to be deprecated. As we have to acknowledge that injudicious practitioners have erred in carrying out what is on the whole a right principle in the management of protracted labour, so also we have to acknowledge that injudicious practitioners have interfered surgically far more than most of us think justifiable, and in a way that brings discredit on themselves and needless risk to their patients. *In medio tutissimus ibis* is the wise and safe principle which should guide you in shaping your course. In the opposite direction we have to deprecate the tinkering practice adopted by the ultra-conservative gynæcologists who would shun surgical interference altogether, which was caustically described, not without some reason, by my friend Professor Clifford Allbutt in an often-quoted passage in which he talks of the patient as being "entangled in the net of the gynæcologist, who finds her uterus, like her nose, is a little on one side; or, again like that organ, is running a little; or it is as flabby as her biceps, so that the unhappy viscus is impaled upon a stem, or perched upon a prop, or is painted with carbolic acid every week in the year except during the long vacation, when the gynæcologist is grouse-shooting or salmon-catching or leading the fashion in the Upper Engadine."

It is difficult to say which sort of error is eventually worse for the patient. It is to be feared that one or other of them will be met with until the halcyon days arrive when the possession of a diploma provides its owner with judgment that never errs and with enthusiasm that never leads him astray.

I have left myself no time, I regret to say, to direct your attention to our gains in gynæcology during the years we have under review. I can only make a mere passing allusion to some of them, but they are no less remarkable than in obstetrics and may have all practically arisen from the great principle of antisepsis which has done so much for midwifery. One note of modern gynæcology which is remarkable is the increasing favour which the treatment of pelvic disease by the vaginal route is finding. Things are possible now, and with comparative safety, previously undreamt of. Thus malignant disease of the uterus, formerly left to run its course unchecked, can now be dealt with if detected sufficiently early—which is, unhappily, often not the case—by partial or total extirpation of the diseased organ and with reasonable hope of success. Then, again, certain diseased conditions of the appendages may also be treated by this route with less danger than by abdominal section. So also some of the most troublesome cases of pelvic inflammation following on childbirth or on morbid conditions of the tubes are being thus dealt with with increasing frequency, so also are certain diseases of the uterus such as small fibromyomata, old-standing displacements producing serious symptoms, and other conditions which I merely mention without any expression of opinion. Many other topics suggest themselves, some of them involving most vexed questions, such as the treatment of fibro-myomata by hysterectomy, the removal of the appendages by laparotomy for various diseased conditions, or unhappily sometimes for no diseased conditions at all, the treatment of pelvic inflammations by abdominal section, and many others which cannot even be mentioned. One subject, however, I cannot pass over, as it has always interested me much, that is, the possibility of treating systematically and successfully the strange and manifold neurotic symptoms which so often shipwreck the lives of women and reduce them to a state of chronic invalidism previously quite hopeless. That cases of this sort, unhappily so common, can be so often, when properly managed, restored to health is, in my judgment, one of the greatest gains to practical medicine in the last quarter of a century. This is, perhaps, not strictly a gynæcological matter, but it is often so closely connected with it that this passing allusion to it may be pardoned. I hope that even these few words may prove to you that gynæcology has not been at a standstill.

It is my firm conviction that the more scientific basis on which gynæcology is being placed by pathological, histological, and bacteriological research will ere long give it a position which it has hitherto lacked, as is not unnatural in a subject of comparatively recent development. And now, gentlemen, I cannot conclude without a word personal to myself. It is just thirty-five years since I came to London to seek a livelihood, as so many of my countrymen have done since the time of that "high and mighty Prince," James I. of England and VI. of Scotland. It is not an exhilarating thing to put up your brass plate in a city such as this, in which you could count your acquaintances on the fingers of one hand. I was greatly encouraged when in the same year the Council of King's College elected me to be assistant obstetric physician to this hospital. I may say of it, and I say it with the deepest gratitude, I was a stranger and it took me in. In retiring from the active work in connexion with it, which for so many years has been the chief occupation, and interest, and pleasure of my life, it would be a comfort to me if I could carry with me the conviction that the generous confidence thus shown to an unknown young man has not been entirely misplaced. It is a painful thing to say farewell. I cannot do it better than in the words of a prayer often offered up within these walls, "God bless King's College, and King's College Hospital, and all connected with them."

Remarks
ON
6657 ADMINISTRATIONS OF ANÆSTHETICS CONDUCTED AT THE LONDON HOSPITAL DURING THE YEAR 1897.

In three Clinical Lectures delivered at the Hospital

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LECTURE III.[1]

Delivered on Feb. 18th, 1898.

GENTLEMEN,—We have to consider to-day the two remaining parts of our subject. These are (1) the cases in which fatal symptoms, partly or wholly referable to the anæsthetic, were recorded; and (2) the after-effects in the various cases in which anæsthetics were administered. I have placed upon the board a simple table which explains itself. Of the 6657 cases in which anæsthetics were given there were only three in which the anæsthetic could in any way be held responsible for the fatal issue, and you will see that of these there is only one in which the anæsthetic was the sole factor. In the remaining two cases other factors more important than the anæsthetic must be regarded as having been present. I shall first of all deal with the case in the third column. It is one in which the fatal symptoms arose after the administration of ether, the state of the patient being the primary factor and the anæsthetic the secondary. The case is one which, so far as my experience and reading are concerned, is quite unique, and it is certainly of very great importance. It was this case coupled with one or two others in the course of this year's work which made me feel that our experience in this hospital should be put on record. The patient was a male fourteen years of age. About three months before admission he contracted typhoid fever and the attack was a severe one. He subsequently developed symptoms of appendicitis and was admitted to the hospital on Jan. 5th, 1897, to be operated upon for that affection. On Jan. 15th, the day of operation, the boy appeared to be in very fair health; he had good heart sounds, there was no cough or difficulty in breathing, and the abdomen was not distended. Ether was given to him by means of a Clover's inhaler and the administration lasted forty minutes. The induction of anæsthesia was perfectly smooth and there was no difficulty of any kind, but when the patient was fully under ether I noticed a great peculiarity about his breathing. In order to explain this to you I must first say that if you take the trouble to observe the respiration of patients under anæsthetics you will find that in most cases the abdomen rises with inspiration and falls with expiration, and that the sternum either remains practically stationary during both inspiration and expiration, or actually slightly recedes with the former and rises with the latter. The meaning is simple. It is that the diaphragm does most of the inspiratory work and by vigorously contracting produces such sudden negative pressure in the chest that the sternum actually falls in during the inspiratory contraction of the diaphragm. This is, however, not the case with all patients. One sometimes sees, especially in perfectly healthy young men and women, both chest and abdomen rising with inspiration, provided that no obstruction such as that expressed by stertor be present. If even mild stertor be audible the increased inspiratory effort needed to overcome the obstruction upon which the stertor depends will be made by the diaphragm and the sternum will at once begin to recede during respiration. I need hardly remind you that patients with rigid chest-walls will not display these phenomena to the extent observed in patients with yielding parietes. So far, then, as the abdomen is concerned we may say that it almost invariably rises during the inspiratory phase and falls during the expiratory. I had observed this in so many cases that you may judge of my surprise when I saw that in this boy under ether an exact reverse of the usual state of things was present, and that the abdomen instead of rising with inspiration was receding, and the sternum instead of receding was markedly rising. In other words, the breathing was entirely thoracic, the diaphragm being wholly inactive. I was so struck by the peculiarity that I called the operator's attention to it. There was also another unusual feature in the case. Although a plentiful supply of air was given—such a supply as under ordinary circumstances would have ensured a florid colour without any duskiness—this patient remained slightly cyanosed throughout. But beyond these two points, which might easily have escaped my attention had I not been interested in the different forms of breathing during anæsthesia, there was nothing to note. There was no difficulty of any kind; the respiration was regular and not hurried, the pulse was excellent, the pupils were as a rule moderately contracted, and there was no abnormal secretion of mucus. The operation was successfully performed and the patient was taken back to bed. Later in the day, however, it was noticed that more mucus than usual seemed to be present in the air-passages, that the respiration was 32 per minute, and that the pulse was 112. Breathing did not improve during the night, but it did not get much worse. The patient slept fairly well but complained of slight pain at the base of the left lung anteriorly. At 8 A.M. the next morning the pulse was 160, the respiration was 40, and there was a good deal of rattling in the chest. At 12 noon the breath sounds were harsh, with râles and rhonchi all over the chest except at the base of the left lung anteriorly, which was dull to percussion. The heart sounds

Cases in which Fatal Symptoms, partly or wholly referable to the Anæsthetic, were recorded.

Anæsthetic.	Factors.		
	A, During the administration.		B, After the administration.
	Anæsthetic.	1. State of patient. 2. Operation. 3. Anæsthetic.	1. State of patient. 2. Anæsthetic.
Ether (2910 cases) ...	—	—	1
Chloroform (677 cases)	1	1	—
Totals	1	1	1

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[1] Lectures I. and II. were published in THE LANCET of Feb. 19th and March 5th, 1898, respectively.

were almost indistinguishable. There was no increase of vocal resonance. The apex beat of the heart was not displaced. There were no signs of fluid or definite pneumonia. The respiration was 52. Stimulants were given, the inhalation of oxygen was employed, and the patient was propped up in bed. At 4 P.M. the respiration was 81, the pulse was 150, and the temperature was 102° F. At 10 P.M. the patient grew very dusky and he was bled, but only one and a half ounces of blood issued. No tubular breathing was audible, but both bases posteriorly were dull and the breath sounds were deficient. Strychnine and digitalis were injected every two hours, but there was no improvement and the patient died thirty-four hours after the operation. Unfortunately, no post-mortem examination was allowed, but everything seems to point to acute pulmonary œdema as the cause of death.

There is no doubt, I think, that in this case complete diaphragmatic paralysis was present before the anæsthetic was given. At the conclusion of the operation, indeed, the dresser of the case informed me that he had himself observed the peculiarity in the patient's breathing on the preceding day. With the cause of the paralysis of the diaphragm we are not, of course, concerned, but it is most probable that it arose as a result of the attack of typhoid fever, peripheral neuritis being one of the recognised sequelæ of this disease. As is well known, inaction of the diaphragm may be present without causing the patient any distress, provided that no great exertion be taken and that the thorax be sufficiently mobile to carry on respiration. In this case the elastic thorax was perfectly competent to take over the work of the diaphragm whilst the patient was at rest in bed, but when under the influence of ether both respiration and circulation became increased the thoracic movements were doubtless incompetent to fully oxygenate the blood passing through the pulmonary capillaries, and hence a certain degree of cyanosis was, as we have seen, produced. Moreover, when we bear in mind the fact that the pulmonary circulation is very largely dependent for its efficient maintenance upon free lung expansion the question arises whether the thoracic movements were sufficient during the administration to properly carry on this circulation, especially at the bases of the lungs. It is probable that they were sufficient, for had they not been more symptoms of distress would most likely have been noted. On the other hand, it is not, I think, unreasonable to suppose that the bases of the lungs were not expanded so efficiently by thoracic movement as they would have been had the diaphragm been in working order, and if this view be correct we can well imagine incipient pulmonary œdema from a comparatively sluggish circulation through the vessels in the bases of the lungs to have begun during the administration. Again, it must not be forgotten that the tranquil breathing which always accompanies recovery from ether anæsthesia must have been eminently favourable to the development of pulmonary stasis and œdema in a patient whose diaphragm was paralysed. One frequently sees instances, under all anæsthetics, of the respiratory centres resting, so to speak, after unwonted activity, and there can be little doubt that the phase of tranquil breathing through which this patient must have passed—a phase which commenced with the withdrawal of the ether inhaler and terminated with re-establishment of consciousness—was specially favourable in such a subject to the continuance of the hyperæmic pulmonary condition brought about by the administration of ether. It is well known that patients with diaphragmatic inaction are particularly prone to congestive and inflammatory lung complications, so that it is not very surprising that after forty minutes' etherisation such symptoms should have arisen in this patient. By this hypothesis it is, I think, easy to explain the occurrence of the œdema which unfortunately proved fatal. Had we not observed the diaphragmatic paralysis the case would undoubtedly have been lost sight of with others whose etiology is perfectly obscure. It is true that even with the data now at our disposal we cannot say for certain what was the immediate pathology of the pulmonary œdema, but I think you will agree with me that by the careful study of such cases as these we shall at all events tend to advance our knowledge as to the circumstances under which the pulmonary sequelæ of ether may arise.

Before dismissing the above case we should carefully consider whether it is capable of teaching us any lesson which may be of use for future guidance. It is, of course, somewhat difficult to say whether the chances of pulmonary complications would have been less had chloroform or the A.C.E. mixture been employed instead of ether, but the probability is certainly in this direction. Again, with the experience of the case to help us, it is now easy to see that the unusual cyanosis met with during the administration might with advantage have been taken to indicate that a change from ether to chloroform should have been effected. I think we shall not be far wrong in the future if, on finding that the patient presented to us for anæsthetising has diaphragmatic paralysis, we adopt all means in our power to throw as little stress as possible upon both respiration and circulation. Possibly the use of chloroform in conjunction with oxygen would be the most suitable anæsthetic for such cases. There is just one other point which occurs to me in connexion with the case. It is that after the administration of an anæsthetic to a patient with diaphragmatic paralysis it may be advisable to assist respiration by intermittently compressing the lower ribs till consciousness has returned, in order to prevent as far as possible any circulatory stasis at the bases of the lung.

The next case occurred under chloroform, and there is very little doubt that the anæsthetic was the chief if not the sole factor. It is true that the patient was not in a perfect state of health, as he was the subject of slight chronic bronchitis, but there is no evidence that this contributed in any way to the fatal issue. He was a labourer, twenty-six years of age, well built and muscular. Owing to his bronchial affection it was thought advisable to administer chloroform rather than ether. He had, however, previously had ether for a short operation and no difficulties had arisen during the administration. I have before pointed out to you how very cautious you should be in giving chloroform, *ab initio*, to muscular men, and this case will illustrate far better than any remarks I have made how vigorous patients may die comparatively early in the administration of chloroform. The contemplated operation was for tuberculous epididymitis and the anæsthetic was given from a Skinner's mask. The patient took the chloroform fairly well till excitement commenced; there was then very considerable struggling which was attended by rigidity of the chest, arms, and legs. The rigidity lasted from thirty to forty seconds and necessarily led to embarrassment of breathing. At the end of this time, however, it passed off; two deep breaths were taken and the anæsthetic, which had been discontinued, was resumed. The report goes on to say that in about half a minute the conjunctival reflex was lost and the pupils were moderately contracted. But whilst the patient was being wheeled into the theatre it was noticed that breathing had ceased and that the face was cyanosed. The pulse, however, was then palpable at the wrist. Remedial measures were promptly applied (artificial respiration, strychnine, and brandy), but the pulse disappeared and, with the exception that about twenty respirations were subsequently taken at intervals of about a quarter of a minute, no further signs of animation were observed. Artificial respiration was nevertheless kept up for some time.

So many deaths of this kind have been recorded in our medical journals that it will, I think, be well worth while to carefully consider the facts just narrated. The first element in the case was undoubtedly the struggling. This led to a fixed condition of the thoracic and abdominal parietes, during which the absorption of the chloroform previously given and now locked up, as it were, in the air passages steadily continued. Under such circumstances as these the right side of the heart would find itself less able than usual to perform its work. In the first place, the struggling would tend to force an abnormal quantity of blood into its cavities; in the second place, the impeded pulmonary circulation would prevent those cavities emptying themselves as easily as in unrestricted breathing; and, in the third place, the heart would be to a certain extent dilated from the effects of the chloroform upon its muscular tissue. The absorption of the anæsthetic vapour during totally arrested breathing is an important point to bear in mind in studying fatal cases of this category. The muscular rigidity of the so-called struggling stage is very often associated with mechanically obstructed breathing from partially performed deglutition movements or other causes, so that neither can air enter the lungs nor can the imprisoned vapour leave them. So important is the absorption of chloroform during temporarily suspended breathing that I think it should be a rule to withhold the anæsthetic whilst the rigidity is subsiding and for some little while afterwards, and only to recommence the administration if there is a conjunctival reflex present. In the particular case before us it is stated that the anæsthetic was not resumed till after two deep breaths had been taken at the conclusion of the rigid stage. But if we picture to ourselves the state of the circulation at that moment we shall, I think, agree that the blood must then have contained a good deal of chloroform and that the right side of the heart must have been somewhat overtaxed and distended as the immediate result of the struggling and self-asphyxiation through which the patient had just passed. It is clear that by recommencing the administration before a proper state of equilibrium has been established between the pulmonary circulation and the right cavities of the heart the fresh chloroform distributed to the heart muscle by the coronary arteries can only have the effect of still further dilating those cavities and rendering them unable to meet any further strain that may be imposed upon them. What the precise nature of this additional strain may have been in this case it is rather difficult to say. It is, however, fairly certain that some additional respiratory embarrassment arose and acted as the last straw. Either the upper air-passages again became mechanically obstructed as the patient was being moved into the theatre or the respiration came to a standstill as the immediate result of the toxic effects of the previously absorbed chloroform upon the nervous centres, or both conditions were present. But whatever may have been the cause of the arrest of breathing the final result upon the embarrassed and poisoned heart muscle was the same—viz., to arrest its action.

It will be well in this connexion to say something on the much-discussed question whether under chloroform the respiration fails before the circulation or the circulation before the respiration. In considering this question it is necessary in the first place that two considerations should be borne in mind. The first of these is that failure of the wrist pulse is by no means synonymous with failure of the heart. The second is that there are three distinct ways in which breathing may come to a standstill under chloroform—the state of the circulation at the moment when breathing ceases being very materially dependent upon the form of respiratory failure. (1) With regard to the first of these considerations I may tell you that I have seen many cases in which the wrist pulse has become almost or completely imperceptible although the heart has been acting, though feebly, at the time. The clinical question whether the pulse fails before respiration or *vice versâ* must therefore not be confounded with the physiological question whether the heart ceases before the respiration or *vice versâ*. Many have imagined that because they have met with cases in which the pulse has vanished at the wrist whilst respiration has been proceeding the physiological dictum that respiration stops before the heart is opposed to clinical evidence, but this is not really so. During the fall of blood-pressure in deep chloroform anæsthesia the pulse may disappear whilst the heart is still acting; then the breathing ceases; and, finally, the heart. You will remember that I have in a previous lecture emphasised the necessity for watching the pulse in *deep* chloroform anæsthesia; and it is by doing this that you will often be able to avoid disaster. (2) The next consideration is important, and it is one, moreover, to which physiologists have not perhaps directed sufficient attention. During anæsthesia breathing may become arrested (*a*) from mechanical obstruction, (*b*) from spasm of the respiratory muscles, or (*c*) from paralysis of the respiratory nervous mechanism. Now the first two forms of respiratory failure are most likely to be met with during comparatively light anæsthesia—i.e., when the general systemic circulation is fairly good; and under these circumstances the pulse may remain palpable at the wrist for a considerable time after breathing has ceased. In the third form of respiratory failure, however, the arterial tension at the moment of the arrest of breathing is so low that either there is no pulse to be found at the wrist or it is barely palpable, or if it is fairly palpable it quickly disappears. In the human being under chloroform there is a very great tendency to mechanically obstructed breathing from a variety of causes; and it is this tendency which, to my mind, places the human being upon a somewhat different footing, so far as the physiological action of chloroform is concerned, to lower animals. Considerable experience is needed to detect some of the more insidious forms of mechanically impeded breathing. Indeed, in many cases this element of obstruction plays a far more important part in the administration than the chloroform itself. It is impossible on this occasion to enter upon a consideration of the various ways in which breathing may become obstructed. All I wish to say now is that the lower animals do not display these tendencies and it is therefore, in my opinion, erroneous to argue from the one to the other without taking these differences into consideration. It is in the highest degree probable that in the case last quoted some obstructive condition acted as the last straw in upsetting the circulatory balance. It is quite certain that respiration was primarily interfered with, for the pulse was palpable when breathing had become arrested. The final gasps, at long intervals, only came on after the muscular system had completely relaxed and cardiac action could not be restored, and they cannot, I think, be regarded as indicating the continuance of true respiration. They were analogous to the final gasps met with in the course of asphyxia, but by the time they appeared it was impossible to restore cardiac action. From what I have placed before you you will, I think, see that in cases of anxiety under chloroform one of three clinical conditions may be present. You may either have (1) the respiration ceasing before the pulse, (2) the pulse ceasing before the respiration, or (3) both ceasing simultaneously; and you must bear in mind that neither of these conditions is incompatible with the physiological fact that in an overdose of chloroform respiration ceases before the heart.

The next case is one in which death occurred during the administration of chloroform, but the anæsthetic had very little indeed to do with the fatality. In a great many hospitals it is customary to attribute such deaths entirely to surgical shock, but one cannot, I think, wholly exonerate the anæsthetic. The patient was a male, suffering from empyema, and he was in a very unsatisfactory general condition. It was proposed to remove two pieces of rib. Chloroform was given, but only in small quantities, and while the pus was escaping, the patient stopped breathing and died. The case must, I think, be considered as one in which the state of the patient was the primary, the operation the secondary, and the anæsthetic the tertiary factor. With regard to the use of anæsthetics in cases of empyema I may say that the most favourable ones are the extremely chronic and the worst the very acute. If a patient has had an empyema for some weeks or months and his respiration has become adapted to the altered circumstances there is very little special risk. But if you should be called upon to give an anæsthetic to a patient with pleuro-pneumonia running on to empyema you should be very cautious. The worst cases of all are those in which the patient is muscular or obese, the temperature high, the pulse quick, and the face flushed and dusky. In such patients the respiratory apparatus has not yet become accustomed to its altered circumstances. In cases of empyema one of the most important points is the posture of the patient. If the patient be a heavily built man with but one lung available for respiration, and if he be turned over to his sound side it will be obvious that the weight of the trunk may seriously impair the working of the sound lung. Whenever it is practicable, therefore, you should endeavour to place your patient in such a posture that his breathing is as little impaired as possible. In chronic cases ether may be given perfectly well, and I have even used it with advantage in moderately acute ones in which a short and partial anæsthesia seemed indicated; but if ether be used it is imperatively necessary that it should be given by the open method with plenty of air. All inhalers with bags must be avoided. In the acute and comparatively recent cases struggling and rigidity are more likely to arise than in others and, as I have already pointed out to you, this stage of struggling is the most dangerous stage under chloroform. If, therefore, you suspect from the type of your subject that struggling and rigidity will arise I would strongly advise you to endeavour to pass over that stage under ether and, if necessary, to change to chloroform subsequently. If a muscular patient with recent empyema become rigid the heart may quickly fail. It is, indeed, cardiac rather than respiratory failure that is to be feared in cases of this kind.

It now remains for me to direct your attention to the records of after-effects. The gastric disturbances which are unfortunately liable to follow the administration of chloroform, ether, and allied anæsthetics deserve special attention, for from the point of view of both patient and surgeon they are often exceedingly objectionable. We are, perhaps, too prone to look upon some degree of nausea and vomiting as necessarily consequent upon ether and chloroform anæsthesia and to imagine that if we have arranged the diet of the patient before the operation we have done everything that is possible in the way of preventing these unpleasant sequelæ. Only those who have undergone operations under ether or chloroform and have suffered severely from after-vomiting can thoroughly appreciate the importance of studying this branch of the subject. Let me first of all deal with the facts at our disposal. It is a very difficult matter to collect statistics of after-effects, for, in order that any case may be complete it is necessary that we should have details as to the kind of nourishment last taken, the interval between the taking of this nourishment and the operation, the anæsthetic used, the length of inhalation, the nature of the operation, and the extent of the nausea, retching, or vomiting afterwards. I shall refer only to gastric after-effects following the use of other anæsthetics than nitrous oxide. Out of our 6657 cases I am sorry to say that I have only been able to obtain full details as to after-effects in 275, and I find that these can be arranged in four classes, as follows:—

Gastric After-effects of Anæsthetics other than Nitrous Oxide (275 cases).

Class I. (no after-effects)	109
Class II. (slight after-effects)	109
Class III. (moderately bad after-effects)	35
Class IV. (severe after-effects)	22
Total	275

The subjoined table shows the anæsthetics given in these 275 cases.

—	Class I.	Class II.	Class III.	Class IV.	Total.
Ether	43	44	18	6	111
A.C.E....	7	7	—	2	16
Chloroform	6	1	—	1	8
Gas and ether	19	25	8	5	57
A.C.E. and ether	9	10	3	3	25
A.C.E. and chloroform... ...	5	5	—	—	10
Ether and chloroform	8	9	4	2	23
A.C.E., ether, and chloroform...	9	5	—	1	15
Gas, ether, and chloroform...	3	3	2	1	9
Gas, ether, A.C.E., and chloroform	—	—	—	1	1
Total	109	109	35	22	275

Unfortunately the number of cases in which chloroform after-effects were recorded is so small that it is impossible to draw any conclusions as to the relative severity of gastric disturbances after this as compared with other anæsthetics. The following calculations are, however, of interest. We can compare the cases in which ether was either used throughout or was preceded by nitrous oxide or the A.C.E. mixture as preliminary anæsthetics with those in which ether was given for the first part of the administration and was subsequently changed for chloroform. Thus:—

Ether.		*Ether followed by Chloroform.*	
Ether	111	Ether and chloroform	23
Gas and ether	57	A.C.E., ether, and chloroform	15
A.C.E. and ether	25	Gas, ether, and chloroform ...	9
Total	193	Total	47

When worked out in percentages we find the following results:—

Ether.	Per cent.	*Ether followed by Chloroform.*	Per cent.
Class I.	36·78	Class I.	42·55
Class II.	40·95	Class II.	36·19
Class III.	15·02	Class III.	12·75
Class IV.	7·25	Class IV.	8·51
Total	100·00	Total	100·00

It is only right to bear in mind in studying these figures that they are after all based upon very few cases; still, they seem to point to certain conclusions which we have arrived at in other ways, so I have placed them before you. You will see that whilst 36 per cent. of the ether cases had no after-affects 42 per cent. of the others were similarly fortunate; whereas whilst the frequency of severe after-effects in the ether cases is represented by 7·2 per cent., this frequency comes out at 8·5 per cent. in the others. In other words, patients are more likely to suffer from slight after-effects when ether has been used, but the chances of protracted vomiting are greater when chloroform has been administered. Further data are, of course, needed to make this point finally certain. The influence of the length of abstinence from food is very fairly shown by the following figures:—

Average Abstinence from Food.

Classes I. and II. combined (no after-effects or very slight)	4 h. 4 min.
Classes III. and IV. combined (moderate or severe after-effects)	3 h. 50 min.

There can, I think, be no doubt that an abstinence of at least four hours should be enforced, and if it be somewhat longer so much the better. Clear soup or beef-tea without any solids is on the whole the best form of nourishment before an operation. Milk and eggs should be avoided. In private practice an endeavour should be made to interfere as little as possible with the patient's usual hours for meals. Thus, for early morning operations (up to 10 A.M.) he should have a light dinner the night before at his usual time and nothing whatever after. In the case of an operation about 2 P.M. he should have a light breakfast at his usual time and nothing after. The practice of giving a patient beef-tea at 6 A.M. before a 9 o'clock operation is open to objection, and the same remark applies to beef-tea or soup at 11 A.M. before a 2 o'clock operation. The stomach should not only be empty when an anæsthetic is given but digestion should have finished for some little time.

The next statistics are interesting, for they show the very decided influence which the length of administration has in determining gastric after-effects:—

Average Duration of Administration.

Class I.	30 min. 3 sec.
Class II.	34 min. 52 sec.
Class III.	41 min. 39 sec.
Class IV.	41 min. 51 sec.

The lesson to be learnt from these figures is that patients should not be kept longer under anæsthetics than is necessary, for it is clear that, other things being equal, the longer a patient inhales an anæsthetic the greater will be the chances of after-effects.

I may here say something as to the prevention and other treatment of the above sequelæ of anæsthesia. I have already alluded to the regulation of the diet. In addition to this it is essential that the bowels should be thoroughly evacuated. This is best done by administering a purgative the night but one before the operation and an enema on the morning itself. As regards the administration the patient should be rendered deeply insensible as quickly as is compatible with safety; a deep anæsthesia, free from swallowing movements, should be maintained; the head should be kept upon the side for the escape of mucus and saliva and the mouth should be frequently wiped out. If it be necessary to move the patient from the operating table to a bed this should, if possible, be done during deep anæsthesia. When in bed he should be turned well upon his side, the bed should not be moved, and the room should be kept quiet. Putting exceptional cases on one side, no nourishment whatever should be given until the patient himself asks for it. If nausea, retching, or vomiting be present the first thing to do is to give at frequent intervals two or three ounces of very hot water to drink. The taste of ether is best overcome by moistening the lips with lemon juice. If there appears to be a neurotic element present, enemata of twenty grains of bromide of potassium in two ounces of water will often answer well. I have found the inhalation of vinegar from a towel very useful in arresting vomiting and I may say the same of the application of a mustard leaf to the epigastrium. By one or other of these plans you will find that you will be able to successfully treat the unpleasant after-effects of anæsthesia.

ABSTRACT OF

The Erasmus Wilson Lectures

ON THE

PATHOLOGY AND TREATMENT OF THOSE DISEASES OF THE LIVER WHICH ARE AMENABLE TO DIRECT SURGICAL INTERFERENCE.

Delivered at the Royal College of Surgeons of England on Feb. 21st, 23rd, and 25th, 1898,

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LECTURE III.[1]

Delivered on Feb. 25th.

Mr. President and Gentlemen,—In this my third and final lecture I propose to consider two important groups of hepatic affections. The first group includes those affections which are directly dependent upon a mechanical injury and the second group those tumours of the liver which can be removed by a surgical operation.

3. Traumatic Affections of the Liver, Perforating and Non-perforating.

A non-perforating injury of the liver may cause a solution of continuity in the hepatic tissue together with the overlying portion of Glisson's capsule, or the injury may simply affect the hepatic tissue proper, the capsule remaining intact. When the capsule escapes the injury is called a contusion and when it is involved it is called a rupture or laceration. Ruptures may be partial or complete, according to whether a portion is partially or completely separated from the rest.

[Mr. Waring here enumerated the modes of production of contusion or rupture of the liver, whether by direct violence, by indirect violence (*contrecoup*), by pressure, or by muscular contraction. He then described the symptoms and diagnosis and continued:]

Treatment.—In most cases the first treatment is that which has for its object the abatement of the symptoms of shock and collapse. The patient should be placed in bed and kept absolutely quiet, warmth applied, and if the pulse is feeble hypodermic injections of strychnine should be given. It is not advisable to administer either alcohol or ether since both these substances dilate the small blood-vessels and tend to increase any hæmorrhage which may be taking place. After the patient has recovered from the shock and collapse and there are no signs of internal hæmorrhage or symptoms of injury to the abdominal part of the alimentary canal rest in bed and careful nursing will often be followed by recovery. During the early stages it is not advisable to give highly nitrogenous foods, especially those which contain an excess of extractives, such as beef tea, since they throw increased physiological work on the liver. When signs and symptoms of hæmorrhage into the peritoneal cavity develop and gradually or quickly increase immediate recourse must be had to a surgical operation. The sooner this is performed the greater e the chances of recovery of the patient. The abdomen is opened by making an incision either in the upper part of the linea alba or in the right linea semilunaris, usually the former. When the signs point distinctly to injury of the right lobe of the liver the incision should be made on the right side. The incision should be four inches or more in length and should commence either at the ensiform cartilage or at the ninth costal cartilage. All hæmorrhage from the vessels in the abdominal wall should be arrested before the search for the seat of internal hæmorrhage is commenced. When this has been done an attempt is made to locate the source of hæmorrhage. All blood or other fluid should be removed from the exposed part of the peritoneum by careful sponging and the source of the blood traced. If the blood appears to come from the liver or a rupture of the liver at once becomes visible the bleeding should be temporarily arrested either by applying sponge pressure to the wounded area or by compression of the hepatic vessels as they lie in the gastro-hepatic omentum. Often it is advisable when the blood appears to come from the liver to at once apply pressure to the hepatic artery and the portal vein. This can be done either by passing the hand underneath the inferior margin of the right lobe, placing the forefinger in the foramen of Winslow, the thumb in front of the lesser omentum, and applying pressure, or by using an instrument such as the one I have here. This instrument I have used in my later experiments upon dogs and have found it very serviceable. It does not take up so much room as the hand and is more efficacious in controlling the circulation. In order to apply it to the portal vein and the hepatic artery the blades are separated, the distal one is placed in the foramen of Winslow, the proximal is put in front of the gastro-hepatic omentum, and then the two are approximated until the circulation in the compressed blood-vessels is arrested. When the hepatic circulation has been controlled all traces of blood are removed by careful sponging and the extent of the injury made out. If either the anterior or the inferior portions of the liver are found to be the seat of injury and the site of hæmorrhage it will generally be possible to at once deal with the damage through the abdominal wound. It may, however, be necessary to enlarge this incision in a vertical direction or to make a second incision in the abdominal wall at an angle to the upper extremity of the vertical one. When the rupture extends to the superior surface it may even be necessary to remove portions of the exposed costal cartilages in order to render the rent in the hepatic substance accessible for the application of sutures. In every case the damaged portion of the liver must be brought as far into the abdominal wound as possible. This may be facilitated by one assistant exerting pressure in a forward direction from the right lumbar region so as to lift up the organ and a second assistant rotating it slightly from the front. The intestines should be carefully covered with flat marine sponges and kept out of the way. The repair of the rupture in the liver may now be proceeded with. The ruptured surface is carefully sponged so as to remove all blood-clot and any blood-vessels which are visible on the surface of the wound are picked up with forceps and ligated with silk. Next the pressure on the vessels in the portal fissure is relaxed so as to make sure that a large branch of the hepatic artery or portal vein has not escaped observation. When this has been done the margins of the rupture are brought into exact apposition and fixed by the insertion of a series of sutures. The suture material should be medium-sized silk; catgut is more liable to slip and give rise to secondary hæmorrhage. A fully-curved Hagedorn's needle with a blunt point should be used for inserting the sutures. If too sharp a needle be used the hepatic vessels may be pierced and hæmorrhage take place from them along the sutures. Each suture should enter the liver tissue about one-third of an inch from the margin of the rupture, pass through the liver tissue to the bottom of the wound, and then through the liver tissue on the opposite side until it emerges at a point one-third of an inch beyond the other margin. These sutures should be introduced at intervals of one quarter of an inch and all should be inserted before any are tied. When all the sutures have been inserted they are carefully tied and their ends cut short. Great care is requisite in tying the sutures, otherwise they cut through into the wound. This is avoided by only tightening them sufficiently to hold the margins of the rent in apposition. Further injuries are now sought for and, if found, treated in a similar manner. The area of operation is then sponged dry and the artery compressor which controls the circulation in the hepatic artery and portal vein relaxed and removed if no further hæmorrhage occur. The sponges are now removed from the peritoneal cavity and the exposed viscera examined for injury. If none is discovered and there is no sign of hæmorrhage the margins of the abdominal wound are approximated and fixed in apposition by careful suturing. If slight hæmorrhage or oozing occur from the margins of the rupture or the suture apertures in the liver a strip of aseptic gauze should be carefully packed over the bleeding part and one end brought out of the abdominal wound, a small part being left open for the purpose. This will usually arrest slight hæmorrhage; it is withdrawn at the end of twenty-four or thirty-six hours when the wound is dressed. I have made a considerable number of experiments in order to test this method of treatment and with one exception have had good results. In one animal, however, in which I used catgut as the suture material some of the sutures gave way and the animal died from intra-peritoneal hæmorrhage. This may have been due to defective suturing on my part, but as far as I know I took the same precautions as when I used silk. Small ruptures of the liver will, I think, be quickly cured if this method of treatment be adopted and many cases of more extensive rupture will be saved if they are recognised early and the shock and collapse dependent upon the injury are not very severe. Martin has recently reported a case of rupture of the liver which he successfully treated by immediate laparotomy and suture. When the injury to the liver is extensive and it is not possible to bring the margins of the rupture together the best method of treatment appears to be ligature of all accessible bleeding points and then careful packing of the entire injured area with long strips of aseptic gauze.

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[1] Abstracts of Lectures I. and II. were published in The Lancet of March 5th and 12th, 1898, respectively.

When a portion of the liver is completely detached the shock and collapse will usually be fatal. It seems possible, however, if the left lobe is the part detached, that opening the abdomen as soon as possible after the reception of the injury, and the adoption of treatment based upon the principles which I have just discussed, may in favourable cases terminate in recovery. In order to control hæmorrhage when the extremity of the left lobe is the seat of the rupture it will be sufficient to pass an elastic ligature around this portion of the liver and tighten it until the circulation in the blood-vessels of the part is arrested.

[Mr. Waring here dealt with the subject of penetrating wounds of the liver, which he said were usually due either to stabs or to the projectiles of firearms. As regards treatment, the main precautions to be observed are similar to those which have been recommended in connexion with ruptures. He then continued :]

Prognosis and results of operations.—The prognosis in injuries of the liver has improved considerably since it has been considered possible to treat them by ordinary surgical measures. I have been able to collect from surgical literature 25 cases of rupture of the liver which have been treated by a surgical operation. 16 of these terminated fatally and 9 recovered. Terrier and Auvray state that in their list of 11 cases 6 recovered and 5 died. The time of operation appears to have an important bearing on the success of an operation for a rupture of the liver. The earlier this is performed the greater is the prospect of recovery. Concerning perforating wounds of the liver which are submitted to operation the prognosis appears to be much better than in the case of non-perforating ones. Thus in Terrier and Auvray's list of 34 cases 25 recovered and 9 terminated fatally. Of these 20 were incised wounds due to stabs, &c. (15 recovered and 5 were fatal); whilst 14 were gunshot wounds and of these 9 recovered and 5 were fatal.

Resection of the Liver.

By the term "resection of the liver" is understood the removal of a portion of the liver by a surgical operation. This is quite a modern operation and it is only during the last ten years that surgeons have performed operations with the object of removing pathological growths from the liver. According to Keen up to the present time 59 cases have been recorded in which a portion of the liver has been removed. In all operations upon the liver hæmorrhage from the hepatic blood-vessels has been a source of trouble and in some cases it has been the cause of death. In order to control hæmorrhage or to avoid its occurrence during removal of a portion of the liver a number of different procedures have been devised. I shall first deal with the control and arrest of hæmorrhage from the hepatic tissue and then consider the separate forms of operation. There are five methods of dealing with hæmorrhage which may be employed.

1. The first of these is the application of ligatures to the cut extremities of the hepatic vessels. Liver tissue in which some of the blood-vessels have been divided tends to bleed freely and so obscure the points from which the hæmorrhage is taking place. This renders the application of a ligature difficult. Firm sponge pressure on the bleeding part will, however, usually enable the surgeon to see the bleeding points and to seize them with artery forceps. The veins in the hepatic tissue have walls which are as resistant as those of the arteries, a circumstance which facilitates the application of ligatures. When the bleeding points have been picked up ligatures are applied. Floss silk of medium thickness should be used for the purpose and each knot should be tied slowly and firmly. Too much force must not be exerted, otherwise the hepatic tissue and vessel will be cut through. This also occurs if the silk be too hard or too fine. In some cases it is advantageous to pass a ligature under the vessel with a needle. In this case the point of the needle should be blunted, otherwise it may pass through other blood-vessels and cause fresh hæmorrhage. When large branches of the hepatic artery or portal vein are cut through the hæmorrhage is severe and difficult to control by sponge pressure.

2. The next method of dealing with hæmorrhage is by packing with tampons or strips of aseptic gauze. This is a valuable method of arrest of hæmorrhage when only small vessels are cut or torn through, but when large vessels are involved it is of little use. In arresting hæmorrhage by this method the bottom of the wound should be carefully packed with strips of gauze; this packing is continued until the entire wound is filled and then firm pads are fixed in position over the incised portion with a bandage.

3. The third method is the application of heat by the cautery. Paquelin's cautery has been used most frequently for this purpose, but a cautery iron heated to a dull red heat is more satisfactory. An objection to the use of a cautery is the necessary destruction of a layer of hepatic tissue. This must separate before healing of the affected parts can take place. This is not a very satisfactory method, as it fails to arrest hæmorrhage from large vessels and it is difficult in its application. It is most useful in the incision of a deep-seated hepatic abscess, as the cauterised surface prevents absorption of septic matter as the pus escapes from the interior of the abscess. This method has been used by Keen for making an artificial pedicle to a tumour in order to apply an elastic ligature. When a Paquelin's cautery is used for incision of liver tissue it should be at the lowest dull red heat possible.

4. The elastic ligature has been employed both for the temporary control of hæmorrhage and for the constriction of tumours which have either a normal or artificial pedicle. When the amount of liver which it is wished to constrict is large a blunt cannula should be passed through the middle of the base of the tumour and a rubber tube drawn through. The pedicle can then be constricted in two halves. An objection to the use of the elastic ligature for the constriction of tumours and the promotion of their separation by gangrene is that the operation must be extra-peritoneal and the stump be left in the wound. When a tumour has been treated by elastic constriction and it has sloughed off the base of the stump which remains usually takes a long time to heal.

5. The next method of controlling hæmorrhage from the liver is by compression of the hepatic artery and the portal vein in the gastro-hepatic omentum. This may be effected either by digital compression, the forefinger being placed in the foramen of Winslow and the thumb in front of the lesser omentum, or by the application of a compressor after the style of the one which I have devised, or by perforating the lesser omentum and applying a temporary ligature to the hepatic artery and portal vein. The safest and easiest of these methods is the application of the compressor. I have made a number of experiments to test the relative value of the different methods and find that this is the most reliable and is moreover less likely to cause damage to the structures compressed. From a consideration of all these methods of controlling and arresting hæmorrhage during and after operations upon the liver and in the treatment of hepatic injuries I think that the best methods are the application of temporary pressure to the hepatic artery and portal vein as they lie in the hepatic omentum and ligature of the separate vessels which are cut across.

Several methods have been practised for the removal of tumours of the liver the most important of which are the following.

1. The elastic ligature may be employed. In this operation the abdomen is opened by making a vertical incision over the prominent portion of the hepatic tumour. The tumour with the adjacent portion of the liver is brought well into the wound and fixed in this position by the insertion of a ring of sutures. Each suture passes through the abdominal wall and through the hepatic tissue immediately beyond the diseased part. When the liver has been fixed thus an elastic ligature is applied to its

base and tied tight enough to arrest the circulation in the part distal to the line of application of the ligature. Aseptic dressings are applied. This ligature causes gangrene of the tumour and the portion of liver beyond the ligature. At the end of ten days or less the gangrenous mass can be separated. The base of the stump will then heal up by granulation. Strict care must be taken to prevent the dead tissue becoming septic, otherwise suppuration will occur and give rise to unpleasant results. Many tumours of the liver cannot be treated by this method owing to the fact that they are embedded in the liver and have no distinct pedicle. In order to obviate this difficulty Keen proposes that a deep groove should be made in the hepatic tissue surrounding the tumour with the knife of a Paquelin's cautery. An elastic ligature is then applied at the bottom of this groove and the parts are well packed with gauze. Keen has recently reported a case which he successfully treated in this manner.

2. A second method of removal of hepatic tumours is by fixation of the affected part of the liver in the abdominal wound and removal at a later period. In this operation the abdominal cavity is opened by an incision over the hepatic tumour. The tumour and the adjacent parts of the liver are brought into the parietal wound and fixed there by the insertion of a ring of sutures as in the preceding operation. Aseptic dressings are then applied. After the expiration of several days (from three to five) the removal of the tumour is carried out. It may be removed either with a knife or with a Paquelin's cautery by cutting through the base of the tumour. As the liver is cut through and the diseased part removed the cut surface should be covered with a sponge and pressure applied so as to arrest temporarily any hæmorrhage which may occur and also prevent the entrance of air into the intra-hepatic veins. When the portion of liver has been detached the sponge pressure is relaxed and all bleeding points on the cut surface are ligated with silk. When all hæmorrhage has been arrested the cut surface is sponged dry and aseptic dressings are applied. The wound which is left heals up by granulation. This often takes a long time and a sinus from which bile is discharged may remain.

3. Small tumours may be treated by dissection of the tumour or cyst from the liver, suture of the hepatic wound, and closure of the parietal wound. Tumours of the liver which are encapsuled—such as adenomata and some forms of hydatid cysts—may be separated from the liver by careful dissection. When this has been done the margins of the wound in the liver are brought into apposition and fixed by the insertion of a series of silk sutures. The external wound is then closed in the usual manner.

4. The next method of treatment is by excision of the diseased portion of the liver by a "wedge-shaped incision." The operation is performed thus. The abdomen is opened and the diseased portion of the liver exposed. The circulation in the hepatic artery and portal vein is controlled by the application of pressure to the gastro-hepatic omentum. When this has been done the diseased portion is brought out through the parietal wound and surrounded with flat marine sponges. The liver is now incised by making an incision around the tumour. This incision is deepened in such a manner that the two sides of the incision meet one another in the substance of the liver beyond the tumour. The piece of liver with the tumour thus separated is now removed. It has the form and shape of a blunt wedge and the wound which is left after the removal of the diseased portion presents two surfaces which can easily be brought into apposition in a manner similar to that in which the flaps of an amputation are approximated. The blood-vessels which have been divided are now picked up with artery forceps and ligatured with silk. These vessels can be recognised by their open mouths. When all visible vessels have been ligatured the pressure on the blood-vessels in the portal fissure should be gradually relaxed and any further bleeding points which become apparent should be picked up and ligatured. The margins of the hepatic incision are now brought into apposition and fixed by sutures. When the wound is deep it may be necessary to unite the deeper parts by buried sutures, but usually this is not necessary. The sutures should be inserted with a blunt-pointed, fully-curved Hagedorn's needle. Each suture should enter the liver tissue one-third of an inch from the margin of the wound, pass to the bottom, and then through the tissues on the opposite side. The sutures should be inserted at intervals of one quarter of an inch and all should be introduced before any are tied. When all have been inserted they are tied and the ends cut short. Each suture is tied tight enough to hold the margins of the incision in apposition, but not tighter, otherwise it is liable to cut out. The stump of liver tissue is now sponged dry and returned into the peritoneal cavity. The protecting sponges are then removed and the abdominal wound is closed in the usual manner. If there is much oozing from the suture apertures in the liver tissue it may be advisable to pack the area of the wound with a long strip of gauze, one end of which is brought out through the parietal wound, a small part of which is left open for the purpose. This, however, will generally be avoided if a blunt-pointed needle is used for inserting the sutures.

Indications.—The clinical conditions which may be considered to indicate the performance of a surgical operation for the removal of a portion of the liver are as follows: 1. Carcinoma of the gall-bladder, in which the disease has not extended beyond the gall-bladder and the adjacent portion of the liver, and there are no signs of secondary growths either in other parts of the liver or in other viscera. 2. The presence of a localised non-malignant tumour of the liver, such as angioma, angio-fibroma, fibroma, or adenoma, which is increasing in size and is giving rise to trouble. 3. The presence of a localised hepatic tumour which is due to a mass of echinococcus multilocularis. 4. Congenital hernia of a portion of the liver in which the herniated portion cannot be returned within the abdomen. A case of this kind has recently been recorded by Wittig. The patient was a child with a large congenital hernia in the epigastric region due to imperfect closure of the abdominal wall. This was excised with a successful result. 5. Sarcoma primary in the liver occasionally occurs and has been treated by excision. In one case the patient was alive two years afterwards and in the other the disease recurred in a few weeks and the patient died. Primary carcinoma of the liver is exceedingly rare. If it is in the form of a localised tumour an attempt may be made to remove it. The liver is frequently the seat of secondary malignant growths; it is, however, a contra-indication against the performance of a surgical operation for their removal. When a tumour of the liver is under consideration and there is a possibility that it may be due to syphilis an operation should not be attempted until a course of anti-syphilitic treatment has been tried and has failed. If by any chance the abdomen has been opened and a tumour of the liver has been found to be a gumma the wound should be at once closed and no attempt at removal made. Anti-syphilitic treatment should then be adopted. In doubtful tumours in the hepatic region which do not improve under a course of anti-syphilitic treatment it is advisable to open the abdomen and make an examination of the tumour. No harm can be done if the strictest aseptic precautions are observed and often much valuable information as to the condition of affairs may be obtained. When the tumour is found to be suitable for removal the operation is proceeded with and when it is found to be syphilitic, or to be a secondary or a multiple malignant growth, or when on account of its size and connexions removal is not practicable, the wound should be at once closed.

Prognosis.—Of the 59 cases of removal of portions of the liver which have been recorded in surgical literature and collected by Keen the operation has been performed for hydatids 14 times, for tumours syphilitic in character 11 times, for carcinoma 10 times, for adenoma 6 times, for angioma 5 times, and for sarcoma 4 times; and once each for several other different conditions. Of these cases 49 recovered, 9 terminated fatally, and in 1 the result was not known. The cause of death in 7 cases was shock, hæmorrhage, and exhaustion and in 2 it was septicæmia. I have made a considerable number of experiments upon animals with the object of ascertaining which is the most satisfactory method of removing a portion of the liver. The result of these experiments has been to show that in animals the best and safest method is that by the wedge-shaped incision which I have described and intra-peritoneal treatment of the stump. If care be taken to have a reliable assistant, and to properly control the circulation in the hepatic artery and the portal vein, removal of a portion of the liver can be carried out almost bloodlessly. I have, however, had no experience of Keen's modification of the elastic ligature. I think that in this method there is a greater liability to the occurrence of hæmorrhage than by incision and there are also the dangers of sepsis in connexion with gangrene of the constricted part.

Amount of liver which may be removed.—In animals I have several times removed half the liver without producing any ill-effects. If, however, two-thirds or more of the organ are taken away the operation is usually fatal. Ponfick has made a similar series of experiments and has come to like conclusions.

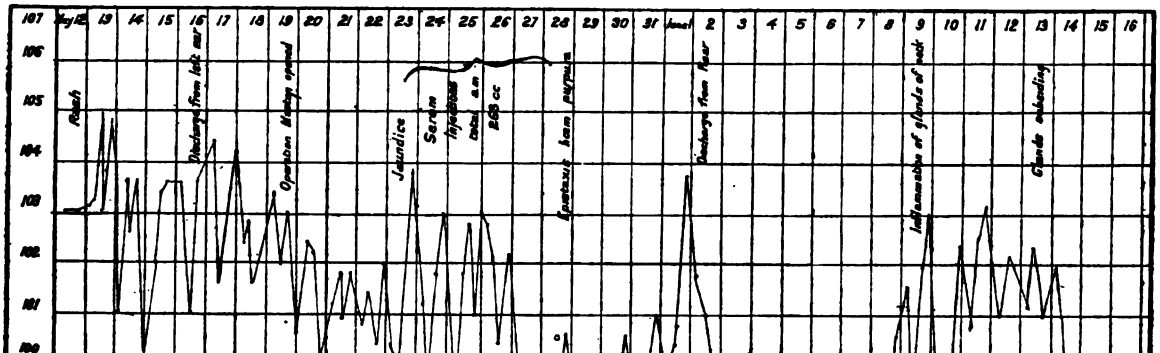
Regeneration of liver tissue.—The liver tissue appears to be regenerated by a new formation from the part of the organ which remains. If half the liver of an animal be removed and it be killed at the expiration of two months the liver has regained its ordinary size. From the series of experiments which I have made upon many animals and a study of all the recorded cases of removal of portions of the liver in man I have come to the following conclusions, viz.:—1. That the dangers of hæmorrhage after removal of portions of the liver have been much exaggerated. 2. That the best method of controlling and arresting hæmorrhage from liver tissue after it has been incised or torn is by temporary compression of the blood-vessels in the gastro-hepatic omentum and then ligature of the divided vessels. 3. That when the liver is the seat of growths such as I have mentioned a surgeon ought to be prepared to carry out an operation for their removal. 4. That the mortality which will result from operations of this kind is not greater than in many of the recognised abdominal operations, such as resection of the intestine.

A CASE OF

SCARLET FEVER COMPLICATED WITH ACUTE SUPPURATIVE OTITIS MEDIA AND ACUTE HÆMORRHAGIC SEPTICÆMIA TREATED BY ANTI-STREPTOCOCCIC SERUM; RECOVERY.

BY HAROLD LOW, M.A., M.B., B.C. CANTAB.

A GIRL, aged six years, was seized on May 12th, 1897, with a severe attack of scarlet fever. The temperature for the first three days ranged between 103° and 105° F., except when it was temporarily reduced by tepid sponging. The fauces, although considerably swollen, were remarkably free from secretion, the chlorine spray and douche being frequently used. On the fourth day of the rash pain in the left ear was complained of. On the next evening (May 16th) there was slight discharge from the ear. Syringing with boracic acid solution every two hours was ordered. On the 17th there was distinct tenderness over the left mastoid process. The pus came through a large perforation in the membrana tympani and boracic solution used as a nasal douche passed out of the ear. The child was somewhat heavy and drowsy and had passed urine involuntarily during sleep. The temperature continued high. On the 18th Mr. Charles Ballance was asked to see the patient with a view to operation. The tenderness over the mastoid still continued, but there was no œdema or redness of tissues over it. For the next twenty-four hours the ear was syringed every two hours with carbolic lotion 1 in 40 and hot boracic fomentations were applied. On the 9th, at 9.30 P.M., as there was no relief, Mr. Ballance operated. The mastoid antrum was opened in the usual way and pus welled out at the first touch of the gouge. The tympanic cavity itself was carefully avoided. A drainage-tube was inserted and the wound was closed. The child bore the operation very well and the temperature fell a degree. On the 21st the child was becoming lethargic and drowsy. She vomited several times. During the day the temperature varied between 100·8° and 101·8°. On the 22nd drowsiness was increasing, the tongue was furred, and the abdomen was distended. The patient vomited once. The temperature was still high and the pulse was 130, regular, but very weak. On the morning of the 23rd the skin was jaundiced, the conjunctivæ were yellow, and the urine was bile-stained. The abdomen was very distended. Drowsiness was more intense and the child lay perfectly still in a semi-comatose condition. At 10 P.M. the temperature had risen to 103·8°. Mr. Ballance was asked to see the patient and as it was agreed that her condition was due to general septicæmic infection and not to localised intracranial inflammation treatment by anti-streptococcic serum appeared to be the only hope of life. The serum was obtained direct from Mr. Bokenham, who kindly made the first injection of 10 c.c. at 10.30 P.M. On the 24th, a short time after the injection, the child seemed somewhat brighter and took more notice of things. The tongue was cleaner and of a pinkish hue. The temperature fell to 99 8° during the early morning but rose during the day to 103°. 10 c.c. of the serum were injected at 4.30 A.M., 11.15 A.M., and 5.30 P.M., whilst at midnight 20 c.c. were given. 3 minims of solution of strychnia with 2 minims of tincture of digitalis were ordered to be administered hypodermically at the same time as each injection of serum. On the 25th during the night the child had a syncopal attack and the temperature fell to 99°. She was distinctly orse in the morning. 10 c.c. of the serum were injected at 6 A.M. At noon the patient was rapidly losing ground; diarrhœa had set in, the pulse was 140, and the respirations were 40. The tongue was furred and the lips were dry and covered with sordes; the abdomen was more distended. 20 c.c. were injected at 6 P.M. and 20 c.c. again at 9 P.M. When seen by Dr. Sharkey (9.30 P.M.) the child was lying in a drowsy, almost moribund condition. The pulse was very weak (140) and the respirations were 46. The diarrhœa continued, the motions, consisting of undigested food, being very offensive.



The temperature shows very clearly the various complications of the illness. Firstly, the initial fall on the third day of the rash followed immediately by the rapid rise when the left ear became involved. Secondly, the temporary relief from the operation followed again by high fever on May 23rd when the infection became general. Thirdly, the marked improvement when the serum began to get the better of the disease. Fourthly, the rise of temperature due to the other ear becoming implicated. Finally, the fever produced by the glandular inflammation. From June 15th onwards the temperature never rose above normal.

Dr. Sharkey considered the condition to be extremely grave, but advised the continuance of the serum treatment and also ordered sulpho-carbolate of sodium, 3 grains by the mouth every four hours. At midnight 10 c.c. were administered. The patient's condition remained unchanged. On the 26th there was slight improvement. The pulse was less rapid and the respirations were 37. The lips and tongue were less dry. The motions were slightly bile-stained. The urine was free from bile. By midnight during the last twenty-four hours 67 c.c. of the serum had been injected. On the 27th improvement continued. The patient had slept for eight and a half hours; her mental condition was much brighter; the abdomen was less distended and the temperature was lower. The diarrhœa was ceasing, the motions being more natural and less offensive. The child was taking more nourishment. 56 c.c. of the serum had been injected during the twenty-four hours. On the 28th the patient's condition was distinctly better; the temperature had fallen to 99·2°; the pulse was 112, and the respirations were 30. The diarrhœa had ceased. The patient had passed a good night. On examination of the abdomen there was felt in the right lumbar region, below the liver but distinct from it, a rounded deep-seated swelling of the size of a small apple; it was dull on percussion and free from tenderness. At 9.30 A.M. 20 c.c. of the serum were injected. During the morning there had been several attacks of epistaxis and the urine had become bright red. At 1 30 P.M. the whole body was covered with small purpuric spots, the swelling in the abdomen was larger and evidently contained blood, and the child was very restless but otherwise was no worse. She was given by the mouth 5 minims of tincture of hamamelis and 3 minims of liquor strychniæ. On the 29th the general condition was about the same but the purpura was increasing; the whole body was now covered with large subcutaneous bruises, especially where the serum and digitalis had been injected. The injections had not been repeated since the previous morning, 263 c.c. of the serum in all having been used. During the afternoon there had been marked improvement mentally, the child playing with her toys. Calx chlorata (10 grains) was ordered every four hours with plenty of fruit. From May 30th to June 2nd the purpura continued, a large mass formed in the right axilla, and the epistaxis at one time became so excessive as to necessitate plugging of the anterior nares, the child in the meantime becoming blanched and very weak. On the morning of June 3rd the right ear was discharging. There had been a sudden rise of temperature in the night. From June 3rd to 8th the purpura gradually disappeared and the child slowly improved, the temperature keeping nearly normal. From the 9th to the 16th the temperature was again high and there was considerable glandular trouble in the neck. This, however, subsided spontaneously. The urine at the same time contained a large amount of albumin. On the 16th the temperature fell to normal and never again rose and the patient slowly convalesced. The condition now (November, 1897) is satisfactory. The discharge from both ears has ceased. The hearing is normal in the right ear, but she can only hear a watch at about three inches with the left.

Report from Mr. BOKENHAM.—A broth culture of the child's blood was taken just before commencing the serum treatment. Streptococci grew rapidly in the broth. A rabbit was injected with 1 c.c. of the culture. The animal died in forty-eight hours.

Remarks by Mr. BALLANCE.—This case shows what can be done by perseverence and unremitting attention. The opening of the mastoid antrum was undertaken with the view not only of relieving pain and of giving unhindered exit to pent-up pus, but also in the hope of saving the delicate structures of the tympanum from complete destruction. On May 23rd the child's condition was exceedingly grave. The absence of paresis, optic neuritis, and cerebral vomiting negatived the presence of localised or diffused intra-cranial inflammation. Moreover the general septic condition did not seem to depend on infection from the temporal bone which a suitably-planned operation on the lateral sinus and jugular vein might arrest. The high fever, rapid pulse, rapid respiration, jaundice, drowsiness, incontinence of urine, distension of the abdomen, fœtid diarrhœa, and later the hæmorrhages made for the diagnosis of general acute scarlatinal septicæmia. This child would certainly have died if anti-streptococcic serum had not been employed and the injections continued even when life was ebbing away. The serum steadied the temperature, improved the pulse and respiration, cleared the mind, moistened the tongue, and postponed the fatal issue of the acute stage of the illness which was imminent. In acute septic infection every effort should be made to tide over the acute stage, for the prognosis of chronic septicæmia and pyæmia is good. The hæmorrhages had nothing to do with the serum treatment, but were due to blood changes arising out of the acute septic process. The hæmorrhagic condition was treated by chloride of calcium and with fresh milk and fruit; in fact in the manner which yields the best results in scurvy and scurvy rickets.

Evelyn-gardens, S.W.

NOTE ON "BLACK-WATER" FEVER.[1]

BY STANLEY KELLETT SMITH, F.R.C.S. ENG.

LATE SURGEON TO THE RHODESIA CONCESSIONS EXPEDITION TO CENTRAL AFRICA.

IN every quarter of the globe where it exists malaria presents certain aspects peculiar to the country. In Central Africa, and indeed throughout the whole of tropical Africa, the phase demanding most attention is the bilious hæmoglobinuric or "black-water" fever. This occurs as a rule only in those who have been for some considerable time in the country and who have suffered from repeated attacks of ordinary fever. It seldom or never seizes the new-comer, but it may appear rapidly in previous residents of a malarious district upon return thereto after absence in a healthy climate. Europeans are the chief sufferers, but cases are not rare among the natives. The clinical features of the disease are those of a severe remittent fever. The cold stage is usually well marked; there may be severe retching and bilious vomiting together with diarrhœa; bleeding from the mucous tracts sometimes occurs. Finally, there are the cardinal symptoms referable to the rapid and extensive destruction of the red blood corpuscles characteristic of the disease—viz., quickly developed jaundice, which is hæmatogenous rather than hepatogenous, and the passage of dark, porter-coloured urine containing oxyhæmoglobin, methæmoglobin, and urobilin.

I do not know of the existence of any statistics bearing upon the mortality of this fever. Many patients recover; many die. A good index of its fatality is given by the fear in which "black-water" is held by the white man. It must always be regarded as a very serious illness. Death may ensue from (1) enormous destruction of the red blood cells, when the symptoms are similar to those of profuse hæmorrhage; (2) uræmic poisoning resultant from total suppression of the urine; and (3) interference with some vital cerebral centre owing to blockage of capillaries by masses of malarial parasites or to actual hæmorrhage. As a remote sequence the kidneys may become cirrhotic from the nephritis accompanying and following the disease.

The pathology of "black-water" is as yet an almost virgin field, and the literature thereof is so scant and contradictory as to afford few points of definite argument. A single issue is clouded also by the fact that many observers have reported all cases in which passage of blood in the urine occurred as cases of bilious hæmoglobinuria. although some of these read like descriptions of attacks of ordinary acute nephritis and others have led to a claim of identity between "black-water" fever and the paroxysmal hæmoglobinuria of our own country. This claim is very far from proven, but it is probable that we must come to recognise several distinct conditions, now grouped together under the one head, some of which will support the analogy to paroxysmal hæmoglobinuria, just as we may admit that certain cases of the latter disease have a possible origin in home malaria. An opinion first ventured at the time when "black-water" began to attract serious attention still provides ground for inquiry and speculation. In 1874, 1877, and 1888, Tomaselli published cases occurring in Catania, in people who had suffered from repeated malarial attacks, which presented clinical features exactly parallel to those of "black-water" fever. Tomaselli, however, attributed these then comparatively strange symptoms to the large quantities of quinine which had been taken for a long time for the cure of the malaria. Similar observations were reported later by Karamitzos, Pampoukis, Spyridon Canellis, and Pasquale Muscato, who inclined to the same explanation.

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[1] Read before the Liverpool Medical Institution on Feb. 17th, 1898.

Putting aside discussion of the true nature of these cases, they may be cited as emphasising the lack of full evidence as to the relation between quinine and the red blood cell. Clinically it is true that the judicious employment of the drug in ordinary paludism is very safe. My own experience in Central Africa was that men in very hard circumstances of food and travel, frequently under its full influence and for extended periods under the continuous influence of small prophylactic doses, showed no disquieting signs and escaped "black-water" fever. I do not for one moment believe that quinine is capable of originating the train of symptoms characteristic of "black-water" fever, but experimental evidence may be taken as bearing upon the employment of the drug during the actual progress of that disease. (1) In extreme dilution—1 in 50,000—quinine paralyses the protoplasm of certain low organisms; 1 in 20,000 stops the intrinsic movements of the colourless blood cells and stronger solutions lead to their disintegration. Baccelli estimated that fifteen grains of the alkaloid in the blood means a dilution of 1 in 5000 and is quite sufficient to kill the malarial plasmodium in certain stages of its life and to profoundly modify the activity of the white cell. What the effect is upon the circulating red cell free from a parasite remains to be accurately shown. Lepine, following this line, states as a result of several experiments that the administration of large doses of quinine in the dog and sheep resulted in the destruction of great numbers of the red cells, and that hæmoglobinuria may result if the animal be out of condition at the time of the experiment. (2) Quinine excretion is carried out almost entirely (90 per cent. or more) by the kidneys, and in the process thereof these organs become acutely hyperæmic and are evidently irritated by the passage of the drug.

Now, whatever be the pathology of "black-water" fever it is certain that there occurs an enormous destruction of the red cells, and that there arises great irritation of the kidneys from the excretion of toxic products. The first is self-evident; in two cases reported by Boison the blood count fell respectively from 1,700,000 to 670,000, and from 2,400,000 to 1,600,000 in twenty-four hours; the second is shown not only by clinical signs, but also by post-mortem examinations. Theoretically, then, quinine is contra-indicated in "black-water" and, as a matter of fact, experience shows that its employment in the earlier stages of the disease, when the fever is still active and the chief clinical sign yet marked, is not attended by very effectual results. This has been hitherto explained upon the ground that "black-water" fever is not a pure malaria, that it is a separate infection, or that it is malaria plus a separate infection. Taking the opposing view—viz., that "black-water" fever is acute malaria pure and simple—is it not reasonable to suppose that the failure of the quinine is due to its aggressive action upon the malarial parasite being cloaked, in a system the equipoise of which is so seriously disturbed and in which the red cell has possibly lost some of its powers of resistance, by its own chemical effects upon the blood and the excretory organs?

The necessity of assuming the presence of some infection apart and distinct from the malarial organism has been gradually discounted, although in the absence of any extended bacteriological research the existence of such cannot be absolutely negatived. "Black-water" fever gives impression to the traveller as being indissolubly bound up with the malarial process, and the more intense that process in any particular district or at any particular season the more frequent is the "black-water" complication. Its geographical distribution is of much interest. It occurs only in malarious countries and attracts most attention in tropical Africa and the islands adjacent, the West Indies, Central, and the Southern parts of Northern America. Every malarious country, however, does not of necessity show much "black-water." The great and striking example is India, where the cases are so very rare that many people engaged in commerce and in the civil and military services in different parts of the continent, with life-long experience of the Indian fevers, have never even heard of the "black-water" fever and fail to recognise its clinical description from any instance in their knowledge. Arguing from this, Manson says: "Considering the peculiar clinical manifestations it gives rise to and the facts of geographical distribution, I think it very likely that the parasite of malarial hæmoglobinuric fever is specifically different from the malaria parasites usually met with in Europe and perhaps in India." A perfectly fair suggestion, but one which opens up a vista of numerous "breeds" of the malarial plasmodium—a breed for each frequent and distinct complication, a breed for the malarial hæmatemesis of Laurenço-Marques, a breed for the curious anterior tibial paralysis of Likoma, and so on. Boison, in the report of by far the most exhaustive necropsy of the disease published—a case occurring in a soldier invalided from Madagascar—says: "The malarial parasite was present in extraordinary numbers, free and associated with red blood corpuscles, seven out of ten red blood containing it." Unfortunately no identification of the particular parasite in this instance with the ordinary malarial parasite of Madagascar is given. Valuable information regarding the organism of "black-water" may accrue from the further investigation of the widely distributed "cattle malaria," which is so far akin to the human malaria that it is "caused by an endocorpuscular parasite, develops only in malarial neighbourhoods and seasons, is most favourably influenced by quinine," and in its worst and most fatal form is accompanied by the passage of bloody urine.

To sum up, one may venture the following conclusions: That "black-water" fever is distinctly malarial in nature; that there is no evidence of any specific difference between its parasite and the ordinary malarial parasites of the country in which it occurs; that its parasite exists in great numbers in the blood of an infected person; that enormous destruction of the red cells takes place by habitation of the parasites and possibly also by direct action of toxins produced by them; that the derivatives of the colour-plasma of the destroyed cells become dissolved in the blood, its serum showing the presence of oxyhæmoglobin, hæmatin, and urobilin (Boison); that the liver and spleen, from the circumstances of a present attack and from the effects of previous malarias, are unable to manipulate these derivatives; that they are therefore excreted by the kidneys, which in the process may become so inflamed as to show actual hæmorrhages—a result favoured by the cachexia of the white man dwelling in a malarious country. So much for a description which rests partly on speculative grounds. What is a certainty is that this disease, so little understood, is carrying off scores of our best men in Africa, is responsible for the deaths of many of the most intrepid of our pioneers, is checking the advance of civilisation in great tracts of country otherwise well suited for the white man; and it would be well were those in authority and who have the power to give independent stimulation and help towards the elucidation of the pathology and treatment of this "black-water" fever.

Liverpool.

A CASE SHOWING SOME OF THE FEATURES OF ERYTHRO-MELALGIA AND OF RAYNAUD'S DISEASE.

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THE following case is allied both to Raynaud's disease and to the rarer or at least less generally recognised condition of erythro-melalgia. Erythro-melalgia was the name suggested as long ago as 1878 by Weir Mitchell[1] for a red and painful condition, or, as he afterwards called it, red neuralgia, of the extremities, of which he collected sixteen examples, chiefly in the feet. The condition may be thought to be a peripheral neuritis affecting the vaso-motor nerves and so to be closely allied to other angio-neuroses, such as angio-neurotic œdema and Raynaud's disease.

A male, aged twenty-nine years, formerly a miner and at one time a seafaring man, came to my out-patient room and was subsequently admitted under my care at St. George's

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[1] American Journal of the Medical Sciences, 1878, vol. lxxvi.

Hospital on Dec. 20th, 1897. He complained of loss of energy which had troubled him for twelve months, but in addition to this his hands and feet were so painful that he was unable to do his work, that of an excavator, and had given it up since July, 1897. He had become much more susceptible to cold for the past year and had noticed that during this time his hands and feet had swollen when exposed to cold, especially when in a dependent position. Holding his hands up afforded him distinct relief. On exposure his hands became cold, both subjectively and objectively, and persons shaking hands with him had, he said, complained of this. His hands went dead and at the same time swelled and throbbed. They were worse in cold weather, but were not free from pain and swelling in the summer; in addition to the deadness and pain he had considerable tenderness, so that he was unable to bear the pressure entailed in walking. This was felt especially in the little toes. During cold weather or exposure the symptoms were continuous and constant, but they became slighter and tended to disappear if he was kept warm. No history of hæmaglobinuria or hæmaturia could be obtained and during his stay in the hospital his urine was quite natural. Four years ago his right ear became frost-bitten. There was no history of ague and no history of any symptoms like angina pectoris. He had had syphilis seven years ago. No details of his family history could be provided by the patient. On admission he was found to be a burly man with a pimply face and a good deal of eczema from exposure to wind, rain, &c. His aspect suggested alcoholism, but he professed teetotalism. His nose was somewhat tender and sometimes painful, and there was a general resemblance between the redness of the skin on the various exposed parts of the body. There was a small chilblain on the right ear. There was no facial resemblance either to acromegaly or to myxœdema and no enlargement of the cranium. The hands were red and puffy but were not definitely œdematous. The skin was hypersensitive and this condition was aggravated if his hands were held in a dependent position. The skin was permanently red but this was less marked when they were kept warm. There was also marked tenderness of the muscles of the hands and comparatively slight pressure appeared to give rise to considerable pain. The hands were enlarged and were not unlike those seen in acromegaly, but as already mentioned there was no evidence of this in the head. There was no manifest bony enlargement. A peculiar feature was the bulbous condition of the terminal phalanges with some over-curving of the nails. The nails themselves were otherwise normal. There was no sign of scleroderma.[2] There was no muscular tenderness in the forearms or arms but he complained of some pain in the elbows and shoulders. The temperature of the hands taken at the same time as that in the axilla was always a degree or a degree and a half lower than the axillary reading. The feet were broad and of large size, the toes being thick and clubbed and the skin hyperæsthetic and red. The muscles of the feet were tender on pressure. This rendered walking or standing painful. There was, however, no tenderness of the muscles of the calves. There was an old scar on the dorsum of the right foot due to a burn. The knee-jerks were exaggerated and there was no ankle clonus. The knees and legs were slightly tender. The tongue was not specially large; his teeth were few in number, which was, he explained, due to their having been knocked out in fights; what there were were bad. Digestion was good. There was a good deal of constipation. The lungs and heart were normal. There was no evidence of enlargement of the thyroid or thymus glands. The abdomen was natural and no enlarged glands could be felt in any part of the body. Vision was fairly good, though muscæ volitantes not infrequently troubled him. There was no hemianopsia. The fundi appeared to be normal. The specific gravity of the urine was 1024, no sugar and no albumin. The pulse was 60, of normal tension. There was no arterial thickening. The patient was kept in bed protected from the cold and given tabellæ trinitrini three times daily; some rheumatic pains were treated with salicylate of soda, and as a result of warmth the subjective condition of his hands and feet very greatly improved. He left the hospital and went to a convalescent home.

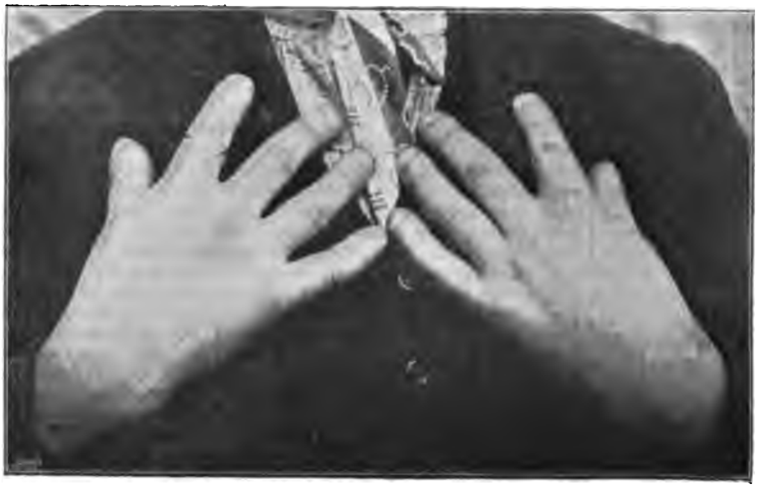

Illustration showing the bulbous condition of the thumbs and to a lesser extent of the fingers.

Remarks.—This case has affinities with, and at the same time differs from, both Raynaud's disease and erythro-melalgia. It resembles Raynaud's disease in being aggravated by cold, whereas erythro-melalgia is made worse by heat and relieved by cold. It resembles erythro-melalgia in the hypersensitiveness and redness of the skin of the extremities, while in Raynaud's disease the parts become pale and anæsthetic and analgesic although they may be painful. The frostbite four years before and the chilblain on the ear connect the case with Raynaud's disease. Prentiss,[3] in an elaborate discussion of two cases of erythro-melalgia, says that of 27 cases of that disease 25 were males, whereas four-fifths of the cases of Raynaud's disease were in females. The bulbous condition of the fingers and toes is worthy of note and is not explained by any cardiac or pulmonary lesion. It may perhaps be regarded as the result of impaired nutrition due to peripheral circulatory disturbance of neurotic origin. There is certainly no reason to think it is due to the absorption of poisons from any other part of the body, as has been suggested, and is probably the case in Marie's hypertrophic pulmonary osteo-arthropathy. The condition of clubbing of the fingers is not recognised either in Raynaud's disease or erythro-melalgia, but it is interesting to note that Dr. Wardrop Griffiths,[4] in a paper on three cases illustrating some of the affinities of Raynaud's disease, noticed that in his first case the thumbs were slightly bulbous at the extremities. It is an interesting though perhaps far-fetched speculation whether the muscular fatigue of which the patient complained was due to the spasm of the muscular arterioles and therefore somewhat analogous to intermittent claudication in horses. In this condition muscular inability and spasm result on exertion and are found to depend on vascular occlusion. In the present case there was no mention of any muscular spasm, but from a consideration of Allan Burns's[5] original remarks and general physiological knowledge it does not appear necessary that muscular anæmia should cause anything beyond paresis.

This case would perhaps be sufficiently described as an irregular or atypical case of Raynaud's disease and some of Weir Mitchell's[6] cases of erythro-melalgia are considered by Osler[7] to belong to Raynaud's disease. The hypersensitiveness of the skin and the muscular tenderness, however, fully justify its being considered atypical and ally it with erythro-melalgia. It belongs to the group of angio-neurotic affections, the pathology of which is, it must be confessed, somewhat vague, and which probably also includes such conditions as intermittent claudication and scleroderma. Whether the primary change is always central as in the cord or peripheral in the nerve filaments and their endings there is no very positive evidence to show. Possibly it may in different cases be due to either or both. It has been thought to be a symptom of various lesions of the cerebro-spinal system, and lately Pospeloff[8] has published a case in which it probably depended on syringomyelia. For the illustration which accompanies this article I am indebted to Mr. H. G. Drake Brookman, a senior student of St. George's Hospital.

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[2] Compare Hutchinson's Archives of Clinical Surgery, vol. ii., p. 30 et seq., where cases of scleroderma showing alliance to Raynaud's disease are recorded.

[3] Transactions of the Association of American Physicians, vol. xii., p. 310, with bibliographical references.

[4] Medical Chronicle, vol. xv., 1891-92, p. 89.

[5] Quoted by Osler: Angina Pectoris and Allied States, p. 116, 1897.

[6] American Journal of the Medical Sciences.

[7] Practice of Medicine, second edition, p. 1016.

Harley-street, W.

ADENOID VEGETATIONS AND LARYNGEAL STRIDOR.

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Some time ago when discussing the subject of adenoid vegetations in young children I ventured to express the opinion that laryngeal stridor, like many other nervous phenomena in early life, was sometimes due to the irritation of adenoid growths and might be successfully treated by their removal. Some exception was taken to this statement, but unfortunately my notes were too scanty to enable me to bring forward substantial evidence that this could be the case. It is then with no little satisfaction that I am able to quote an instance in which congenital crowing of a marked type ceased within a few days of the removal of the post-nasal growths. The following account of the case is compiled from the careful notes of my house physician, Dr. A. S. Dick.

An infant, aged one month, was admitted for laryngeal stridor into the East London Hospital for Children in the beginning of July, 1897. It was stated that the breathing had been noisy from birth and that at times the crowing was so loud and the breathing so laboured and distressed as to raise fears for the child's life. The infant was a sturdy, healthy-looking boy. His complexion was normal and he seemed to be little troubled by an inspiratory crow which could be heard at a distance from his cot of half the length of a long ward. At times, however, especially after a meal or during the night, the breathing would become excessively loud and stridulous. In these attacks the face grew livid, the chest-wall was drawn in deeply, and the child showed every mark of suffering from want of air. After a time, varying from twenty minutes to an hour, the dyspnœa gradually subsided and the child returned to his ordinary state—crowing loudly with each breath but giving no sign of discomfort. Still, even in these intervals of comparatively quiet breathing there was marked recession of the lower ribs and epigastrium and all the intercostal spaces were drawn in. The stridor was a long-drawn croak which was loud in inspiration and less loud, although distinct, when the breath was expelled. It never ceased even during sleep. At times the child coughed, but the cough had no barking laryngeal quality and the cry was natural and clear. Examination of the chest showed that the respiratory murmur was equal on the two sides. A few scattered rhonchi were noticed. During the suffocative attacks the lividity and distress were so great that it was thought advisable to keep instruments always ready at hand for the operation of tracheotomy. The temperature was normal throughout and remained quite unaffected by the attacks of dyspnœa. Digital examination of the throat discovered a number of vegetations of small size in the naso-pharynx. No attempt was made at this time to remove the growths, but a 2 per cent. solution of resorcin was injected into the nostrils twice a day to control any post-nasal catarrh. The crowing, however, was not lessened by this treatment although the cough ceased, and after a few weeks the mother was told to remove the child but to bring him back to the hospital if the symptom did not improve.

On Sept. 30th the child was again taken to the hospital on account of a suffocative attack of exceptional severity which had occurred on the previous night. The infant was now three months old, but his general condition was less satisfactory than before. He was soft and flabby and was said not to care for his food. He breathed as noisily as ever and coughed, but he was not hoarse. Some rhonchus was found on both sides of his chest. The child was put into a steam tent and the resorcin solution was used to the nose; but the suffocative attacks continued with unabated severity and the croaking breathing was in no way altered by the treatment. On Oct. 5th, as no improvement had occurred, the adenoid growths were scraped away under chloroform by the resident medical officer, Dr. R. P. Cockburn, and it was noticed that while the influence of the anæsthetic lasted the crowing ceased and the breathing was perfectly quiet and natural. A day or two after the operation the throat was examined by Dr. C. H. MacIlraith, who reported as follows: "On passing the index finger of the left hand into the child's mouth over the base of the tongue, pressing the hyoid bone forwards and then introducing a small laryngeal mirror, the following appearances were noted. The epiglottis was sharply folded on itself so as to bring the posterior lateral surfaces into almost complete apposition. It was pale in colour and somewhat thicker than usual. Throughout the examination the ary-epiglottic folds were held tense. They were thinned and shortened, thus approximating the arytenoid cartilages and narrowing the upper aperture of the larynx. The vocal cords were not visible; but by using a laryngeal probe with half-an-inch at the extremity bent at a right angle in the transverse plane to the rest of the instrument and pressing with the bent end upon the raphé of the epiglottis a small portion of the posterior ends of the vocal cords could be seen. They were clear, pearly white, and apparently healthy." The patient rapidly recovered from the effects of the operation and on Oct. 12th it was noted that the stridor and chest recession had very distinctly diminished and that no suffocative attacks had occurred since the operation. On the 17th the stridor had still further declined and on the 19th it had quite ceased to be noticeable in ordinary breathing and could only be detected in deep inspirations when the child was crying. On the 21st he was discharged as cured. I saw the child once afterwards towards the end of the year. He had caught cold and there was some return of the stridor. The mother reported that unless the child had a cold the breathing was noiseless, that there had been no return of the suffocative attacks, and that the infant never seemed to suffer in any way from want of breath. During January, 1898, the child was taken to the hospital for a nævus. Mr. Elwin, the house surgeon, reported that the breathing was then perfectly quiet and natural.

In this interesting case the connexion between the respiratory croak and the state of the pharynx hardly admits of doubt. For three months the stridor had persisted day and night without improvement; indeed, the attacks of acute dyspnœa instead of growing milder had become more severe and distressing. Ordinary measures of relief had met with no success. Then the adenoids were removed and a change was apparent at once. The night attacks ceased to occur and the child slept undisturbed. In a few days the croaking had begun to be less noisy; in a fortnight it could not be heard in ordinary breathing; in another two days it could not be heard at all and the child was dismissed as cured. The case was not one of congenital malformation such as has been described by Dr. Lees, for the larynx was of normal size and development. Nor can the croaking be attributed to any laxness or flabbiness of tissue, as suggested by Dr. Sutherland and Dr. Lambert Lack, for Dr. MacIlraith noted that the ary-epiglottic folds were held tense during the whole of the laryngoscopic examination. Moreover, the fact that the stridor ceased while the patient was under the influence of the anæsthetic points very decidedly to spasm as a cause of the croaking. Dr. John Thomson has argued in favour of respiratory spasm being common in these cases and attributes it to imperfect coördination of the respiratory muscles. For myself I was inclined at one time to accept Dr. Robertson's explanation that the trouble lay in a posticus paralysis consequent upon a depraved innervation of those muscles from over-stimulation of the accessory nucleus, but the present instance has convinced me that paralysis of muscle is not a necessary element in the derangement. It is quite possible that the mechanism of the noise may be different in different cases. In the subject of this note I attribute the stridor to a spasmodic contraction of the ary-epiglottic folds and believe that this was due to irritation set up by the adenoids in the naso-pharynx. I think it probable from this and other examples of the affection which have come under my notice that adenoid vegetations and the post-nasal catarrh which almost invariably accompanies them may be a cause of many of the cases of congenital croaking, as they are, undoubtedly, of many of the cases of laryngismus stridulus. That the number and size of the adenoids present in any particular case are insignificant ought not, in my judgment, to tell against this view. It is a common observation in the case of older children that the degree of distress and general interference with nutrition caused by the vegetations is often great out of all proportion to the actual amount of adenoid hypertrophy. The reason of this I believe to be that the nervous irritation is not uncommonly the consequence not so much of the growths themselves as of the post-nasal catarrh, which rarely fails to be joined with them sooner or later; at any rate, by reducing the catarrh I have often succeeded in putting a stop to signs of nervous distress, although the adenoid overgrowth itself was in no way interfered with by the treatment. In the present case, however, treatment of the post-nasal catarrh did not affect the crowing, which only ceased after the post-nasal vegetations had been scraped away.

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[8] Abstract in La Presse Médicale, Nov. 10th, 1897, p. 294.

Queen Anne-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF PUERPERAL FEVER TREATED WITH ANTI-STREPTOCOCCIC SERUM.

BY EDWARD KERSHAW, L.R.C.P., L.R.C.S. EDIN.

THE patient was a primipara, twenty-six years of age, who had a normal labour on Oct. 29th, 1897. She suffered from chronic bronchitis, which was much worse immediately subsequently to her delivery. She was partially attended by a pseudo-midwife, in whose practice there had two weeks previously occurred a fatal case of puerperal fever accompanied by acute metritis and pelvic peritonitis. On Nov. 11th the patient's temperature was 102·6° F. She was perspiring profusely, her respiration was hurried, and she had no appetite, but she was free from cough or pain. The lochia were without fœtor and had nearly ceased. The uterus was washed out. On the morning of the 12th her temperature was 102·8° and her tongue was becoming brown and dry. The first injection of serum was given. In the evening her temperature was 103·8°, her tongue was now more moist, and she suffered from diarrhœa; she had taken a quart of milk during the day. On the 13th the temperature in the morning was 103·2°; she had had a fairly good night, but the diarrhœa still continued; the appearance of the tongue was improving. The second injection of serum was given. The temperature in the evening was 104°; a quart of milk had been taken during the day. On the morning of the 14th the temperature was 103·2°; she had had a fairly good night, but the diarrhœa and sweating still continued. In the evening the temperature was 105°. The respirations were about 60 per minute, the pulse was rapid and fluttering, both the sweating and the diarrhœa were much worse, the bowels having acted six times since the morning, and the patient appeared to be sinking. A third injection of serum was given and brandy was ordered. On the 15th the temperature in the morning was 101·6°, she had had a comfortable night, and the sweating and diarrhœa had ceased. In the evening the temperature was 100·2°. During the day she had taken a quart of milk with brandy. On the 16th the temperature in the morning was 97·8° and convalescence had now set in.

It is to be observed that from beginning to end there were no local symptoms. The patient's general condition improved after each dose and when the remedy was withheld from the morning to the evening of Nov. 14th the case went rapidly worse, but after the third dose the cure was evidently complete. The serum used was Pasteur's anti-streptococcic. The first two doses had been lying in the surgery of a neighbouring medical man since February, 1897, and the third one had been in the possession of another friend since about August, 1896.

Oldham.

PLUGGING OF TRACHEA BY A CASEOUS GLAND.

BY GEORGE F. LONGBOTHAM, M.B., C.M. EDIN.

A BOY, about eight years of age, in a semi-conscious, cyanosed condition, evidently suffering from some obstruction of his respiration, was admitted into the North Riding Infirmary, Middlesbrough, about noon on Sept. 8th, 1895. The history of the case was that he "had been all right" until about 10 A.M. that day, when suddenly he seemed "to be awful with his breathing" and complained of pain in the chest. He had been coughing up at intervals what his mother described as "small pieces of apple"; she did not think that he had "got anything down the wrong way." Chloroform was administered and seemed to give some relief, which, however, was only temporary. Intubation with a catheter did not benefit the symptoms, but evidently indicated some obstruction a considerable way down the windpipe. Tracheotomy was then performed, but before its completion the child had stopped breathing. Aspiration with a long indiarubber tube was tried, but yielded no good result. A long tube was then passed down for the purpose of irritating the mucous membrane of the trachea and bronchi, whereupon the child gave a deep inspiration and again ceased breathing. The heart beats were now becoming smaller and much more rapid, but artificial respiration, the galvanic battery, and this catheterisation were nevertheless continued. Suddenly some cheesy-looking matter of about half the size of a hazel nut was coughed up, after which the child began to breathe freely and made an uninterrupted recovery, although on more than one subsequent occasion a little of this cheesy matter was coughed up. This cheesy matter on being examined through the microscope in section and stained proved to be part of a caseous bronchial gland which had evidently ulcerated its way into the trachea about the bifurcation. The patient was under the care of Dr. Bateman, to whom I am indebted for permission to publish these details. It becomes a question whether in cases of cessation of the respiration under chloroform stimulation of the mucous membrane of the trachea and bronchi by means of a tube might not be of great value.

Middlesbrough, Yorks.

COAL-GAS POISONING FOLLOWED BY SYMPTOMS SIMULATING RABIES.

BY A. IRWIN BOLTON, B.A., M.B. DUB.

ON Jan. 31st last, at midday, I was called in all haste to visit a young Frenchman, aged twenty-two years, who was "near, if not quite, dead," so the message ran. I could get no further information until I arrived at the patient's house after about half an hour's hard driving. Upon entering the patient's room—a space about 12 ft. × 7 ft. × 10 ft. on the ground floor and with windows opening on to the plain on both sides—I found him lying in bed apparently dead. There were no heart beat, no pulse, and no respiratory movements. The pupils were dilated to the full. The body was warm. The face, lips, and ears were blue. The patient was foaming from the mouth. There was complete trismus. On inquiry as to the cause of his state I found that he had lighted his fire when going to bed the evening before and shutting his door he immediately fell asleep. His fire-grate was piled with coal (Cardiff). There was a gale of wind all night and the strong wind prevented the exit of smoke and drove it back into his room and asphyxiated him in his sleep. The diagnosis being clear I immediately threw open all the windows and door and placed my patient in the current and set to work at artificial respiration. I applied mustard plasters to the extremities and over the heart and gave an enema of brandy and subcutaneous injection of ether. After I had used these means for about forty minutes I was gratified to find the circulation becoming restored and the patient showing signs of returning consciousness. Hot-water bottles were then applied all round his body and he was covered with blankets. I ordered him a mixture of ammonia with digitalis and at 2.30 P.M. I left him apparently comfortable. At 4 P.M. I again visited him and found a different state of things. He then presented all the symptoms of a man suffering from hydrophobia. Frequent violent spasms recurred about every five minutes and were preceded by most painful symptoms of fear. The patient foamed from the closed mouth. The trismus was continuous all through, even during the intervals between the spasms. He thumped his sides and body violently with his hands. The sight of water or sound of it was the cause of instant spasms. Also blowing over him had the same effect. I now inquired if he had any wound or cut about him. "Oh, no, sir," said his friend, "only he has a small bite on the calf of the left leg which he received about eight days since from his own dog." This made me fear a regular attack of rabies. He continued to get worse at every attack and it required three strong men to hold him in bed. Opisthotonos was now manifest and he had seminal emissions. He could take nothing by the mouth and his case seemed to me to be very hopeless unless I could control the terrible fits. Accordingly I ordered an enema containing six grammes (one and a half drachms) of chloral hydrate with six grammes of bromide of potassium in infusion of valerian to be administered and to be repeated every hour until the patient became easy. Suffice it to say that the first enema sent him to sleep at 7 P.M. and he slept until seven o'clock the next morning, and when he awoke he demanded his coffee and was quite himself. Since then he has remained quite well. The dog has shown no signs of rabies.

I do not consider that this man was poisoned with rabies, but his symptoms exactly resembled those of that disease. I have very lately had two fatal cases of rabies under my care and the symptoms in all three cases were exactly similar. Convulsions and spasms I have often seen after carbonic oxide poisoning, but not those dreadful fits accompanied with the fear of water and wind. The trismus in this case was the first symptom and it was continuous during the whole time of his attack. This sign has been especially noticed by some writers as occurring in coal-gas poisoning.

Constanta, Roumania.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

A CASE OF HOUR-GLASS CONTRACTION OF THE STOMACH; OPERATION; RECOVERY.

(Under the care of Mr. WATSON CHEYNE.)

WE must congratulate Dr. Burney Yeo and Mr. Watson Cheyne on the accuracy with which they diagnosed the hour-glass condition of the stomach. It is not very unusual to met with it at a necropsy,[1] but it is certainly rarely that it can be diagnosed clinically. We agree with Mr. Cheyne that the Heineke-Mikulicz operation which he performed was without doubt the most suitable under the circumstances. As more than three and a half months have elapsed since the operation the hope that the patient is permanently relieved seems fully justified.

A married woman, aged forty-six years, was admitted to King's College Hospital on Nov. 8th, 1897. The family history was unimportant. In December, 1881, the patient began to suffer with great pain in the hypochondriac region and in the right shoulder and, in fact, with all the symptoms of ulcer of the stomach with the exception that she had at that time no hæmorrhage. She was treated for this condition by diet and in various other ways and had suffered from symptoms off and on since that time. Sometimes she would be pretty well for some months and then without any apparent cause the whole trouble would return again with all the characteristic symptoms. She had been abroad and consulted medical men in various countries. Lately the symptoms had been those of obstruction rather than ulceration and the diagnosis of pyloric obstruction had been made by several physicians. The patient was very considerably emaciated and was in a feeble state of health. She did not so much complain of pain in the hypochondriac region as of what she termed "an uncomfortable feeling," a feeling of distension and flatulence, and frequent vomiting. She did not vomit every day (the vomiting occurred about every second or third day), nor did she bring up anything like the whole quantity which she took. She had of late been living entirely on fluid diet and only a portion of the fluid taken was brought back again after one or two days. The amount that she would bring back after a couple of days was from 16 oz. to 30 oz.; the longest time that she had gone lately without vomiting was three days. Her weight on admission was 7 st. 4½ lb. On examination the stomach was not very markedly dilated and the dilatation was not uniform; it seemed to be specially marked about the cardiac end and to a less extent towards the pyloric end, but there was not the greatly distended stomach which is usual in cases of pyloric obstruction. On listening with a stethoscope over the middle of the stomach region a gurgling could be heard from time to time as if fluid were running through a narrow orifice and Dr. Burney Yeo, who saw the patient in consultation, stated that in his opinion the case was one of hour-glass contraction of the stomach, resulting no doubt from an old ulcer. On Dec. 1st a vertical incision was made over the stomach, in the middle line about four inches in length, and when the peritoneal cavity was opened the stomach was drawn out of the wound; it was then found, as had been expected, that just about the centre of the stomach there was an hour-glass contraction. The stomach, especially towards the cardiac end, was very considerably dilated and there was also some dilatation towards the pyloric end. The contraction was very marked and when it was laid open it was found that the communication between the two portions of the stomach was extremely small; as a matter of fact, a crow quill could hardly have passed through. There was a good deal of scarring and cicatricial tissue in the neighbourhood and at the actual point of the contraction there was no mucous membrane at all. An incision was made through this contracted portion in the line of the stomach so that the ring of cicatricial tissue was divided transversely; this incision was extended into the healthy parts of the stomach for about one and a half inches on each side, and then the angles of the incision were brought together and the rest of the part was sewn up—first with a few stitches which went through the whole coats of the stomach and then with a row of Lembert's sutures; in fact, the operation performed was identical with that employed in cases of contracted pylorus under the name of pyloroplasty. After the operation was concluded an opening was left between the two portions of the stomach which could readily take a couple of fingers. The wound was then stitched up and the patient was put back to bed; she was not very collapsed after the operation. The wound healed by first intention and the patient went on very well. There was no sickness after the chloroform, she took food by the mouth, milk and beef-tea, &c., but for several days the chief feeding was rectal. On the fifth day she was fed entirely by the mouth; no sickness occurred until twenty-eight days after the operation, when she had one attack of vomiting apparently associated with eating an orange. As regards her diet, after about a fortnight she was allowed to have solid food. On Dec. 14th, for example, her dinner consisted of fish and bread, her tea of a cup of tea and bread and butter; on the following day she had fish; on the 17th she had chicken, and so on. The patient was discharged on Jan. 7th, having gained 8 lb. since her admission, and she stated that she felt better than she had felt for many years; this improvement still continues; she has been sick once since she left the hospital and that also she attributed to an error in diet. She is still somewhat troubled with flatulence, but beyond that her condition is practically normal. She still continues to gain weight.

Remarks by Mr. WATSON CHEYNE.—The interest of the case lies first in the diagnosis—viz., that instead of being a pyloric obstruction as had been supposed by other physicians it turned out to be a typical hour-glass contraction of the stomach. The diagnosis chiefly depended on the absence of the marked dilatation of the stomach which would occur in pyloric constriction and in the bubbling of the fluid through a narrow orifice which was heard, not in the situation of the pylorus, but about the centre of the stomach. The further point of interest is in the treatment. One was very much tempted to excise the contracted portion of the stomach altogether and to stitch the walls together on each side and no doubt that would have been followed by complete recovery without any risk of recurrence of the contraction, for of course it must be admitted that there may possibly be an increased contraction still and some recurrence of the symptoms, but the patient was in an extremely feeble condition and it did not seem justifiable to subject her to the prolonged operation which would have been involved in this procedure, nor was I quite sure that the circulation in the stomach after complete bisection would have been quite satisfactory. On the other hand, the operation performed answered all expectations and the fact that the symptoms have now been absent for several months and that she is able to take solid food without any trouble leads me to hope that the result will be a permanent success.

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[1] La Médicine Moderne, Jan. 16th, 1896.

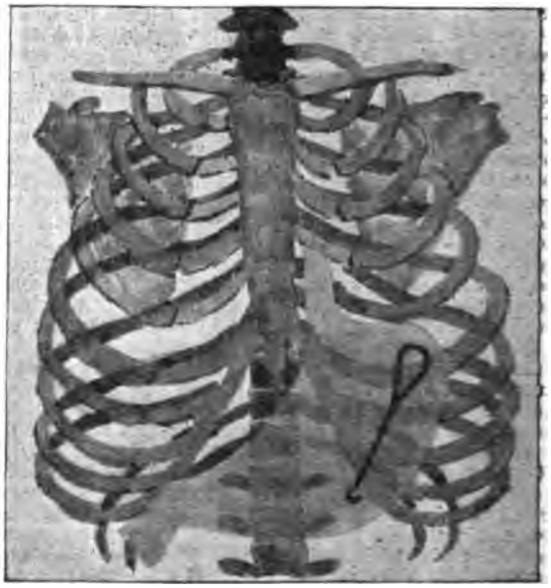
KENSINGTON INFIRMARY.

A CASE OF GASTROTOMY FOR REMOVAL OF A FOREIGN BODY.

(Under the care of Dr. H. PERCY POTTER.)

THE necessity for gastrotomy for the removal of a foreign body from the stomach can only arise in cases in which the body is unable or unlikely to pass through the pylorus. Probably the most frequent foreign body is a coin and in the majority of instances it has no difficulty in leaving the stomach; but in the case of a long thin body the chance of getting through the pylorus is very small and the object is either retained indefinitely in the stomach or finds its way, after causing ulceration, through the walls of the stomach, as in a case we have recorded lately which was under the care of Mr. Morgan at Charing-cross Hospital.[1] In the case of such a body it is very necessary that an operation should be performed as early as possible. In all these cases, however, the evidence of the presence of the foreign body is not very satisfactory and until the introduction of the Roentgen rays no method existed by which the surgeon could assure himself that a foreign body was really present, so that he often hesitated to operate when an operation was very desirable.

A well-nourished woman, aged thirty years, was admitted to the Kensington Infirmary on Jan. 13th stating that she had intentionally forced a button-hook about four inches long down her throat. She was quiet and reserved and gave every detail of the act in a rational manner, so her statement was believed. The hook could neither be seen nor felt. A bougie was without difficulty passed into the stomach. She was kept under observation till 8 P.M. and then taken to Dr. Low, who produced by the Roentgen rays three unmistakeable negatives of the foreign body *in situ*. It lay in the epigastrium on the left of the middle line, the hook portion pointing downwards and inwards about an inch outside the first lumbar vertebra. On the morning of the 14th a median vertical incision three and a half inches long was made between the xiphoid cartilage and umbilicus, opening the peritoneal cavity. Upon introducing two fingers to the left the loop of the button-hook was found deeply situated; the hook portion was manipulated towards the plane of the abdominal incision, steadied between the thumb and finger, cut down upon, and removed.[2] The mucous membrane was united by a continuous silk suture, the mucous and serous coats by Lembert's suture, and the parietal incision by interrupted silk and silkworm-gut stitches. The wound was then dressed with blue gauze steeped in perchloride and was covered with a many-tailed (or domett) bandage. The operation was practically bloodless and no sponges were introduced into the abdomen. An hour after the operation the patient vomited blood-stained fluid; in the afternoon, during the ntervals of sleep, she complained of pain which was relieved by an injection of morphia. A nutrient enema of peptonised milk was given in the evening and repeated every four hours. Ten drops of laudanum in hot water were given by the mouth at 9 P.M. On the 16th the wound was dressed; the epigastrium was slightly distended; there was no pain. A lemon was sucked to allay thirst. Two teaspoonfuls of peptonised milk were taken every hour; this quantity was gradually increased till the 24th when the patient had an egg with bread and butter and enjoyed some "beef-cacao." On the 25th the sutures were removed and she was allowed fish on the 27th. The wound was completely healed on the 29th and the patient got up on Feb. 4th convalescent. There was absence of fever and complication of any kind throughout the case.



Remarks by DR. POTTER.—The operation of gastrotomy has frequently been performed for the removal of a foreign body from the stomach and provided these cases are taken in hand early the results are favourable. It must be difficult in most cases to determine with accuracy by external manipulation the site or even the presence of a foreign body which has been swallowed, but by the use of the Roentgen rays there is a new light thrown upon these cases and a decisive verdict given in respect of the necessity for an operation. The difficulty of obtaining good photographic results consists in the thickness of the abdominal walls and contents and the movements of respiration and likewise of the stomach itself. The accompanying illustration is reproduced from a drawing of the skiagram, which is somewhat indistinct and blurred; but sufficiently definite to determine the presence of something which ought not to be there. My thanks are due to Mr. Osborn and Mr. Lloyd for their valuable assistance.

THE PRINCE OF WALES'S HOSPITAL FUND FOR LONDON.—We have received a copy of the "Subscription Book and Stamp Album," issued in connexion with, and in support of, the Fund, together with an autograph letter from H.R.H. the Princess of Wales in which she makes a heart-touching appeal to the children of the United Kingdom to assist the Fund by contributing their donations however small.

CORNWALL COUNTY ASYLUM.—The annual report of the Cornwall County Asylum at Bodmin showed that during 1897 the average number of patients had been 770, the highest yet recorded. The temporary accommodation provided near the asylum for 18 male patients is occupied and there are 22 patients boarded out at the Plymouth Borough Asylum. The report adds that the isolation hospital is to be commenced immediately. The committee refer in terms of regret to the resignation of the medical superintendent, Mr. Richard Adams, M.R.C.S. Eng., L.R.C.P. Edin., after forty years of valued service.

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[1] THE LANCET, Feb. 5th, 1898, p. 355.

[2] The button-hook was of the cheap steel variety, shaped out of a piece of soft steel wire, and measured four and a half inches in length and one inch in breadth at the loop.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Gastric Ulcer.

A MEETING of this society was held on March 14th, the President, Dr. SANSOM, being in the chair.

The PRESIDENT referred to the death of Sir Richard Quain, who had been a Fellow of the society since 1870, had served on the council for three years, and had been a Vice-President.—A resolution of condolence with the surviving relatives was passed and on the motion of Dr. THEODORE WILLIAMS the President was asked to represent the society at the funeral.

Dr. SEYMOUR TAYLOR read a paper on Gastric Ulcer and in discussing the causation of gastric ulcer reminded his listeners that the stomach lay nearly vertically in the abdomen, so that the so-called upper curve was really the right or lesser curve, the lower or greater curve being to the left. Seven-eighths of the organ at least lay to the left of the median line. The dome of the cardiac end rose quite an inch (sometimes more) above the level of the cardiac orifice. He pointed out that the pylorus was not a valve but a sphincter and its aperture would admit the little finger. He described two well-recognised varieties of innocent ulcer of the stomach: (1) the so-called chronic ulcer, and (2) the perforating or acute ulcer. He believed that these were distinct diseases—distinct alike in their etiology and in their pathology. The chronic ulcer affected males in the proportion of 72 per cent. of the cases, and mostly occurred between forty-five and sixty years of age. It did not occur exclusively in the poor but rather in those who led busy, excited lives and were sufficiently well off to indulge in large table extravagances. The chronic or spreading ulcer was usually situated near the pylorus; it was irregular in outline and the surrounding tissue consisted of the proliferated and heaped-up cellular elements of the stomach coats. Before perforation could take place there was almost always inflammatory adhesion to some solid viscus. He quoted the observation of Dr. S. Martin that "the anatomy appears to show that the ulcer was chronic from the first and that there was little evidence that it originated in the acute form of ulcer." As regards symptoms there might be no premonitory sign, the lesion occasionally only being discovered post mortem. One characteristic feature was the large amount of the vomited matter. There might be intervals of comparative health and freedom from pain and distress, but these returned on the first indiscretion of diet. Such sufferers were peculiarly prone to errors of diet; in fact, their appetites were depraved so that treatment was often disappointing. He insisted on the extremely infrequent occurrence of the clean, punched-out ulcer in males and as far as his researches had gone in the London hospital museums only two instances had been found. Passing on to the consideration of the perforating ulcer he pointed out that this form was most frequent in women, being indeed almost limited to that sex. Moreover, the victims were mostly single women between the ages of sixteen and thirty years. The influence of occupation and surroundings was well marked and there was a great similarity of etiology between chlorosis and acute ulcer. In both diseases a great preponderance of cases occurred in single young women, domestic servants and dressmakers accounting for more examples than any other class. It was noteworthy that in almost every case of acute gastric ulcer there was a previous history pointing to chlorosis. The site of the ulcer was variable but its shape was constant. Though most frequently situated near the lesser curve of the stomach it might be found in the cardiac region on either curvature and on either aspect of the viscus. In contrast with the chronic ulcer there was no marked inflammatory proliferated zone and during the stage of active process there was no obvious alteration of the tunics in the immediate neighbourhood. He suggested that the lesion was a nerve lesion of the nature of neurotic dystrophy. He commented on the marked differences in the symptomatology of the two varieties of ulcer, alluding incidentally to the fact that the severity of the symptoms was often in inverse ratio to the gravity of the pathological lesions. The pathological theories put forward to explain its occurrence were: (1) mechanical; (2) vascular; (3) glandular; and (4) neurotic. He dismissed the hypothesis of thrombotic necrosis as untenable and he was unable to admit that local traumatism could be incriminated. The vascular theory he regarded as unsatisfactory because it did not explain why the ulcer if thus caused should be single. The glandular theory did not commend itself to him because it ignored the fact that the disease was confined to one sex and occurred only in early adult life. In fact, a local neurosis was to his mind the only satisfactory pathology. In support of this view he instanced the great preponderance of cases amongst young women, the character of the lesion which reminded one of perforating ulcer of the foot in tabes as well as of the ulcers met with in herpes, and lastly its undoubted association with chlorosis. He asked them to admit with him that chlorosis was a neurosis because this was essential to his contention that both diseases had a common neurotic origin. He quoted numerous authorities in support of the view that the two conditions were closely associated and he urged that the only satisfactory grounds of argument for this view were to be found in the proposal that both chlorosis and acute ulcer were neurotic in their origin. In conclusion, he urged upon them not to delay affording such patients surgical skill even though there was reason to suspect that the ulcer had perforated into the peritoneum. Delay meant death and they ought not to allow any patient to perish for want of a laparotomy. Rather than overlook the urgency of the symptoms and allow a patient to die when the surgeon might have brought about a cure he would advise the operation ten times over.

Dr. THEODORE WILLIAMS agreed that there were frequent associations of chlorosis and gastric ulcer. He thought that Wilks's explanation was the most satisfactory—viz, that both conditions were due to a low state of the system. He recalled the interesting paper read before the society by the late Sir Andrew Clark on Some Cases of Chlorosis, which he called cases of "fæcal anæmia," and pointed out that iron in such cases would do no good unless remedies were given to relieve the constipation which was present. On that occasion he (Dr. Williams) pointed out that if this theory were correct there ought to be a great deal of anæmia in France, where constipation was notoriously common, but chlorosis was seen less frequently than in this country. He would have liked to have heard more about the treatment of cases of gastric ulcer. He preferred to treat them without giving drugs or food by the mouth, giving nourishment by the rectum. In some cases of prolonged rectal feeding there was biliousness and he thought that this was due to a want of flow of the bile, owing to the loss of the normal stimulus from the presence of food in the stomach and duodenum. The bile was therefore retained or re-absorbed. The connexion between gastric ulcer and chlorosis could not be a very close one, as the former only occurred in a small proportion of chlorotic patients.

Dr. MAGUIRE said that there was frequent association of chlorosis with gastric ulcer and possibly they were connected, but he did not think that it was necessary to invoke the theory that the conditions were due to a neurosis. Chlorosis was quite different from the other forms of anæmia. It always occurred during the period of development. The body generally developed rapidly, but there was less rapid development on the part of the blood-forming functions. Iron alone often did not do much for the patients, but iron combined with arsenic, which was known to act on the blood-forming organs in other forms of anæmia, was much more successful. In the chlorotic condition the gastric mucous membrane would be much more apt to be attacked by the gastric juice.

Dr. R. L. BOWLES said that thirty years ago he had been taught by a shrewd country medical man that not only was gastric ulcer of the kind under discussion almost confined to chlorotic girls, but that, like other cases of chlorosis and like rheumatic fever, it occurred as a result of overwork during a critical period of existence. Many of the patients were domestic servants, who were a very hard-worked class, getting insufficient rest, being the first to rise and the last to go to bed, and there was endless worry associated with their work. The most important part of the treatment was securing rest of mind and body and good hygienic conditions. In the early stage, before actual ulceration had taken place, iron might fail and aperients were not without danger. He found good results from giving bismuth and hydrocyanic acid with or without small doses of opium.

Mr. F. C. **WALLIS** would have liked to have heard more about the exact pathological condition found in the cases of chronic ulcer. He agreed with Dr. Maguire that in the acute stage the ulceration was due to lowered vitality of the mucous membrane. In low states of health an abrasion of the skin was apt to lead to sores which were difficult to heal and possibly these gastric ulcers might commence as abrasions. He was glad to hear Dr. Taylor's recommendation that no time should be lost in getting surgical assistance when there were any symptoms of perforation and that it was better to err on the side of opening the abdomen unnecessarily rather than to delay too long when an earlier operation might have saved the patient's life.

The **PRESIDENT** said that the discussion seemed chiefly to be concerned with the way in which the acute ulcer was brought about. It clearly was associated with chlorosis, but it was difficult to understand why, if it were due to a general morbid condition, there should only be a single ulcer and that often a small one. If the neurotrophic theory were correct it was possible that the nervous system acted through the vascular supply, causing constriction of the small artery supplying a particular patch of mucous membrane.

Dr. **SEYMOUR TAYLOR**, in reply, said that there seemed general agreement as to a connexion between gastric ulcer and chlorosis. If anæmia was uncommon in France, as Dr. Theodore Williams maintained, it certainly was not in the Channel Islands, where gastric ulcer was also frequently met with. He believed that rest was the most important part of the treatment. If food could not be retained he gave all nourishment by the bowel, but if it could be kept down he gave milk in small quantities with minute doses of opium. He had thought of applying oxygen locally, but had not yet done so. He agreed that the disease was more common in overworked girls, as rheumatic fever was, but he himself considered that rheumatic fever and chlorosis were also due to a neurosis.

PATHOLOGICAL SOCIETY OF LONDON.

Age Changes in the Placenta.—Fibroma of the Ovary.—Double Vagina.—Ovarian Cyst.—Submucous Intestinal Tumour.—Acromegaly.—Anæmic Infarct of the Lung.

A **MEETING** of this society was held on March 15th, the President, Dr. **PAYNE**, being in the chair.

On the motion of the **PRESIDENT** a vote of condolence was unanimously passed with the family of the late Sir Richard Quain, who was a trustee and a past president of the society.

Dr. **EDEN** read a paper with lantern demonstration on the Age Changes in the Placenta and Membranes and said that the structure of the placenta at term differed widely from that of the young and growing organ. The life of the placenta was a short one; it developed rapidly and as rapidly grew old, and was finally shed like a withered leaf. The ripe placenta was a worn-out organ, showing marked structural changes which were to be regarded as senile degenerations and must be carefully distinguished from pathological processes proper. Senile changes could always be detected in greater or less degree in healthy placentæ. The recognition of these changes was an essential preliminary of the study of the pathology of the placenta, which was at present in a state of confusion, this being to a large extent due to two causes—firstly, to the frequent citation of the senile changes here referred to as evidences of disease; and, secondly, to the fact that placentæ of macerated fœtuses were generally selected for study. It was the object of the paper to endeavour to describe the structure of the placenta at all periods of gestation and to attempt to outline the changes which occurred in the organ when the fœtus perished in utero. Until this had been satisfactorily accomplished it was impossible to make progress with the study of diseases of the placenta. It was convenient to regard the placenta as composed of two separate sets of structures and to describe first the fœtal and then the maternal elements. Attention would be limited to the human ovum and the earliest specimens Dr. Eden had examined personally were from the end of the first month. At this period the chorionic membrane was fully developed, its surface was covered everywhere with arborescent villi, and the decidua reflexa completely enclosed it. Special reference was made to the remarkable activity of the superficial or plasmodial layer of the chorionic epithelium at this period; the proliferation or budding of this structure was the first step in the formation of new villi, and the various stages of the process were shown on the screen. These features were only seen in the early months of gestation and their presence was pathognomonic of young placental tissue. The structure of the decidua was next described with the changes which occurred in the serotina and resulted in the establishment of the maternal circulation through the inter-villous spaces. These changes consisted in the invasion of the serotina by the chorionic villi and the opening up of the maternal vessels largely through their instrumentality. The attachment by which the fœtal and maternal elements of the placenta were held together and the manner in which the placenta increased in area were also described. About the mid-term of gestation the villi could be distinguished by their plumpness and the better development of their connective tissue, stroma, and blood-vessels. At this period also large stems (stamenzotten) were found from which villi arose. The budding of the plasmodial layer continued. The following senile changes could be detected in the placenta at term: (1) endarteritis obliterans affecting considerable tracts of the middle-sized umbilical arteroids; (2) degenerative changes in the plasmodial layer of the chorionic epithelium and in the decidual cells of the serotina; (3) formation of "white infarcts"; and (4) thrombosis of a certain number of the subplacental sinuses and serotinal vessels. The presence of these changes in placental tissue was sufficient to indicate that it belonged to the last two months of gestation. After the death of the fœtus if the ovum was retained the maternal circulation through the inter-villous spaces was not at once suspended. The spaces became gradually obliterated by thrombosis, but some sinuses in which the villi appeared quite fluid could often be found in placentæ that had been dead for many weeks. This was due to the fact that such villi remained in contact with the maternal circulation. Villi which became shut off by thrombosis rapidly perished and underwent marked fatty degeneration. Ultimately they became reduced to structureless objects which retained none of their former characteristics except their shape. The blood-clot in the inter-villous spaces did not become organised.

Dr. **MORLEY FLETCHER** showed two specimens: 1. A Fibroma of the Ovary taken from the body of a woman who died suddenly at the age of seventy-one years from spontaneous Rupture of the Heart. The fibroma was partly calcified. There was also a uterine myoma, partly calcified, which was attached by a long pedicle. 2. A Double Vagina from a young married woman. There was a double cervix, but there was no division of the uterus.

Dr. **RAYMOND CRAWFURD** showed a Tumour of the Ascending Colon of most unusual features. The tumour was much of the shape of a hen's egg, split in half from end to end, and with the flat surface of the half attached to the inner wall of the gut on the same side as the mesenteric attachment. It was three inches in its greatest length and two inches in its greatest width and depth. The surface of the tumour was divided up into six rounded ridges; its consistence was firm and very elastic. The ridges obviously corresponded to the normal folds of the mucous membrane. Along with the tumour there was an intussusception of the cæcum, vermiform appendix, and first few inches of the ileum down into the ascending colon. The clinical evidence seemed to show that the tumour was the primary trouble and probably of three months' duration; the intussusception apparently occurred only a day or two before death, which was due to rupture of the ileum. Under the microscope the submucous coat was seen to be almost entirely replaced by blood-clot and the mucous membrane and muscular coat were both in a more or less advanced state of necrosis. The question that suggested itself was whether the tumour was a hæmorrhagic infarct; if not, it was difficult to see the cause of the effusion of blood.—Mr. **D'ARCY POWER** said that his first impression was that this was a growth and although sections appeared to exclude sarcoma he thought there must be something more than hæmorrhagic infarction. The specimen was referred to the Morbid Growths Committee.

Mr. **D'ARCY POWER** showed a Cyst of the Ovary which he had removed successfully from a child, aged four months, whose abdomen had been increasing in size for three weeks before the operation. The cyst appeared at first sight to be perfectly simple and unilocular, but a closer examination showed two or three small nodules in its substance, and when the cyst was held up to the light innumerable small dots were seen studding it. Microscopic sections made through one of the larger nodules showed that it was hollow and was filled with an albuminous fluid. The lining membrane consisted of epithelium from three to five cells deep, the external layer being columnar and the innermost layer flattened. In many places the innermost and intermediate layers of cells were undergoing karyomitosis. The cyst-wall was composed of ovarian stroma containing many minute Graafian vesicles. Each Graafian vesicle was itself undergoing a cystic change. Mr. Power considered that the cyst was truly ovarian and was probably congenital in origin. It was multiple, though at first sight it seemed to be single, and the change seemed to have begun in the Graafian vesicles. The youngest child hitherto operated upon appears to have been twenty months old. A dermoid cyst was removed in this case and the patient recovered.

Dr. WILLIAM HUNTER showed casts and specimens from a case of Acromegaly with Hypertrophy of the Pituitary Body and Changes in the Bone-marrow. The patient, a man, aged fifty-two years, was admitted into Charing-cross Hospital for sudden cerebral hæmorrhage and died a few hours later. He had been an out-patient at St. Bartholomew's Hospital under the care of Dr. Herringham for ten months and had been treated at first with pituitary gland substance and afterwards with thyroid gland substance in addition. At the necropsy ventricular hæmorrhage was found in the brain and there was an atheromatous condition of the large arteries. The kidneys were hypertrophied, weighing together 19 oz. The patient presented typical appearances of acromegaly—massive head and features, especially the nose and the lower jaw; broad, spade-like hands; and enlargement, although to a less extent, of the feet. The chest was deformed, there being upper dorsal kyphosis and projection of the lower wall of the chest on the left side. The chief changes were presented by the pituitary body and the bones. The pituitary body was enlarged at least twofold, presenting a red and very vascular appearance, microscopically showing, in addition to increase of gland substance, apparently normal, an unusual degree of vascularity, with hæmorrhages in parts and thickening of capsule. The thyroid body was hypertrophied, weighing 1½ oz. Marked changes were presented by certain bones as regards degree of vascularity and appearance of marrow. The increased vascularity of bone was marked in bones of the skull, especially in those of the base of the skull around the sella turcica, also in the cancellous tissue of the bones of the foot. In the tibia and femur hæmorrhages were found in the upper parts of the shaft. The marrow was increased remarkably and was notably red in the bones around the pituitary fossa, also in the shaft of the radius and to a less extent of the ulna. Microscopically no change was detectable. The condition appeared to be one of simple hypertrophy. Nowhere did the bones (periosteum or bone tissue) show any evidence of inflammation. Their enlargement (when enlarged) appeared to be the result of a simple hypertrophy, the increased vascularity and red appearance of marrow resembling those of growing young bone, although in the case of the marrow the redness was more marked than that ever shown by young bone. The hæmorrhages were probably incidental, related rather to the condition of the vessels generally than to the special bone changes. The paper was illustrated by casts and preparations preserved in formalin.—Mr. P. FURNIVALL observed that similar vascular hypertrophy of the pituitary body and hypertrophy of the viscera, such as the spleen and the lymphatic glands, had been described by other observers. He asked if there were any changes in the sympathetic ganglia or the central nervous system.—Dr. HUNTER, in reply, said that the nervous structures had not yet been thoroughly examined.

Dr. L. FREYBERGER showed an Anæmic Infarct of the Lung which was found in the body of a woman who died after three weeks' illness. During life there were signs of mitral stenosis. There was very feeble circulation, some gangrene of the tip of the nose occurring before death. There were twenty-four infarcts in the lungs, all but one of which were hæmorrhagic. The other was anæmic. Dr. Freyberger accounted for this by supposing that owing to the feeble circulation the hæmorrhagic stage of the infarction had not occurred.

The following note was accidentally omitted from our report of the proceedings of the Pathological Society in THE LANCET of March 5th.

Mr. D'ARCY POWER showed a specimen and skiagram of a case of Macrodactyly due to Diffuse Lipoma which had been sent to him for exhibition by Mr. Robert Jones, of Liverpool. The specimen consisted of the first and second toes of the left foot of a boy, aged thirteen years. There was a little movement in the toes before amputation, but there had been so much pain on walking that it was considered better to remove them. The case occurred sporadically in the family. It was unilateral and did not affect all the digits. The deformity was congenital. The x ray photograph showed the bones of the first and second toes to be greatly hypertrophied, the hypertrophy being in direct proportion to the thickening of the soft structures covering them. There was a certain degree of hallux valgus and all the toes were pushed outwards. A microscopical examination of the hypertrophied tissue showed that it had the characters of a diffuse lipoma.

CLINICAL SOCIETY OF LONDON.

Malformation and Displacement of the Kidney.—Perforating Wounds of the Knee-joint.—Chronic Hydrocephalus treated by Intracranial Drainage.

A MEETING of this society was held on March 11th, the President, Mr. LANGTON, being in the chair.

Dr. DAVID NEWMAN (Glasgow) read a paper on Malformations of the Kidney and Displacements without Mobility with illustrative cases. The paper was illustrated by cases and specimens which had come under Dr. Newman's observation during the last twenty years. *Congenital displacement without deformity.*—Case 1. Fixed displacement of the right kidney above Poupart's ligament simulating a perityphlitic abscess. There was a slight fulness of the abdomen in the right iliac and lower lumbar regions and a rounded swelling was felt passing upwards and backwards. It occupied an area of about two inches in breadth, running parallel with Poupart's ligament. The swelling simulated an abscess in its physical characters, but on being incised was found to be a misplaced kidney. Case 2.—Left kidney displaced downwards and forwards in a patient on whom lumbar colotomy was performed. The lower border of the kidney was found during an operation for colotomy immediately above the centre of the crest of the ilium, at the lowest limits of the colotomy incision. The organ was slightly lobulated but normal in size. Case 3.—Right kidney displaced downwards and rotated on its antero-posterior axis, the shortened ureter entering the upper aspect of the bladder. The convex aspect of the organ rested upon the brim of the pelvis, while the concave surface looked upwards. The right ureter was shortened and entered the bladder close to the upper aspect of that viscus. *Congenital displacement with deformity.*—Case 4. Right kidney at the brim of the pelvis, anomalous distribution of blood-vessels and deformity of the kidney. The kidney lay on the brim of the pelvis below the bifurcation of the aorta and was supplied by two arteries, one directly from the aorta and a second one from the common iliac artery. Case 5.—Malposition of both kidneys, one to the right of the promontory of the sacrum, the other in the iliac fossa. The right kidney was small and with no hilum.[1] Case 6.—Right kidney flat, oval in form and situated at the brim of the pelvis, supplied with two arteries and one ureter from the anterior aspect. The right kidney was a flat, oval body about the normal size, supplied by two arteries from the aorta just above the bifurcation, the right renal vein passing to the vena cava. The ureter started from the anterior aspect. The left kidney was normal in size, but lobulated slightly. *Acquired displacements of the kidney.*—Case 7. Acquired displacement of the right kidney by a perinephric abscess. The kidney with its convexity was looking upwards and lying close to the diaphragm, while the pelvis was turned downwards. The organ was firmly fixed by inflammatory adhesions. The renal vessels and ureter were elongated. *Malformation of the kidney.*—1. Variations in number.—One case of supernumerary kidney was described. *Single kidney.*—(*a*) Congenital absence of one kidney. Case 8.—Complete absence of the left kidney, ureter, and vessels; compensatory hypertrophy of the right kidney. The right kidney was normal in position, but weighed 12½ oz. and measured 5 in. in length and 4 in. in breadth. There was no trace of the left kidney or its vessels and ureter and no opening into the bladder corresponding to the entrance of the left ureter. Case 9.—Congenital absence of the left kidney, vessels, and ureter, placed

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[1] Newman: Surgical Diseases of the Kidneys, p. 7.

in the museum by Dr. J. Lindsay Steven and almost exactly the same as Case 8. (*b*) Atrophy of one kidney. Case 10.—Extreme atrophy of the left kidney, with double pelvis but single ureter. The organ was of about the size of a walnut, the pelvis was branched, and there was no hilum. The upper limb of the pelvis sprang from the inner and upper aspect of the atrophied organ, while the lower arose from the lower border. Both limbs united about one and a half inches below the level of the kidney. Case 11.—Atrophied kidney, the renal tissue being almost entirely replaced by fat. The left kidney weighed ½ oz. Very little renal tissue could be found in the mass and what remained was completely embedded in firm fat. The right kidney was the seat of advanced chronic interstitial nephritis. Case 12.—Atrophy of the right kidney with compensatory hypertrophy of the left kidney; disease of the suprarenal capsules. The right kidney weighed only 1 oz., the left 7½ oz. The atrophied kidney was embedded in a mass of adipose tissue and contained four cavities filled with pultaceous material. The ureter was thickened and its lumen obliterated. Absence of both kidneys had only been observed in the lower grade of monstrosities, especially acephalous monsters. *Variations in form and size.*—Hypertrophy of one kidney. Case 13.—Simple hypertrophy of the left kidney only; right kidney normal in size and appearance. The left kidney weighed 10¾ oz. and the right weighed 6½ oz. In all respects the hypertrophied organ was healthy. *Fusion of two kidneys.*—(*a*) Horse-shoe kidney. Case 14.—Horse-shoe kidney united by an isthmus of fibrous tissue at the level of the bifurcation of the aorta. The renal form was well retained. Case 15.—Horse-shoe kidney with lobulation and complete fusion of both kidneys. There were malformation of the pelves and anomalous distribution of bloodvessels. Case 16.—Horse-shoe kidney with complete incorporation of the two organs; lobulation of both segments. The ureters were deformed, and there was anomalous distribution of the blood-vessels. (*b*) *Sigmoid kidney.*—Case under the care of Dr. Lewis R. Sutherland. Complete fusion of two kidneys in the sigmoid form, the upper hilum presenting antero-internally, the lower anteriorly. The upper ureter was united at the right, the lower at the left angle of the trigone, and the renal mass occupied the right lumbar region. *Disc shaped kidney.*—The hilum faced anteriorly and antero-internally. There were two distinct pelves, one above the other. The lower ureter faced to the right of the trigone, the upper ureter to the left. The specimen was in the Museum of the Royal Hospital for Sick Children, Glasgow. Dr. Newman also referred to various anomalies in the pelves, ureters, and blood-vessels, as illustrated by cases observed in the Royal Infirmary, Glasgow.—Mr. Watson Cheyne asked Dr. Newman whether he had ever met with three kidneys in the same patient. He mentioned the case in which he had opened the abdomen on account of a lump which he could feel in front of the sacrum. This was found to be a third kidney. He explored the loins by introducing his hand through the incision and could feel the right and left kidneys in their normal position, the left being unusually small.—Dr. Glover asked how old Mr. Marsh's patient with renal tuberculosis was and whether there were signs of tubercle in any other organs. He asked on what points Dr. Newman relied in deciding that the kidneys were tuberculous.—Dr. Newman, in reply, said that he thought that the presence of large caseous masses such as he found only occurred in chronic tuberculosis of the kidneys. The diagnosis of acute tuberculosis would rest on the microscopic examination of the urine and particularly on the demonstration of the tubercle bacillus. He had met with one instance of a third kidney, but it was only discovered post mortem. He regarded the condition as one of extreme segmentation of the kidney.

Mr. F. C. Wallis detailed three cases in which the Knee-joint had been Perforated. Case 1.—A man, aged twenty-three years, whilst getting over some iron railings slipped and one of the spikes made an oblique wound in his left knee-joint. The joint became distended with blood and there were obvious signs of air in the joint. Twenty-four hours later, as the temperature was rising and the pain increasing, the joint was opened up and a large ragged tear was found in the capsular ligament. The joint was washed out with dilute perchloride solution and cleared of all blood-clot. The capsule was sewn up and the skin wound completely closed. No drainage was employed. The wound healed at once and free joint movement resulted. Case 2.—A girl, aged thirteen years, was admitted to the hospital with a perforating wound of the left knee-joint made by a pair of scissors half an inch above the patella. The temperature on admission was 102·2° F. The joint was distended and painful. As these increased the wound was opened up forty-eight hours later. The synovial fluid was turbid and large flakes of lymph escaped. The joint was freely irrigated with 1 in 3000 perchloride and the joint was closed up without drainage. Nine days later the wound was reopened on account of the pain and temperature and the joint was drained. The patient made a good recovery but walked too soon, and a certain amount of genu valgum resulted. This was treated with a Thomas's knee-joint splint. Case 3.—A boy, aged eleven years, was admitted with a punctured knife-wound of fourteen days' standing on the outer and upper side of the left knee-joint, which was markedly distended. The joint was swollen and the skin was red. Semi-purulent fluid escaped from the wound. The joint was opened and four ounces of semi-purulent fluid were let out. A corresponding incision was made on the opposite side and the joint thoroughly irrigated with a 1 in 3000 perchloride solution, after which the wounds were closed without drainage. Three days later the wounds had to be reopened and pus escaped freely. As the joint did not drain well a number of drainage-tubes were inserted in different places and continuous irrigation was carried out. Nine weeks later all the tubes were out. Four months after the operation the patient was discharged in a Thomas's knee-joint splint with fibrous ankylosis of the knee-joint. He ultimately required to have the joint excised on account of marked flexion of the knee-joint. Mr. Wallis remarked that only those cases recovered (that is, ran an aseptic course) which were immediately treated and he quoted various cases in illustration. On the whole he thought the results were better without drainage. Mr. Wallis defended his treatment of Cases 2 and 3, where the joint was sewn up and had to be reopened, by quoting cases where he had opened joints for septic synovitis and after thorough irrigation had sewn up the wounds, which had healed without difficulty. The treatment of suppurating joints was next discussed and it was shown that even prolonged suppuration did not necessarily mean ankylosis if certain lines of treatment were carried out.—Mr. Howard Marsh remarked that Mr. Wallis had drawn attention to a subject of considerable importance. Formerly cases such as he had related commonly ended either in the death of the patient from septicæmia or if this were escaped amputation of the limb. At the present day it is seen how closely the synovial membranes of joints resembled the peritoneum in their tolerance of aseptic operative interference. He had lately met with the following examples which bore upon the subject. In a boy with recurrent sarcoma he had opened the knee-joint on four separate occasions. In another patient he had four times opened and scraped out the cavity of the knee-joint for the removal of tuberculous granulation tissue. In a third case, a boy, aged four years, was run over in the street and the knee-joint was widely torn open and inoculated with street mud. Some of the muscles were lost through gangrene. The joint, however, which was drained and irrigated, was so far repaired that two months afterwards the limb could be bent to a right angle. In a fourth case, in which the knee-joint had several days before the patient's admission been perforated with a rusty nail, very acute septic arthritis ensued. Copious suppuration occurred and the ligaments were so far destroyed that the tibia moved in a flail-like manner on the femur. Repair, however, took place, although the joint was at first very loose. But the ligaments at length recovered themselves so that abnormal movement was prevented. The patient is now walking upon the limb and the joint is moveable through a range of 120°. These cases, together with those related by Mr. Wallis, serve to illustrate the degree in which the treatment of joint affections by active interference has been developed under methods that are at present in use.—Mr. A. E. Barker agreed with Mr. Wallis that drainage was often overdone and the vast majority of cases were capable of treatment without it. Out of the last twenty or thirty cases in which he had opened the knee-joint he had only employed drainage in one or two instances, but in septic cases it was sometimes unavoidable. With regard to irrigation he thought that there was objection to employing irritating antiseptics. Those germs that were too deeply seated to be flushed mechanically could only be killed by the use of antiseptics so strong as to be unsuitable for irrigation. He therefore preferred to flush out with abundance of sterilised hot water. He agreed with Mr. Howard Marsh that the knee-joint was as accessible to surgery as any part of the body and he thought that the change of opinion which had occurred with regard to this point was largely due to the fact that drainage was not now much employed. The opening of the knee-joint in order to wire a fractured patella gave rise to no anxiety and yet neither irrigation nor drainage was employed. Mr. Barker thought that passive movements should be commenced at once and active movements as soon as the wound was healed.—Mr. WATSON CHEYNE agreed that the plan of washing out the cavity with an antiseptic solution was undesirable, but he did not go as far as Mr. Barker with regard to drainage. Where the opening was an incision made by the surgeon drainage was undesirable, but if the wound was made by a foreign body a drain should be arranged for twenty-four or forty-eight hours and then removed if there was no sepsis.—Mr. WALLIS, in reply, said that in some cases he thought that the use of a strong antiseptic was unavoidable. He mentioned a case in which there was septic inflammation of the knee-joint which continued in spite of treatment for some months until he applied pure carbolic acid to the joint surface. The joint healed and the man was able to resume work, although there was not much movement in the joint.

Dr. G. A. SUTHERLAND and Mr. WATSON CHEYNE contributed a paper on a Case of Chronic Hydrocephalus treated by Intracranial Drainage. The patient was an infant, aged six months, who was suffering from congenital hydrocephalus and hereditary syphilis. No improvement had followed after three months of medical treatment and the head was steadily increasing in size. The condition at the time of the operation was one of very marked hydrocephalus, the bones of the skull being soft and widely separated and the vertex occupied by a large membranous space measuring nine inches in its widest diameters. The operation consisted in making a small opening in the dura mater opposite the left lower angle of the anterior fontanelle and introducing a catgut drain, one extremity of which was passed between the brain and the dura mater for a distance of one inch and the other pushed through the substance of the brain into the expanded lateral ventricle. A very small quantity of ventricular fluid escaped, the opening in the dura mater was completely closed with catgut sutures, and the scalp wound sewn up and dressed in the ordinary way. On the fifth day after the operation, when the dressings were removed for the first time, the wound was entirely healed. From the date of the operation there was a steady and uniform diminution in the size of the head without the occurrence of any bad symptoms, and within a few weeks the spaces between the cranial bones were entirely obliterated and the anterior fontanelle was much smaller, depressed, and pulsating. Later symptoms of basal meningitis developed and the infant died from that affection three months after the operation. At the necropsy the membranes at the base of the brain were found to be thickened and adherent and a considerable quantity of fluid was present in the subdural space. The brain was small and cystic in parts but there was no distension of the ventricles. Reference was made to the work of Dr. Leonard Hill, whose experiments on the absorption of fluids from the subdural and subarachnoid space suggested the line of treatment which had been adopted. By establishing a permanent communication between the ventricles and the subarachnoid space it was hoped that however much fluid was secreted in the ventricles it would be carried off at once by the veins, and in the absence of injurious pressure the brain would be left free to develop if it could. The result of the operation had shown that in hydrocephalus the excess of ventricular fluid could be removed by this method of intracranial or subdural drainage. They had brought a similar case for inspection which had been operated upon three weeks ago, and members could see for themselves what an extraordinary diminution had taken place in the size of the skull. They did not suppose that in this case any useful result would accrue as regards mental development, but the operation, at any rate, gave the child a chance. It proved, moreover, that if they could get these cases earlier, before the brain had been injured by pressure, there was a reasonable chance of permitting the development of the brain to proceed.—Mr. STANLEY BOYD said that the post-mortem appearances in the first case threw a doubt on any probability that the results of the operation would be permanent. It seemed that the hole through which the drain of catgut came became adherent to the dura mater and the object of the operation was frustrated. Even in the living patient who was shown it was likely that when catgut had become entirely absorbed the brain would be likely to become adherent to the dura mater, obliterating the communication.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases.

A CLINICAL meeting of this society was held on March 4th, Dr. H. P. POTTER, President, being in the chair.

The PRESIDENT showed a case of a Button-hook removed by Gastrotomy from a woman together with a Skiagram taken by Dr. F. H. Low showing the hook in the stomach before removal. (For a full report of this case and a reproduction of the skiagram see p. 786.)—Mr. KEETLEY alluded to a case of a woman who had swallowed a plate of false teeth which had become impacted in the œsophagus and had led to a fatal result. He congratulated Dr. Potter on the success of his case.

Mr. KEETLEY showed a case of a man who had been mauled by a Leopard, who after the injury had a very high temperature and had been treated by anti-streptococcic serum.—Mr. MCADAM ECCLES mentioned a case of a man who had been severely wounded by a lion in the thigh and who had died from septicæmia.—The PRESIDENT remarked that he thought that it was not unlikely that tetanus might result from such wounds.—Mr. TWYNAM related three cases of Shark-bite in boys in which there had not been any untoward result.

Mr. KEETLEY also showed the case of a boy on whom he had performed Erasion of the Knee-joint for early Tuberculous Arthritis. The result was all that could be desired.—The PRESIDENT alluded to a case of a woman on whom he had performed arthrectomy on both knee-joints with very gratifying results.

Dr. SEYMOUR TAYLOR exhibited a case of Locomotor Ataxia in a man.—Dr. WHITFIELD remarked that in some such cases there was delayed sensation and not true anæsthesia.

Mr. MCADAM ECCLES showed a case of a girl, aged three years, with Wandering Rash on the Tongue. He also brought forward a case of an Injury to the Lower End of the Left Radius in a boy, aged fourteen years, and with it a skiagram taken by Dr. Low, which well demonstrated the injury.—Dr. ABRAHAM showed a case of Acute Psoriasis in a boy.

Mr. MCADAM ECCLES (for Mr. BIDWELL) showed a man who Fractured his Right Patella some years ago and more recently his Left. This Mr. Bidwell had wired, but the same patella was refractured a few months later, the wire breaking as well. It had been wired again. Mr. McAdam Eccles remarked that he believed that possibly bony union of the patella was not always so much to be desired as was commonly thought.

Dr. WHITFIELD showed a case of Spasmus Nutans in an infant.—Mr. MCADAM ECCLES alluded to a similar case.

BRITISH ORTHOPÆDIC SOCIETY.

Acquired Flat Foot.

A MEETING of this society was held at the Royal Orthopædic Hospital, London, on Feb. 25th, Mr. H. A. REEVES presiding.

Mr. A. H. TUBBY, Mr. LUKE FREER, Mr. E. MUIRHEAD LITTLE, and Mr. THOMAS showed cases.

Mr. MUIRHEAD LITTLE opened a discussion on some points of interest in Acquired Flat Foot. The arch of the foot was no arch in an architectural sense. Its functions were those of a spring buffer and a lever. Golbiewski, Meyer, and Dane had shown that under the weight of the body the base of the fifth metatarsal bone descended more than did the scaphoid. In the over-pronated foot, on the other hand, the inner arch descended more while the fifth metatarsal ascended under weight. According to their over-pronation was the initial change in flat foot, yet this condition was found accompanying too high an arch. Inefficiency of the long muscles on the inner side of the ankle was an important factor in causation. The subastragaloid joint was of great importance in this connexion. Rigidity was of considerable moment as affecting treatment. In bad cases there were signs of ill-nutrition of the limb and the foot was often clammy and bathed in sweat. Theoretically flat foot should not accompany genu valgum but it was often present. It had no special connexion with scoliosis. Bone deformities were secondary. Diagnosis was easy, but cases of "in-ankle" with high arch were sometimes taken for flat foot. Footprints were often used as a means of diagnosis and record but were not always trustworthy. He had studied the footprints of fifty recruits passed as fit for the army and described a simple method of measuring such prints and of numerical comparison. The treatment was palliative or curative. He had never trusted to gymnastic exercises alone and could not say to what extent patients benefited by them. Mr. Jackson Clarke had stated at a former meeting that he had known the sound foot to break down under the exercises. Reduction must always be first effected by rest in adducted positions, manipulation under an anæsthetic, or if needed tenotomy of peronei and extensors. Wedge-soles were most useful. They corrected over-pronation. Whitman's brace—a metal support—fitted to the arch of the corrected foot was often of service. In other cases a concealed spring convex outwards on the outer side of the foot or the familiar outside upright pad and T-strap were necessary.

Mr. Jackson Clarke said that the importance of exercises was perhaps exaggerated. He treated his cases with an iron and T-strap.

Mr. Openshaw pointed out that it was a mistake to suppose that the inferior calcaneo-scaphoid ligament was stretched and thinned. It was the internal ligament that was so affected. He thought the arch itself was not diseased until the astragalus almost touched the ground. He thought no operation equalled Ogston's for severe cases.

Mr. Luke Freer concurred with Mr. Jackson Clarke's views as to exercises. He preferred a raised sole with steel spring arch inside the boot.

Mr. Tubby referred to Mr. Golding-Bird's method of estimating flat-foot. He thought the peroneus longus caused "in-ankle." In certain cases excision of half an inch of the tendon effected a cure.

Mr. Little, in reply, agreed with Mr. Openshaw as to the projection and sinking of the astragalus. Mr. Golding-Bird's method was entirely inapplicable to footprints. He had not seen any signs of over-action of the peroneus in his "in-ankle" cases. He could not understand how removing a portion of tendon cured spasm unless non-union was aimed at.

A vote of thanks to the Chairman and to the hospital authorities closed the proceedings.

ÆSCULAPIAN SOCIETY OF LONDON.

Exhibition of Specimen.—Suppurative Mastitis with Acute Hepatitis and Acute Nephritis.—Leg and Cord Presentation.

A meeting of this society was held on March 11th, Dr. B. G. Morison, President, being in the chair.

Mr. Bremridge showed a woman, aged forty-five years, the subject of Lupus Erythematosus, which began three years ago at the nasal root, spreading thence to the forehead and cheeks, not involving the eyelids. Close below the mastoids were symmetrical, thick, red patches 3·75 cm. in diameter.

Mr. W. Campbell M'Donnell read notes of a woman, aged thirty-five years, seen one month after the delivery of her fourth child with Rigors. Her temperature was 102·4°F., her pulse was 120, and her respiration was 36 per minute at 1.15 P.M. The liver was felt 7·5 cm. below the rib, was very sensitive to gentle pressure and ached constantly. There was a deep abscess of the left breast, incision of which was refused, and there was acute nephritis (albumin equalled one-third). On the fifth day permission to open the abscess was given. Under chloroform one pint of pus was evacuated. Profuse recurrent hæmorrhage followed, but was controlled by replugging and redressing the wound. The patient passed a good night. On the seventh day the skin. fat, and gland were sloughing; the temperature was 104·6°. Under chloroform about two-thirds of total mammary skin, fat, and gland, now sloughed, were dissected away. On the following day healthy granulations were seen. On the tenth day the liver could not be felt; albumin equalled one-tenth in the urine. On the twenty-fourth day there was no albuminuria. In six weeks the breast wound had healed over and the patient was well though weak.

Dr. J. W. Hunt related a case of a Leg and Cord Presentation of a ten weeks' Living Fœtus. On making quite moderate traction on the leg the body came away leaving the head in utero. Ergot was given and in about three hours the head was found in the bed.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.

A clinical meeting of this society was held at the Royal Kent Dispensary, Greenwich-road, S.E., on March 4th, the President, Mr. P. W. Arbuthnot Lane, being in the chair.

Dr. F. S. Toogood showed the following cases:—1. Case of Suprapubic Cystotomy in a boy, aged four years, for stone. There was persistence of the sinus for four months and ultimate closure by buried sutures around the sinus. 2. Case of Fractured Patella. Perfect union and complete mobility of the joint was secured by Barker's method of suture. 3. Hæmophilic Elbow-joint. 4. Case of a woman, aged twenty-three years, in whom Lateral Curvature of the Spine and Paresis of the Legs and Left Arm dated from an attack of myelitis caused by a fall down-stairs occurring five years ago.

Dr. R. E. Scholefield read notes of a case of a man, aged sixty-five years, who showed no symptoms of typhoid fever during life, but in whom numerous Typhoid Ulcers were found post mortem. Dr. Scholefield then showed the perimetric charts of a case of Symmetrical Scotoma with Hemi-achromatopsia in a patient aged fifty years.

Dr. F. T. Taylor showed a specimen of Aneurysm of the Heart and Ruptured Auricle from a man who was found dead in a water-closet.

Dr. Morgan Dockrell showed—(1) a case of Bazin's Disease; and (2) a case of Tuberculosis of the Lips.

Mr. Ernest Clarke exhibited a series of beautiful mounted specimen of eyes illustrating the disastrous effects of Irido-cyclitis in producing (1) detachment of the retina; (2) glaucoma; (3) anterior synechiæ (complete) with exclusion and occlusion of the pupil; and (4) anterior staphyloma.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.

A meeting of this society was held on March 3rd, Dr. Macfie Campbell, President, being in the chair.

Dr. Rawdon related two cases of Inguinal Hernia in which the strangulated bowel was excised and end-to-end union by Murphy's button successfully resorted to. In the first case the coats of the gut had become so injured by the strangulation as to cause it to rupture during a careful attempt to return it. The patient made a good recovery. The "button" may have passed but it had not been seen. In the second case the bowel was on the verge of gangrene. The "button" was passed on the twenty-first day. An excellent radiogram was exhibited, taken by Dr. Holland four days before, which showed the shadow of the button.—Mr. Banks, Dr. Alexander, Mr. Puzey, and the President made remarks upon the subject of intestinal anastomosis.

Dr. T. R. Glynn showed a patient suffering from Friedreich's Disease in whom apparently it was not hereditary.—Dr. Bradshaw and Dr. A. Davidson spoke.

Mr. Banks showed a Hydatid Cyst containing daughter cysts removed from the adductor muscles of the thigh of a boy, aged twelve years who came from Rhyl. It had been present for seven years, recently rapidly increasing in size. From the history and symptoms a diagnosis was made of inflamed hydatid cyst, corroborated by an exploratory puncture. Mr. Banks from his own experience had noticed that a considerable number of cases of hydatid disease came from North Wales.

Mr. Richard Williams showed a case of Tuberculosis of the Iris in both Eyes in a girl, aged thirteen years, who had a very tuberculous history.

Mr. R. W. Murray made some remarks on the Treatment of Congenital Club-foot and brought forward a series of cases he had operated upon during the last seven years. In infants he advocated free subcutaneous division of all the structures on the inner side of the foot down to and including the calcaneo-scaphoid capsule and then fixing the foot immediately in the over-corrected position. In children who had already learned to walk he removed a wedge of bone irrespective of bones and joints and emphasised the importance of removing sufficient bone to allow of the deformity being easily and completely corrected at the time of operation. Mr. Murray had thus operated on fifty-one feet in forty-one patients.—Mr. BANKS thought wrenching in very young infants sufficient and he personally was rather in favour of removing the head of the astragalus.—Mr. NEWBOLT strongly advocated the use of the wrench in cases of clubfoot—with few exceptions. In cases thus treated there were no loss of mobility, no shortening of the foot, no scars, and no risk. The mechanical principle of the treatment must be thoroughly understood and treatment continued until the patient can hold his foot in a good position of his own free will. The boot should be altered to keep up the corrected position.—Mr. DAMER HARRISSON and Mr. MACLEOD ROSS also spoke.

Dr. ABRAM read notes on a case of Phthisis treated with Tuberculin (T.R.). The treatment was carried out exactly as Koch advocated, the patient put on weight, improved in every way, and although tubercle bacilli had been found before treatment none were obtainable now.—Dr. LOGAN gave particulars of two cases treated with tuberculin with encouraging results. The first, a woman, aged thirty-five years, was under treatment in 1891 and received fifty injections. Tubercle bacilli disappeared from the sputum and have remained absent up to this date, although the lung still gives rise to trouble. Case 2 with the new tuberculin was much improved. He drew attention to the question of mixed infection in which the tubercle might be eradicated and still a condition of injured septic lung remain.—Dr. BUCHANAN thought that very few cases of phthisis were cases of pure infection by tubercle and therefore the majority could hardly be submitted to the treatment by tuberculin. He questioned the logic of the method, for each patient suffering from tubercle was really daily absorbing material the same as tuberculin T.R. The results have not been so far encouraging according to von Ziemssen, Sprengler, and Hohr.—Dr. MACALISTER, Dr. GRÜNBAUM, and Dr. NATHAN RAW joined in the discussion.

The Bacterial Flora of Liverpool Water.—Exhibition of Specimens.

A MEETING of the Microscopical and Pathological Section was held on March 10th, Mr. F. T. PAUL being in the chair.

Professor BOYCE and Dr. C. A. HILL brought forward a preliminary note on the result of their investigation of the Bacterial Flora of Liverpool Water. They had examined not only the city tap water but also the water at the gathering grounds at Rivington and at Vyrnwy and water taken direct from the wells which are still used and also from the various reservoirs, &c. They had come to the conclusion that there is a specific flora for water, just as there is for sewage, milk, &c., and they held that it is possible to differentiate between these several groups. The methods of collection and examination employed were described and a large number of cultivations and photographs were shown. They found that identification of the individual members of the large numbers found was difficult, and so they had adopted a simple system of classification, which was explained. The results of the examination established the great purity of the Liverpool water, but they insisted upon the importance of routine examination at frequent intervals and emphasised the delicacy of the bacterial method as compared with ordinary chemical analysis, especially in demonstrating the efficiency of filtration.—Mr. PAUL and Dr. CARTER considered that Professor Boyce and Dr. Hill had made out a case for the routine bacteriological examination of all drinking water. Dr. Carter had never quite believed in the value of the chemical examination.—Dr. KENYON (Chester) congratulated Professor Boyce on the thorough study he was making of the natural flora of water so as to be able at once to recognise the intrusion of any abnormal organism. He admitted the value of the bacterioscopic method, but held that it had confirmed in a remarkable way the results of chemical analysis, especially as to the efficiency of sand filtration.—Dr. WARRINGTON and Dr. NATHAN RAW also entered into the discussion and Professor BOYCE replied.

Besides those illustrating the above communication the following specimens were shown:—

Dr. MACALISTER showed a Spindle-celled Sarcoma of the Brain involving the left temporo-sphenoidal lobe and extending up to Broca's convolution.

Dr. J. WIGLESWORTH showed a specimen of Old Softening of the Left Cerebral Hemisphere from Occlusion of the Left Middle Cerebral Artery in a man aged fifty-one years. He carefully described the parts involved, from the cortex to the lower end of the spinal cord and compared these with the symptoms during life. The communication was illustrated by many preparations and by photographic lantern transparencies. He also showed an Aneurysm of the Carotid Artery from the same case.

Dr. G. G. STOPFORD TAYLOR showed some drawings and microscopic preparations of a Patch of Acute Folliculitis of the Skin of the Side of the Nose. It occurred in a cow-keeper and seemed to be infective. He described the symptoms and treatment and the histology of the mass removed.

Mr. LARKIN showed for Mr. JOHN ROBINSON (Runcorn) a very large Sequestrum from the Calvarium. It measured 8½ in. antero-posteriorly and 6¾ in. transversely. It comprised two inches of the apex of the occipital bone, both parietals—the left as far down as the eminence, and the right to below the temporal ridge—and nearly an inch of the upper margin of the frontal bone. For a considerable space in the centre the whole thickness of the bones was involved. The patient from whom it came was also shown. He was an epileptic, aged fifty years. He had fallen into the fire in a fit and his scalp was burnt off. The sequestrum separated a year later on getting a violent blow in a fall in another fit. The brain pulsations could be both seen and felt for a circular area some three inches in diameter to the right of the centre of the top of the head.

Mr. LARKIN also showed for Mr. ROBINSON a large Gall-stone (40 mm. by 25 mm.) which he had removed from the rectum of a hypochondriac patient. For comparison with this Mr. Larkin showed a somewhat smaller stone he had removed by operation from the ileum of a woman in whom it had caused intestinal obstruction.

Mr. LARKIN also showed a microscopic section of a Pedunculated Tumour of the Areola of the Nipple. It was of interest as it was one that was the subject of one of the plates in Mr. Hutchinson's smaller Clinical Atlas. The tumour was a pure fibroma, covered on the surface with stratified pavement epithelium.

Dr. BUCHANAN showed some Crystals of Phenyl-glucosazon from Diabetic Urine and described the pathology of a case of pleuro-pneumonia which occurred in a cattle-man. He illustrated his communication with microscopic specimens and numerous micro-photographic lantern transparencies.

Dr. NATHAN RAW showed a Fibro-sarcoma of the Right Auricle of the Heart, with rupture of the inferior vena cava into the right pleura; also a Horse-shoe Kidney and a Primary Carcinoma of the Uterus, with secondary deposits in the brain.

Dr. CRAIG DUN showed a Dissection of the Posterior Abdominal Region in a case of Horse-shoe Kidney recently met with in the anatomy rooms at University College.

Mr. THELWALL THOMAS showed sections of a Primary Carcinoma of the Kidney in a woman, aged fifty years. The kidney had been removed by operation. She had had hæmaturia for three months and cystoscopic examination showed that it came from the left ureter.

A discussion followed. Dr. BRADSHAW held that the cerebral tumour Dr. Macallister showed did not involve Broca's convolution. Mr. PAUL and Mr. LARKIN held that Dr. RAW had not made out that the cardiac tumour which he had shown was a sarcoma.—Dr. WARRINGTON, Mr. NEWBOLT, Dr. RAW, Professor BOYCE, Dr. BUCHANAN, Dr. J. WIGLESWORTH, and Dr. MACALISTER also joined in the discussion.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Non-suppurative Inflammation of the Middle Ear.—Exhibition of Specimens.

A MEETING of this society was held on March 2nd, Dr. CATTLE, President, being in the chair.

In view of the Government's avowed intention of introducing an Army Bill into Parliament at an early date Dr. GIDDINGS proposed and Dr. CATTLE seconded the following resolution, which was carried unanimously:—

> "That the Nottingham Medico-Chirurgical Society, viewing the present unsatisfactory condition of the British Army Medical Service with anxiety and dismay, hereby calls upon Her Majesty's Government to accede to the reasonable and persistent demands of the whole British medical world by forthwith adopting that scheme for army medical reform which has been submitted to it by the foremost physicians and surgeons of the day."

It was decided that copies of this resolution should be sent to Lord Salisbury, Mr. Balfour, and the local Members of Parliament.

Mr. GRAY read a paper on Non-suppurative Inflammation of the Middle Ear. After describing in detail the pathological changes in the mucous membrane of the middle ear in the two forms of non-suppurative inflammation—viz, mucous catarrh and the dry catarrh—he discussed the various symptoms and signs. For the treatment he laid down four great indications: (1) get and maintain patency of the Eustachian tube; (2) removal of the exudation in the middle ear; (3) reduction of the swelling of the mucous membrane of the middle ear; and (4) very important—the treatment of any co-existent naso-pharyngeal trouble.

Mr. ELLERTON showed a Portion of a Heart with Two Aortic Cusps only.

Dr. HANDFORD showed—(1) a Mediastinal Tumour; and (2) a Portion of Brain showing a number of Small Tuberculous Growths; there was also acute miliary tuberculosis.

Mr. ANDERSON showed—(1) the Wall of an Ovarian Cyst which was studded with warty growths; (2) an Ovarian Tumour of the Cyst, adenomatous variety, and a Parovarian Cyst from the same case; (3) Ruptured Tubal Pregnancy; and (4) Uterus with Fibroid Tumour complicating pregnancy removed by Porro's operation.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Housing of the Poor in Dublin.—Animal Vaccine.

A MEETING of this section was held on Feb. 18th, Dr. H. C. TWEEDY, the President, being in the chair.

The PRESIDENT in his opening address called attention to the much-neglected question of the Housing of the Poor and showed that with a few exceptions healthy tenement accommodation could not be obtained in Dublin at a lower rent than 4*s*. a week—a rent which a very large class were quite unable to pay—and that consequently they were obliged to live in overcrowded dwellings, most of them in a very old and decayed condition. He believed that it was the duty of the municipality to provide tenement accommodation of a suitable kind and at a weekly rent of from 2*s*. a week downwards for the class not earning the steady wages earned by the ordinary artisan. This could only be done at a financial loss and the corporation, though most anxious to forward the movement, were unable to do so for lack of funds.

Mr. KNOX DENHAM, the director of the only calf-lymph institute in Ireland, read a paper on Animal Vaccination in which he said that the best form of calf-lymph was that made in a glycerinated emulsion, glycerine being in every way preferable to either lanoline, vaseline, or lymph in the dried state, as on ivory points. The experiments made by Professor McWeeney at the Calf Vaccine Institute prove this and plate cultures made by Dr. Blaxall demonstrated that although numerous extraneous microbes exist in all fresh calf-lymph, storage of glycerinated calf-lymph from four to six weeks causes the total disappearance of extraneous microbes, the activity of the vaccine remaining perfect, whereas with lymph treated with lanoline or vaseline the original colonies of microbes continue rapidly to increase with the length of storage. In the manufacture of calf-lymph in Dublin no antiseptic of any kind is used, asepsis being obtained by the abundant use of sterilised water, scrupulous cleanliness through boiling of all instruments and corks and the sterilisation of the capillary tubes in a hot-air steriliser.—The REGISTRAR-GENERAL said that they were greatly indebted to Mr. Denham and several others for promoting the preparation and preservation of calf-lymph in its present form. He stated that Dr. Purcell had used glycerine as a means of preserving his lymph for the last twenty years or more. Unfortunately there were people who would probably never be convinced that vaccination was of any use.—Mr. HORNE said that so far as Ireland was concerned he did not think that there was any popular objection to the use of humanised lymph and experience amply bore out the fact that arm-to-arm vaccination was the most efficient form of vaccination. Bacteriologists had not hitherto been able to solve the question as to what animal or humanised vaccine really was.—Mr. A. N. MONTGOMERY, Dr. DONNELLY, Mr. DOYLE, and Surgeon-General POTTER also took part in the discussion.

Reviews and Notices of Books.

Workhouses and Pauperism and Women's Work in the Administration of the Poor-law By LOUISA TWINING. London: Methuen and Co. 1898. Price 2*s*. 6*d*.

So intimately associated with the reforms introduced into Poor-law administration during the past forty or fifty years is the name of Louisa Twining that any contribution coming from her pen is sure to be read with eagerness, interest, and, if necessary, with indulgence. This work consists of a retrospect of the various movements towards Poor-law reform, interspersed with copious extracts from the diary of the author, together with many valuable suggestions for the future. It pays special attention to matters connected with the management and education of the children of the poor and with the treatment and nursing of the sick in infirmaries and workhouses, subjects in which we ourselves have taken more than a passing interest, for it was owing to the efforts of Miss Twining and THE LANCET Commission that the great reforms of over forty years ago were initiated.

The writer is herself a living example of the good which can result from earnest women workers in this sphere; and, as stated in the preface, one of the principal objects of the book is to enforce still more strongly her conviction of the part which women are called upon to take in carrying out the Poor-law. Not only are women guardians advocated, in which position they may be of great use in the care and management of children, but women inspectors, women visitors of the poor, and even women relieving officers are shown to be, and in many cases to have been, most desirable reforms. The success of the experiment of appointing a lady inspector of schools so long ago as twenty-two years has never been called in question and the author is of opinion that a further extension of the plan is "urgently demanded not only in that department but also for the infirmaries and sick wards, where the work of the nurses can only be fully tested by the inspection of women trained either in medicine or nursing, for how otherwise can the real state of things be ascertained and corrected, relating as they do chiefly to the personal care and condition of the sick *when those who have the authority and the responsibility are themselves unskilled in the details*, and the medical attendant is probably, as in many country unions, only an occasional visitor, who cannot bestow the time and attention needed for supervision?" The italics are ours, as representing in our opinion the chief difficulty of the situation. It is in the field of workhouse nursing that this ardent reformer has perhaps accomplished most. It was at her initiation and that of THE LANCET Commission that the great necessity for reforms was first made known and she was one of the chief originators of the Workhouse Infirmary Nursing Association, which has done so much good in this direction. The writer of this work rightly enters her protest against the tendency to set a misplaced value on "previous experience," as distinguished from actual training and education, in the appointment of officials—and especially nurses—under the Poor-law.

How closely the author has studied the social and scientific needs of the day can be seen from her reference to the question of the admission of physicians and students to the wards of workhouses and infirmaries. After referring to the many attacks that have been made against the prejudice which bars progress in this direction, and to the advantages which would accrue to the ratepayers, especially to the patients themselves, and to the absurdity of the argument that the poor have a dislike to being made the objects of examination, she concludes with the following passage:—"But surely there is another and even stronger reason in the fact that there are no such opportunities for students to learn their profession in many departments as are to be found in these State institutions. And as this fact has been acknowledged in the case of the metropolitan asylums, to which all infectious diseases are now consigned, we cannot but hope that the wall of prejudice which has hitherto excluded this class of institutions from being made more extensively useful may ere long be broken down, and we should then probably hear less of their enormous cost to the ratepayers."

The present difficulty in obtaining trained nurses for country and even London workhouses and infirmaries—almost amounting, as it does, to a deadlock—owing largely to the present unpopularity of the service, is discussed with judicial fairness and several excellent proposals are made. For instance, it is suggested that the smaller country unions should combine together to provide on a larger, and therefore more efficient and economical, scale for their indoor sick; and, again, that the nursing service should be converted into a state service like that of the male and female army nurses. Here candidates are engaged, bound for a term of years, paid salaries during training, receive gratuities at the end of their time, and even pensions under certain conditions. We heartily commend the perusal of this excellent little book to the attention of all those interested in Poor-law, as representing the devotion of a life to the study of the needs of the suffering poor.

A Handbook of Midwifery. By W. R. DAKIN, M.D., B.S., F.R.C.P. Lond., Obstetric Physician and Lecturer on Midwifery and Diseases of Women to St. George's Hospital, &c. With 400 Illustrations (nearly all of which are original). London: Longmans, Green, and Co. 1897. Price 18*s*.

WE learn from the preface that the author's intention in writing this work has been more especially to provide something suitable for students and junior practitioners. The subject is divided naturally into two divisions, the one dealing with the Physiology and the other with the Pathology of Pregnancy, Labour, and the Puerperal Period. The author says: "It has been my care to read through, or at least examine, all available treatises and monographs dealing with each portion of the subject, to allow the facts, if any appeared, to undergo mental digestion, and then to write the paragraph or chapter dealing with the particular question." Such a system is undoubtedly a sound one; but, if the statement is to be taken literally, to follow it would seem to be an impossible feat. The author, it will be seen, introduces no limitation as to languages; he has "read through, or at least examined, all available treatises and monographs," that is to say all, in all languages, "dealing with each portion of the subject." If anyone will take the trouble to look at the formidable array of obstetrical treatises and monographs in the English language alone in any good obstetrical library he will be inclined to think that either the author must have exceeded already the normal span allotted to man by a considerable interval, or that at the moment of writing the preface he was availing himself of a poetic licence not generally accorded to writers on obstetrics. "The main part of the matter contained and the opinions expressed in the text is (*sic*), however, derived from the experience I have gained from my own cases, principally in hospital, and from the cases of others either seen by me or described by observers worthy of confidence," so that those whose cases and opinions are not mentioned by the author will be concerned to find that the author has read all they had to say but rejected it as indigestible and worthless. The earlier chapters on the Physiology of Pregnancy and the Physiology of Labour are clear and to the point. In the section on the Management of Labour we think that the author is scarcely as dogmatic and earnest in the matter of antiseptics as the vital importance of the question demands. No doubt Dr. Dakin believes in this importance himself, but there should, we think, in a work intended for students and junior practitioners be no uncertain note on this matter. Thus we read: "In the majority of labours cleanliness is probably all that is needed; but the possibility of the existence of infective material on the hands of the medical man or nurse which cannot be entirely removed by simple washing makes it advisable to use some antiseptic to destroy such matter." This is no doubt right enough as the author means it, but we think it likely that the statement that "cleanliness is probably all that is needed" will be likely to impress itself on the mind of a student or practitioner and to be taken to justify him in dispensing with antiseptics, or in regarding their use as optional. Then in describing the disinfection of the hands under the head of Essentials we see nothing about keeping the nails short, and after brushing the hands and especially the nails "with hot soap (*sic*) and water" they are to be placed in a 1 in 1000 solution of corrosive sublimate for fifteen seconds. Nothing under this heading is said about rinsing off the soap in plain water before the hands are placed in the sublimate lotion, and we certainly think that the time recommended (fifteen seconds) for the immersion of the hands is much too short, especially when it is remembered that the tendency will in practice be rather to shorten the time recommended than to lengthen it. We also think that *brushing* the hands and nails in the sublimate lotion is much better than simple immersion.

A noticeable and agreeable feature in the book is the large number of original illustrations from the author's hand. They are for the most part clear and even artistically meritorious. The term "retraction"—one that often presents difficulty to students—is here clearly defined: "it enables a fibre which has shortened to relax without returning to its original length." And again the difference between "uterine exhaustion" and "tetanus uteri" (subjects as to which students are often in difficulty) is lucidly described. To many of the sections a useful epitome of the more essential facts is appended—for instance, to that on the Treatment of Still-birth. A diagram illustrating the treatment of hæmorrhage from the navel, either due to rupture of the cord at its insertion, or occurring after separation of the cord, plainly teaches the proper method of dealing with this sometimes formidable accident. In the treatment of puerperal eclampsia the author's preference is for chloroform, and though he mentions morphia he does not seem to regard it with favour. At the Rotunda Lying-in Hospital, Dublin, on the other hand, we believe that injections of morphine are preferred to the inhalation of chloroform. We observe that the mortality of Cæsarean section is given as about 5 per cent., a somewhat lower figure than we should think expressed the average risk even in skilled hands. We have already expressed our general appreciation of the illustrations, but there are one or two not quite so good; thus Fig. 375 intended to teach the bimanual method of compressing the uterus for post-partum hæmorrhage shows the left hand on the fundus as it should be, but the thumb of the right hand appears to be outside the vulva and the fingers of the right hand are apparently in the posterior *cul-de-sac*. A preferable plan is, we think, to have the right hand or fist pressed up in the anterior fornix, while the left hand presses the body of the uterus down on it. We think that, as a whole, the work may be considered as a satisfactory exposition of modern midwifery which does credit to the author's industry and research. The points to which we have referred and some omissions can be easily corrected when the author brings out a new edition. We see the word "dilation" used over and over again as synonymous with "dilatation." It is, no doubt, quite legitimate to use it in this sense, but the author frequently uses the word "dilatation" also; it would have been better, we think, to use one of these words exclusively rather than both if the sense intended is the same—particularly as "dilation" may mean "delay." Again, more than once we notice "ciliæ," which is surely not the correct plural of cilium.

LIBRARY TABLE.

Æther: its Nature and Place in the Universe. By HUGH WOODS, M.D. Dub., F.C.S. London: The Medical Magazine Publishing Company, Limited. 1898. Pp. 6.—The author of this pamphlet may be complimented on the courage which has enabled him to publish a new hypothesis relative to the planetary motions. His suggestion is that they are caused by "whirls" in the æther, by which latter term he must mean something not quite the same as the æther postulated for the purpose of completing the vibration theory of light, for the æther contemplated by him seems not only to possess the attributes of density, viscosity, &c., but to be capable of moving in currents in different directions and of exerting mechanical force. The hypothesis of molecular revolution holds a time-honoured place in the history of speculation as to the essential qualities of matter, especially in the explanation of the changes of volume due to changes of temperature, but astronomers will not improbably find Dr. Woods's views more difficult of comprehension than the Newtonian theory of gravitation on which he is endeavouring to improve. It might be thought, for instance, that on Dr. Woods's hypothesis the orbital motion and the rotation of the earth must be produced by one and the same "whirl" or eddy in his æther. If so, how does it happen that the orbital motion is variable while the rotation is uniform and performed round an axis approximately parallel to a fixed line inclined at a considerable angle (23½°) to the plane of the orbit?

The Annual Charities Register and Digest for 1898. London: Longmans, Green, and Co. Price 4s. — The especial feature of the new "Register," as of previous issues, is the lengthy introduction by Mr. Loch, of the Charity Organisation Society, dealing with the various methods (legal and voluntary) at work for the prevention and relief of distress and the improvement of the condition of the poor. Several additions embracing recent legislation have been made and there are also special introductions to the various sections or groups of charities written by those having particular knowledge of the individual section—that, for instance, on Lunatics, Idiots, and Imbeciles, being by Dr. Henry Rayner; that on Inebriates by Dr. Norman Kerr; and that on Shelters by Dr. F. J. Waldo, whose views generally on this latter subject were concisely set forth in THE LANCET of Aug. 3rd, 1896, at page 430. The Charities Register is especially valuable to all who are engaged in any way in philanthropic work.

Who's Who? 1898. London: A. and C. Black. Price 3s. 6d. net.—There are some new features in the current issue of "Who's Who," notably a table of how to pronounce peculiar proper names, a table which will doubtless be useful to a certain class. Surely, though, it is unnecessary to inform people that Warwick is pronounced "Worrick." There is a quantity of useful matter in the book and if the biographies were reduced in number considerably and a good many minor details omitted the work would be increased in value. We may suggest to the editor that a useful addition would be a list of coroners.

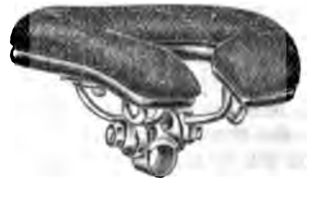
A Compendium of General Botany. By Dr. MAX WESTERMAIER. Translated by Dr. ALBERT SCHNEIDER. New York: John Welby and Sons. London: Chapman and Hall, Limited. Price 8s. 6d.—This book—a compendium of general botany—is a textbook intended for the use of students who have already obtained a preliminary knowledge of the more elementary principles of botany, chemistry, and physics. It is arranged in six divisions which deal respectively with the Cell, Tissues and Simple Organs, Organs and Systems of Organs, Reproduction, General Chemistry, and Physics of Plant Life. It is written in an interesting and scientific style and the different conflicting theories with regard to various subjects are fully discussed as they arise, and in many cases a short analysis is made of the chief points at variance, so that the student, understanding both sides of the question, may weigh the evidence for himself and arrive at his own conclusions. The illustrations (one hundred and seventy-one in number) are admirably executed. The references are also very numerous. This book should prove useful to these who are studying the subject for pleasure and also to those who have an examination in view.

Dublin Journal of Medical Science.—The original communications are on Laryngeal Necrosis in Enteric Fever, by Sir George Duffey; on a New Method of Nephrectomy, by Mr. J. S. M'Ardle; and on Laparotomy for Acute Suppurative Peritonitis, by Dr. J. R. Wallace. A short article in the "Periscope" discusses a question raised in the *New York Medical Journal* of Feb. 5th—namely, whether the adjective denoting contracted pupil should be spelt "meiotic" or "myotic." The American writer prefers "meiotic" (from *μείωσις*, diminution, and *μειωτικὸς*, diminishing), arguing that there are no such words in Greek as *μύωσις* or *μυωτικός*, although *μύω* (to close the eyes) and *μύωψ* (short-sighted) are, of course, well known. He says that meiotics have nothing to do with short-sightedness or with closing the lids (which latter is the primary meaning of *μύωψ*); their action is to cause diminution (*μείωσις*) of the size of the pupil. The author of the article in the Dublin journal admits that the American critic is etymologically quite correct and that the current English words "myotic" and "myosis" rest on a false analogy, but he thinks that custom has rendered it difficult to give them up in favour of "meiotic" (or "miotic") and "meiosis" (or "miosis").

New Inventions.

A NEW BICYCLE SADDLE.

THE accompanying illustration shows a form of saddle which has been invented by Mr. Walter Wiglesworth, L.R.C.P., L.R.C.S. Edin., with the object of affording a firm seat for the rider and of preventing perineal pressure. As will be seen the saddle is C-shaped, the opening in front giving a free space for the perineum, while the C-shaped band forms a resting-place for the ischial tuberosities. The framework of the saddle (which can be tilted to any angle) is constructed of aluminium or vulcanite, and the seat is composed of a removable cork or hair pad according to the fancy of the rider. The saddle is made both with and without a peak, the former form being for those riders who from long continued use of the ordinary saddle find it difficult to use a peakless one without a little practice. Theoretically the saddle is anatomically correct in construction, and the tests to which we have put it confirm the theory in practice.



THE LANCET.

LONDON: SATURDAY, MARCH 19, 1898.

From the first moment that the intelligence reached this country of the outbreak of bubonic plague in Bombay we stated that we regarded it as a most serious matter. We need scarcely add that the subsequent history of the epidemic has tended to strengthen our opinion in this respect. India has indeed been sorely tried. Plague and pestilence following famine and supplemented by war and sedition have left nothing to be added to the list of disasters that can afflict any country. The revolt of the border tribes and the consequent war on the frontier of India, together with the loss of life and the drain entailed upon the Indian Exchequer, have given rise to a good deal of anxious interest, not unmixed with misgiving, as to what was to be our future policy in regard to the tribes occupying the large belt of borderland between India and Afghanistan. But we have always held and contended that by far the most serious difficulty which confronted the Indian Government was the plague. To deal with it by the radical methods which Western civilisation, science, and experience indicate as the only logical methods of procedure was to bring us into direct antagonism with Oriental traditions and prejudices. The teeming native populations of India are, as a whole, law-abiding, docile, and easily governed so long as their social and religious systems and their caste traditions are not interfered with. But their standards are not our standards: they are intensely conservative and naturally enough will not tolerate the imposition of methods of procedure which are altogether antagonistic to their strongest sentiments. They would infinitely prefer to be left alone and would uncomplainingly encounter the risk of being attacked by plague or any other disease rather than submit to any interference with their domestic and family ties and to the severe measures declared by sanitary and medical science to be imperatively required for their safety. Nor is this to be wondered at. They share these feelings in common with a large number of people outside India. It is the knowledge of these prejudices, a knowledge shared among all Indian officials, whether civil, military, or medical, which renders them so cautious in enforcing hygienic or sanitary measures at variance with the caste prejudices of the native population. It is all very well, they tell us in effect, for some sanitarian fresh from this country to point out evils and to suggest remedies for their removal, but to officials and residents in India other considerations present themselves. They have to be very careful lest in remedying some evil a worse one happens to them. It is in this respect that the recent riots in Bombay have so much and such serious significance. The unfortunate natives are simply dominated by fear to a large extent; they see around them the dire effects of an epidemic disease with which the Government has not been able to cope successfully up to the present time, and for which the remedies appear to their superstitious imaginations as even worse than the disease.

"What is to be done?" There are logical methods of procedure for stamping out disease which are so utterly opposed to all considerations of humanity and morality that it is only necessary to state them in order that they should be rejected. To begin with, human beings obviously cannot be treated as cattle. The measures, for example, which were proposed by a Royal Commission and by the late Sir Richard Quain to be applied in the case of cattle plague—namely, to prevent all movement of the infected animals, to destroy those already affected, to bury their bodies in quicklime, and to disinfect all their belongings — cannot be had recourse to in the case of human beings. Very few people, we imagine, would have the temerity to contend that we have nothing to do with the treatment of the diseases of the natives and should be content to leave them severely alone when attacked by plague, only surrounding their dwellings by a military or police cordon as a safeguard against the spread of contagion to the population outside.

We cannot fail to recognise the extreme difficulties of the situation by which the Governor and the officials of Bombay are beset at the present time. What is their best course? Let it be granted that epidemic diseases depend upon a cause—in most cases upon a living micro-organism as in the case of plague — and upon the presence of a number of environing conditions favourable to their development. In other words, the pathogenic germ requires, as in the case of certain other seeds, a muckheap for its growth. All efforts must consequently be made in two directions: on the one hand, to prevent or limit the spread of the disease-cause and, on the other, to alter or remove the conditions favourable to its existence. In many cases it is perhaps easier to accomplish the latter of these two, but in either case time is an important element. To limit the spread of a contagious disease with the object of stamping it out the steps taken must manifestly be taken promptly and before the disease has become widely disseminated. There is not time in the case of an epidemic to carry out those sanitary measures which should have been taken in anticipation of its occurrence, for the disease spreads too fast to be overtaken.

The searching out and the segregation of the sick are clearly the first and most direct steps to be undertaken; but this, unhappily, in the case of the natives of India, whether Hindu or Mahommedan, brings the governors in direct conflict with the governed. It follows that information should first of all be obtained from native representatives as to how much can be reasonably and safely done in this direction without arousing the greatest opposition, and every attempt should then be made to enlist the aid of the more enlightened natives as sanitary missionaries in advocating and carrying out what has been determined upon. Once this point has been settled and the authorities have put their hands to the plough there must, in the interest alike of the natives, the whole country, and the Government, be no looking back. It goes without saying that as many natives as possible should be enlisted to work on search parties and to take part in all plague procedures. It is not only the segregation of those actually sick, but the provision of rest camps on good, open, clean sites for the accommodation of those resident in infected dwellings and districts that is required. Not only must the overcrowded tenement dwellings be vacated, but it would be far better in the end to destroy at once a number of the infected buildings by fire and subject the soil on which they stood as well as that of infected districts to a process of burning. A veritable plague epidemic, once it has taken root, has a life of its own and a much longer one than is commonly supposed. This can only be due to the fact that its specific cause gets implanted in the soil and surroundings to become active and revivified on the recurrence or in the presence of favouring conditions. The soil requires to be burned; crowded thoroughfares must be opened out to the sun and wind, and for these purposes fire is the most speedy and effectual agent. The subsoil drainage also requires to be improved and those sanitary measures which are of proved value in all epidemic diseases should be likewise carried out. We do not by any means undervalue the importance of measures for preventing the spread of infection, but these should go hand-in-hand with those of a sanitary nature.

THE death of Sir RICHARD QUAIN removes one of the most familiar figures from the medical world of London. He had that gift of continuity in performance which is an element of greatness. Generations came and went in the time covered by the active life of Sir RICHARD QUAIN and he continued still to be the same. Popularity, prosperity, wealth, and a baronetcy made no essential difference to his intense, jovial, pugnacious attitude towards life. Other rivals appeared on the scene in more or less damaging competition with his objects, and perhaps left behind them work more deep and permanent in the history of medical science—but they departed and he remained. The competitors had a limited and a special reputation, but he was the general physician who was available for all patients and for all diseases—"Dr. QUAIN, of Harley-street." Critics attributed selfish designs and motives to this ubiquitous and continuous factor in the profession and its politics, but he held his own and went on according to his lights; and secure in the manifold points of vantage which his position gave him did what he thought right with admirable persistence. For half a century he was the physician of "Society," especially in its upper strata and its literary and artistic circles. His patients were legion and included the most influential men of their day—men like the late Mr. DELANE of the *Times*, Mr. CARLYLE, and Lord BEACONSFIELD. Such patients gave him access to other no less eminent men who became his friends, with whom he had more or less easy and frequent intercourse, and who came to regard him as a representative exponent of professional opinion. Such regard was confirmed by his accession to one after another of the academic and professional offices to which he was elected in the University of London, the Royal College of Physicians of London, and the General Medical Council, in all of which bodies he played a useful as well as a conspicuous part. He failed in the attainment of one great object of his ambition, the Presidency of the Royal College of Physicians of London; and there is no doubt that this was the source of great disappointment to him, not the less so because he so nearly succeeded.

It becomes interesting to inquire what were the secrets of such prosperity and success. Such an inquiry is always a difficult one. Dr. JOHNSON in his Life of AKENSIDE says very truly: "A physician in a great city seems to be the mere plaything of fortune; his degree of reputation is for the most part totally casual; they that employ him know not his excellence; they that reject him know not his deficience. By any acute observer who had looked on the transactions of the medical world for half a century a very curious book might be written on the 'Fortune of Physicians.'" Without endorsing this severe reflection on the worthlessnes of the judgment of the public on the merits of its physicians it is not difficult to explain the popularity and the influence of Sir RICHARD QUAIN. For one thing he had a splendid constitution. He seemed the youngest old man of our acquaintance. The history of his health was remarkable as was his independence of the art which he practised so successfully. Not until very recent years was he seriously in need of its assistance; and, after all, fifty or sixty years of laborious and responsible medical life can scarcely be borne without the physical basis of a sound constitution. Then his mental constitution and his genial temperament were eminently fitted for the work of successful practice. He was ready and practical in his estimate of disease and of its remedies. He was in sympathy with the deeper study of disease; he was, indeed, one of the founders of the Pathological Society—the only surviving one able to be present at its fiftieth anniversary in 1896; he studied deep tissue changes and their significance as in the cardiac work with which his name is associated. But his views of disease and its treatment were mainly of the practical sort. He began life as the pupil of an apothecary and for that branch of the profession he retained great respect and sympathy to the end of his days and on suitable occasions he gave very practical and eloquent expression to his sentiments. Sir RICHARD QUAIN was for several years resident physician in University College Hospital. And his contemporaries or juniors of that date testify to the respect in which he was held by all the resident staff and to the admirable way in which he did his responsible work. Such a training confirmed the practical turn of his mind and led him to the study of patients as well as of disease. He was besides cheerful and kindly in dealing with the sick, and this had as much to do with his success as a physician as the really deep views of pathology which a fine brain enabled him to grasp.

Any estimate of Sir RICHARD QUAIN would be incomplete which did not take into account the enormous amount of work which he did in public bodies. Some may think that this interfered too much with time that ought to be given by a leading physician to the study of his profession, but this would be a narrow judgment. His business was with disease in its practical aspects and with the world as he found it. And in the various offices he filled, notably as President of the General Medical Council, he had the power in various ways to advance the cause of medical education, the harmony of medical bodies, and the respect of public men for the profession. These things constitute no light claim upon the medical profession and ensure for Sir RICHARD QUAIN'S memory feelings of respectful as well as affectionate regret.

THE Prisons Bill which has passed the first reading in the House of Commons is designed to make certain amendments as a preliminary to their general consolidation in the laws relating to prisons. The aim of the new Act is to render the prison system more elastic and to bring the treatment of the criminal more in accordance with modern ideas. With this view a new code of rules has been drafted which will, we are sure, meet with general assent. The old rules framed under the Act of 1865 for the administration of local prisons have, from their stringent and unyielding character, proved an obstacle in the path of progress, and have contributed to seriously hamper the action of the Prison Commissioners, whose efforts to improve the mental and physical condition of the criminals under their charge found adequate expression in their last report. Under the new rules special importance is attached to the question of the treatment of juvenile criminals. The methods which it is proposed to employ in attempting to rescue these juveniles from lapsing into crime consist in an efficient system of classification and of entire separation from older offenders. Moral education and industrial occupation will be features of the scheme. Such prisoners are to have their cell doors open in certain cases in order that confinement may be rendered as little oppressive as possible. Extra visits from their friends will be allowed, providing those visits have an improving end. Physical drill is included with the view of improving their physical development. This we look upon as the most important step of all, and we should be glad to see provision made for extending this physical drill to all prisoners under the age of forty years. The average criminal is deficient in muscular development; more especially is this physical deficiency, and consequent loss of resisting power, found in the respiratory apparatus—imperfectly developed chests and stooping shoulders are common amongst the inmates of prisons. The purpose of physical drill is to repair and fit the organism for the performance of its normal and healthy functions, thereby increasing the amount of nervous energy and consequently strengthening the character. The mental deterioration so frequently found in a greater or lesser degree amongst criminals is more directly dependent on a depraved habit of body than on other causes, such as their prison surroundings, to which mental disease is so frequently, yet erroneously, ascribed.

For the general body of prisoners provision is to be made in every prison for the teaching of reading, writing and arithmetic, and proficiency in learning will receive the same encouragement as proficiency in work. Considering that the Education Acts have been so long in force, the taxpayer may think it a hardship that he has to provide education twice for the same individual. There can be no doubt, however, that a considerable number of criminals of the present day are grossly ignorant. Another satisfactory feature of the new rules is that trades are to be taught more freely. There is room for improvement in this respect, and we hope that the day is not far distant when the antiquated and effete treadwheel will be abolished. A daily record of the industry of every prisoner is to be kept in marks, and the better he works the better will his position become; by good conduct and industry he will be enabled to gain remission of part of his sentence, as his fellow in the convict prisons does at present. In local prisons the powers and duties of the Visiting Committee have been enlarged to some extent, and it is proposed to establish a similar body in connexion with the convict prisons. There are many other indications which show that these rules have been framed in a broad and liberal spirit. We have sanguine hopes that their operation will be attended with good results in the case of juvenile and first offenders, and it will be interesting to note their effect on the habitual criminal. If by such agencies the hardened offender can be reclaimed and reformed a great end will have been achieved, but if the experiment should fail, it will be the duty of the law to protect society from his depredations and to prevent him becoming a focus of contamination for others. There can be no doubt that the grounds on which the new rules are based are right. The old idea of deterrence gives place to the new principle of reformation; encouragement is held out to those who have casually strayed from the path of rectitude, and the better instincts of the wrongdoer are appealed to in the hope of speedy amendment.

THE Vaccination Acts Amendment Bill was read a first time in the House of Commons on Tuesday last. Its provisions were tersely and lucidly expounded by Mr. CHAPLIN, the President of the Local Government Board, and it will be seen that they follow mainly the recommendations of the Royal Commission on Vaccination. The most radical change proposed is the abandonment of arm-to-arm vaccination and the substitution for it of vaccination with glycerinated calf lymph. Mr. CHAPLIN told the House how this method of imparting vaccinia brought about security from possible risk of inoculation of other morbific germs and emphasised the value of the discovery that admixture of the lymph with glycerine destroys all extraneous microbes without impairing the vaccinal activity of the lymph. The success attending the method in large continental cities amply justifies its adoption in this country. The revolution thus introduced in our vaccination system is marked, since no parent is in future to be bound to submit his child to vaccination by any other means than calf lymph; and, further, only calf lymph vaccinations will be recognised in the compulsory enforcement of vaccination. There will thus have to be made considerable changes in the National Vaccine Establishment to meet the demand for the new supplies of lymph. The introduction of calf lymph vaccination renders the system of vaccine "stations" unnecessary, for their establishment was an essential requisite when a common meeting-place of vaccinifers and vaccinees had to be found. In future, therefore, vaccination is to be domiciliary, a plan which has long worked well in Scotland. In these two respects the Government have adopted the recommendations of the Commission, as also they have done in the extension of the statutory age limit from three to twelve months.

It is easy to see that sound objections can be found to each and all of these changes, but it must be remembered that they are the outcome of the deliberations of a Commission that sat for an unexampled length of time and thoroughly sifted evidence adduced from all sources. The primary object of such changes undoubtedly is to minimise the risks attendant on vaccination and thus to allay the fears of those who shrink from exposing their children to them, and no one can honestly assert that most of those risks are not avoidable. The clauses which are likely to give rise to grave differences of opinion are those which deal with penalties for non-compliance with the law. Here the Government have adopted the recommendation made by the Commission in their *ad interim* report, but have not given their adhesion to the suggestion made by the majority of the Commissioners in their final report. It will be remembered that it was there advised that those who had a conscientious objection to vaccination might be exempted from their legal obligations by making a statutory declaration of the grounds of their objection. Mr. CHAPLIN holds that such a proviso would make vaccination a dead letter, and we agree with him that it would be most disastrous if vaccination any considerable scale should fall into disuse. Yet in effect the abolition of repeated penalties will amount to much the same thing, for the conscientious objector will get relief by paying a fine instead of signing a paper. It might be urged that the penal enactment would have a more deterrent effect; but to this it might equally well be objected that the retention of a penal clause at all will only serve to keep up the strife that now exists, and that in these days penalties in matters of "conscience" (so-called) are somewhat of anachronisms. Nevertheless it must be admitted that compulsory legislation without compulsion is a paradox which cannot be suffered to continue, and we look to Parliament for a clear pronouncement on this point. The proposal will be regarded by some as a step towards the abrogation of all penalties and practically therefore of all compulsion in vaccination. Perhaps if the anti-vaccination party had been contented to have limited their efforts to that cause alone they might be stronger to-day than they are. But by endeavouring with futile clamour and rhetoric to disprove the efficacy of vaccination and by advancing the inutility of the practice as a ground for its abandonment by the State they have alienated many who on general ethical grounds may object to enforce upon unwilling people even the most beneficial of measures. We believe that the Government in their proposals have done much to remove reasonable objections to the practice of vaccination and that they realise what the abandonment of the practice would entail; and yet, we fear, their well-meant endeavours to facilitate the adoption of universal vaccination are likely to be thwarted in the future, as in the past, by erroneous ideas as to liberty coupled with the propagation of even more erroneous doctrines concerning small-pox and vaccinia.

We observe that no mention was made by Mr. CHAPLIN of the transfer of the vaccination authority from the boards of guardians to the sanitary boards, which was a short time since said to be in contemplation. The Royal Commission referred to the desirability of such a change, but did not go so far as to embody it in a distinct recommendation, owing to the difficulties of administration in the numerous sanitary districts. We trust, however, that the Government have been considering such a reform and that they will see their way to carry it out.

Annotations.

"Ne quid nimis."

THE GOVERNMENT AND THE NEW FOOD BILL.

WE very much doubt whether, after all, the Government mean to introduce a new Bill which will embody to any extent the recommendations of the Select Committee. We were convinced over a year ago that the recommendations of the Select Committee on Food Products Adulteration were such as were not calculated to expedite the passing of a measure on the bases suggested. As Mr. Balfour then said, the subject was one of great difficulty and complexity, and we remarked in our issue of Jan. 30th, 1897, that while we regretted the delay of a new Act being introduced for the more satisfactory suppression of food adulteration, "yet it is obvious that a drastic measure of this kind might lead to disastrous results if unduly hurried through the legislative machine." It must not be forgotten that a new measure must be fair both to the trader and to the public. At a deputation of the Federation of Grocers' Associations of the United Kingdom received by Mr. Chaplin, M.P. (President of the Local Government Board), Mr. T. W. Russell, M.P. (Parliamentary Secretary), and Sir Hugh Owen (Permanent Secretary) on the 11th inst., the replies given by Mr. Chaplin certainly did not indicate that any clear line of action had been decided upon. Thus he pointed out that there was an extraordinary diversity of opinion on the subject, not only between the Parliamentary Committee and the representatives of the deputation, but amongst the associations themselves, for they did not all agree with the recommendations of the Committee though to a certain extent they did. In proof of this Mr. Chaplin quoted a point in the Committee's recommendation to which more importance was attached than any other, and that was that the colouring and mixing of margarine should be prohibited. On this point there was not only an entire divergence of opinion between the Committee and the Federation but amongst the grocers themselves. In regard to the court of reference suggested by the Committee Mr. Chaplin could not quite see what were to be its functions and as to whether they were to deal with certain kinds of food or with all kinds. This seems to us a very lame point, as of course the court should deal with all kinds. Equally superfluous was it to express doubt as to whether the judgment of the court of reference was to be independent or its decision was to be binding in law. We take it that the decision of the court is for the guidance of the magistrate, who frequently knows little or nothing in a case of the technical questions at issue. We admit the great difficulties that must be met with in drawing up a satisfactory measure, but at the same time we cannot refrain from expressing the opinion that a new measure is very desirable if fraud is to be successfully dealt with and if the public are to be adequately protected against the subtle tricks of a great number of tradesmen and especially of those who sell articles of food in the poorer districts of our towns. In the interests of the public some new steps must be taken and we hope the Government will soon be convinced of this and will provide a satisfactory amendment to the present Acts.

THE CAMBRIDGE EXPEDITION TO TORRES STRAITS.

ON March 10th there left England for Torres Straits the first exploring expedition sent out by a university. The chief of the expedition is Dr. A. H. Haddon, Lecturer on Anthropology at the University of Cambridge, and there accompany him Dr. W. McDougall, of St. Thomas's Hospital; Mr. C. S. Myers, of St. Bartholomew's Hospital; Dr. Rivers, the Lecturer on Experimental Psychology at Cambridge; Mr. C. G. Seligmann, of St. Thomas's Hospital; Mr. S. H. Ray, who has an extensive knowledge of Polynesian languages; and Mr. A. Wilkin, of King's College, Cambridge. Dr. Haddon will look after the subjects of folk lore and decorative arts, while Mr. Myers will study native music. Besides Torres Straits, Borneo and New Guinea will also be visited and the expedition are taking a phonograph and a kinematograph, so as to be able to bring back records of songs, dances, and the like. Altogether the expedition will be away some fifteen months. The report of the members when they return should be of absorbing interest, for the part of the world to which they are going is one of the very few now existing which is free from the coöperative educational tourist. The Torres Straits man is still fairly primitive and, luckily for himself, many of the blessings of civilisation are still unknown to him.

TYPEWRITERS' CRAMP.

SUFFERERS from writers' cramp are, in the majority of cases, quite able to produce manuscript by means of a typewriting machine, but an instance in which this resource failed is recorded by Dr. F. Hampson Simpson in the current number of the *Birmingham Medical Review*. He states that he is not acquainted with any authentic record of a similar case, although he has recently met with two examples of what was called typewriters' cramp; one of these patients, however, seemed to suffer from neuritis and the other from pain and fatigue in the right hand unaccompanied by muscular weakness or spasm. The patient whose symptoms Dr. Simpson describes is at present a muscular man, thirty-three years of age. He became a clerk when eighteen years old and then wrote with a pen on an average from seven to eight hours daily. In March, 1889—that is, after about seven years of this employment—the initial symptoms of writers' cramp declared themselves and at the end of three months all the fingers of the right hand were invaded by spasm, which seriously interfered with writing. In 1889 he learned to use the typewriting machine and in 1890 he commenced learning to play the harp, but after a few months he found that playing brought on cramp, affecting the right hand generally, more especially the first and second fingers, so that he gave up the harp at the end of 1890. For three years (1893–94–95) he was at sea as interpreter on board a transatlantic steamer. In January, 1897, he entered an office as typewriter, but was only engaged in working the machine from two to three hours daily. Towards the close of one of the days at the end of February, whilst at work "typing," his right index finger became bent by cramp. From this time on, a repetition of the cramp occurred towards the evening of each day, a slight involuntary flexion at the wrist being superadded, and in less than a month the exaggeration of the spasm led him to substitute the middle for the index finger; six or seven days later this middle finger also became the seat of similar spasm. Dr. Simpson observed very little tendency to spasm in the operating finger of the right hand during the early portion of a day's work, but after about two or three hours' typing the index finger of the right hand (and the middle finger since its substitution) became very fatigued and to the flexion of the finger and wrist incidental to striking the keys there was superadded a spasmodic contraction which overflexed those parts. This did not appear, however, to seriously impair the precision of his touch and an inspection of his type-written work revealed no objective evidence of the spasm in the right finger. It was suggested that he should strike the keys with a little hammer or percussor and he employed this with much benefit and relief for some little time, but the cramp now affects the whole forearm and he intends to abandon his present occupation for another of a totally different description. He has been a pianist for many years and his piano-playing is not in the least interfered with by any digital spasm; his technique and execution are above the average and his prestissimo passages are perfect.

PROPOSED CENTRAL HOSPITAL BOARD.

AT a recent meeting the Executive Committee for the Promotion of a Central Hospital Board for London passed a resolution asking the secretary to prepare for the consideration of the General Committee and for discussion at a public meeting of persons interested, a memorandum regarding the hospitals of London and bearing on the question of hospital reform and the constitution of a Central Hospital Board. It must be recognised that there have been many meetings on this subject of late which do not seem to have advanced the views of the promoters and that the decision of the council of the Prince of Wales's Hospital Fund is discouraging. The hospitals all profess to recognise the need of reform and some of them seem in earnest to set about it. The Prince of Wales has given the public to understand that his Fund will only help well-managed hospitals and the Hospital Sunday Fund has begun to show some sense of responsibility in this matter. There is something to be said in favour of leaving for the present the further discussion of the creation of a central board in the hope that these large contributing bodies will perhaps do the work that needs to be done. Certainly it is in the interest of the voluntary hospitals themselves that great reforms of administration should be accomplished without delay.

RETRO-PHARYNGEAL ABSCESS WITH UNUSUAL COMPLICATIONS.

AN interesting case is reported by Dr. Melvin M. Franklin, of New York, in the *Medical News* (New York) of Feb. 19th of this year. The patient was a child aged seven years, and was first found to be suffering from sore-throat. The following day Dr. Franklin was suddenly summoned and he found the patient in a state of collapse, with blood flowing from the mouth and nose. Stimulants (strychnia and atropine) were given. Closer examination revealed a pulsating swelling in the left side of the neck. Ice and pressure were applied and a pint of saline infusion was administered subcutaneously. After this the child's head was gently raised and the mouth was opened, when blood was seen gushing from a point posterior to the left tonsillar pillar. With the view of applying pressure internally a soft catheter was introduced through the anterior and brought out of the posterior nares and a large piece of sponge was pulled tightly into the vault of the pharynx. The child rallied, but in a few hours aphasia developed together with paralysis of the right side of the face and the right arm. The paralysis increased until there were complete loss of sensibility and power of movement in the entire right side of the body. The temperature rose to 101° F. For three days the general condition remained stationary, though the tumour in the side of the neck gradually disappeared. At the end of this time the nasal plugs were removed, after which there was some slight hæmorrhage, but this was readily controlled by the use of local hæmostatics. In the course of a month the child was able to be about but could not walk unaided. Several months elapsed, however, before articulation was properly performed. A year later the patient had completely recovered the power of speech and suffered only from slight disability in the use of the right arm and talipes equinovarus, the latter being relieved by the use of proper apparatus. In his remarks on the case Dr. Franklin considers that it is only necessary to glance at the subsequent symptoms to confirm his first diagnosis of ulceration into the left internal carotid artery; for, explained in any other way, the case becomes a most remarkable pathological coincidence. Whether or not the paralysis was embolic in nature or due to cortical hæmorrhage or thrombosis is certainly difficult to determine, but Dr. Franklin maintains that without a previous constitutional diathesis it is most likely in a child to have been caused by an embolus of the middle cerebral artery—a terminal branch of the internal carotid.

THE POSSESSION OF DISEASED MEAT.

ON Feb. 24th the stipendiary magistrate of Bradford was engaged in hearing a very important case. Mr. Albert Rendell, a draper, of the "Trimming Shop," Kirkgate, and Eldon Lodge, Bradford, was charged at the instance of the Bradford Corporation, under Sections 116, 117, and 118 of the Public Health Act of 1875, with having in his possession and intended for sale meat unfit for human food. William Hemmingway, meat inspector, said that on Jan. 27th he inspected certain meat in the meat-store at Eldon Lodge. Part of this meat consisted of the carcases of two sheep dressed for human food in the way in which butchers usually dressed them. One sheep was unfit for food, the meat being soft and wet. He asked Mr. Rendell to let him see the internal organs of both sheep and the skins, but the lungs and heart which were shown him did not belong to the carcase seized but to a sound animal. One lung and a heart were missing and Mr. Rendell gave no explanation of their absence. The skin of the carcase in question was unhealthy. Dr. W. A. Evans, the medical officer of health, gave evidence to the effect that the carcase was quite unsound. In his opinion the animal must have been in a dying condition when killed. Mr. Thomas Collins, M.R.C.V.S., Government inspector of cattle disease for the district, and Mr. John Harrison, a butcher, also gave evidence to the same effect. On the other hand, Mr. William Rendell, the defendant's bailiff, the labourer who had killed the sheep, Mr. Charles Drabble, M.R.C.V.S., and Mr. H. Newsholme, M.R.C.V.S., all gave it as their opinion that the meat was quite sound, Mr. Rendell adding that the sheep had no sign of disease while alive. The stipendiary gave judgment on March 1st. He found that the carcase in question had been legally seized, that it was intended for the food of man, and was unfit for food; but it was not exposed for sale, or deposited for sale, or for preparation for sale. In the case of Mallinson *v.* Carr, Mr. Justice Stephens, Mr. Justice Hawkins agreeing, had stated that exposure for sale was not a necessary ingredient of the offence; knowledge of unfitness for food was immaterial. The defendant would be fined £5 and £4 8*s.* costs or one month's imprisonment, but he (the stipendiary) would state a case for a higher court, for it seemed to him that the judgment of Mr. Justice Stephens and Mr. Justice Hawkins would enable an inspector to enter the private larder of any person and seize high or rotten mutton, game, cheese, &c. The point at issue is very important. It seems clear that in this case the meat was unwholesome and was intended for food, whether for the defendant's family or for his assistants at the "Trimming Shop" does not much matter. As to whether Mr. Albert Rendell did not know that the carcase had been dressed or was bad there is the legal dictum, "Qui facit per alium, facit per se"; his servant had killed and dressed the sheep, and as for not knowing, as Mr. Gilbert's *Mikado* observed, "There's not a word about a mistake or not knowing or having no notion. ...... That's the slovenly way in which these Acts are drawn." We await the decision of the Higher Court with interest, but we may for the present take an ordinary common-sense view of the matter and ask, would anybody take the trouble to dress a carcase in the butchers' usual manner and hang it in his larder unless it were intended for human food? As for the argument about game and cheese, if people like putrefying meat or cheese that has to be kept in a cage they are at liberty to eat it, but that is a different matter from diseased meat or meat that is generally eaten fairly fresh but has been allowed to go putrid before sale.

BOARDS OF GUARDIANS AND PUBLIC VACCINATORS.

A MATTER of some importance to public vaccinators came before the Helston Board of Guardians at their meeting on Feb. 19th. As reported in the *Cornishman* of Feb. 24th Mr. Williams brought before the board the case of a man whose child had been vaccinated by the Townshend vaccination officer. "The child's arm was very bad and the doctor attended it four times. For this he had sent in a bill for £1 and he (Mr. Williams) believed if the amount was not paid immediately the man was to be taken to the court. ...... The man attended after the vaccination because the child had a dreadful arm." Canon Tyacke thought if the vaccination was done by the board's officer in the usual way that he would be bound to attend the case after. The chairman: "That is so." It was then decided to ask the medical man for an explanation. At the meeting held on March 5th, which was reported in the *Cornishman* of March 10th, a letter was read from Dr. Chown wherein he explained that he had vaccinated the child on Oct. 20th, 1897. The child was brought for inspection on Oct. 27th and the vaccination seemed to have been successful. A week later he was sent for to visit the child on account of an inflamed arm and for this and subsequent attendance he had sent in a bill for £1. He had never received any complaint from Mr. Curtis (the father of the child) or from anybody belonging to him. As for taking the man to the court there was not the slightest foundation for such a statement. Mr. Williams said the woman got hurried and paid the money and the man was down on his wife for doing it. The matter then dropped. Why this matter ever came before the guardians we cannot see. The legal responsibility of a public vaccinator ends, as Dr. Chown told the board, with the inspection of the arm on the eighth day. Dr. Chown was called in as a private practitioner, for both Canon Tyacke and the chairman were wrong in thinking that a public vaccinator is bound to attend a child gratuitously for illness after vaccination. So much for Dr. Chown's legal position. From the point of view of professional custom, since some of the guardians seem to have thought that no charge ought to have been made, we think that the bill was very reasonable. The amount was at the rate of 2*s.* 6*d.* per visit for a distance of over two miles and the inflammation was probably due to circumstances entirely outside the public vaccinator's control. No doubt Dr. Chown or any other medical man would have reduced or remitted the fees in the case of a poor person, but the father in this case is in regular work at good wages and the bill was paid without the least demur, no complaint was made to Dr. Chown, and only one to the guardians after a long interval. Vaccination, or anything to do with it or that happens after it, seems to act as a deliriant upon a certain class of mind.

A FELLOWSHIP IN MEDICINE.

The authorities of Magdalen College, Oxford, have announced that they will shortly offer to Oxford graduates a Fellowship for proficiency in medical science. This is the second time that the claims of medicine have been recently recognised by Oxford colleges. On this occasion we are glad to observe that in the bestowal of this distinction regard will be had not merely to the attainments of the candidates as evidenced by the results of an examination, but also to whatever scientific work they may have been able to do for the advancement of physiology or pathology. We welcome this announcement as an evidence of the growing interest taken by Oxford in medical matters and trust that other Colleges may follow the example of Magdalen and Pembroke.

DEATH OF SIR HENRY BESSEMER.

A man whose influence has been great in favour of the commercial prosperity of this country has passed away this week in the person of Sir Henry Bessemer. His name will never be dissociated from steel, the improved manufacture and output of which placed this country in a position far in advance of its competitors. Bessemer steel is a remarkable product and when it is considered that it paves all the railroads of the world its influence upon the advance of civilisation may be to an extent gauged. Sir Henry Bessemer conceived the idea of forcing a blast of air through melted cast iron and removing by this means the carbon as gaseous carbonic acid and the silicon as solid oxide. The iron thus purified was next treated with a standard quantity of carbon and with some manganese, the result being steel of constant temper. The operation is carried out to the present day on an enormous scale. Sir Henry Bessemer died at his residence at Denmark-hill on Tuesday last. He was born on Jan. 19th, 1813, so that at the time of his death he was in his eighty-sixth year. His career was a most remarkable one and should form in course of time the subject of an excellent and interesting biography.

PRIMARY CANCER OF THE GALL-BLADDER.

A case of primary cancer of the gall-bladder is described by Dr. David Riesman in the Proceedings of the Pathological Society of Philadelphia of Oct. 28th, 1897. The interest attaching to an example of a somewhat unusual disease is here augmented by a suggestive study of its probable etiology. The patient was a woman, aged thirty-eight years, who died after exhibiting a series of gastro-hepatic symptoms. At the necropsy the gall-bladder was found to be contracted, with a much thickened but friable wall, and it contained a gall-stone. Secondary nodules were found in the liver, pancreas, lungs, and peritoneum, and the abdominal and mediastinal lymphatic glands were cancerous. The primary growth and also the secondary nodules showed the characters of cylindrical carcinoma. The gall-stone found in this case was the chief centre of interest, inasmuch as Dr. Riesman regarded it, not without reason, as the primary cause of the carcinoma, which he attributed to the mechanical irritation caused by the stone. In support of this view he referred to the observations of Musser[1] and Siegert,[2] who had found gall-stones in 69 and 95 per cent. respectively of cases of this disease reported by them.

LORD SALISBURY'S ILLNESS.

We understand that on Saturday, the 12th inst., the Premier, who had been recovering satisfactorily, had a serious relapse with return of fever in consequence of the fatigue involved by his attendance at the Cabinet Council held on the previous day. On Monday, however, he was so much better that Lady Salisbury was able to proceed on her journey to the South of France on Tuesday as had been arranged. It is hoped that Lord Salisbury will be able to join her at Beaulieu next week, but his convalescence is slow owing to the pressure of State affairs.

THE TESTIMONIAL TO DR. ARLIDGE.

As will be seen by a letter which we print in another column from Dr. C. F. Moore, a testimonial has been presented to Dr. J. T. Arlidge in recognition of his arduous and devoted professional work in promoting the health of factory operatives. Dr. Arlidge has been for thirty-five years physician in honorary or consulting capacity to the North Staffordshire Infirmary, and during that period he has taken a warm and unswerving interest in the welfare of all engaged in injurious trades (for example, in pottery works), and it is fitting that the labours of his life should be recognised by the medical profession at the time when his health precludes him from continuing them. We join with the subscribers to the testimonial in wishing Dr. Arlidge a recovery of health with which to enjoy many years of well-earned leisure.

THE PRESCRIBING DRUGGIST AGAIN.

An inquest was recently held at Derby upon the body of a woman, aged seventy-five years, who died primarily from pneumonia, but in whom there also existed chronic Bright's disease and arterio-sclerosis. The chief interest in the case, however, was the fact that just previously to her death she had taken sixpennyworth of cough mixture because "she did not believe in doctors." Dr. Gibbons, who was called in at the last, found her under the influence of some narcotic, which he said had hastened her death. At the inquest Mr. C. W. Booth said that the cough mixture which the deceased had taken was a preparation of his own and he did not want the formula to become public property. He was directed, however, to write it down for the benefit of the jury. Two ounces of the mixture contained forty minims of morphia besides compound tincture of camphor and the dose for an adult was one teaspoonful. We do not quite understand what is meant by minims of morphia, but supposing that the pharmacopœial liquor morphinæ acetatis or hydrochloratis is meant the amount in the prescribed dose would be about 2½ minims. This is not excess, it is true, but the fact remains that no unqualified person should be allowed to prescribe such powerful drugs and in addition to the morphia the presence of the opium in the compound tincture of camphor must be taken into consideration. Mr. Booth's methods were peculiar. It is true that he inquired whether the patient was an adult, but there were no directions on the bottle as to how often the mixture was to be taken. He left that to the common sense of the public. He never put a poison label on the bottle nor did he enter the sale in a book. He was not compelled to do so because morphia did not come within Schedule A of the Pharmacy Act. The coroner did not agree and the witness at length allowed that he was wrong. The jury returned a verdict that the deceased died from pneumonia and strongly censured Mr. Booth.

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[1] Transactions of the Association of American Physicians, 1889, vol. iv.

[2] Virchow's Archiv, 1893, 132, p. 353.

THE LONDON UNIVERSITY COMMISSION BILL.

THE Standing Committee of the House of Lords met on Tuesday, March 15th, with Lord Herschell in the chair, to consider the Bill for the reconstruction of London University. On the motion of the Duke of Devonshire the names of Lord Davey, the Bishop of London, Sir William Roberts, M.D. Lond., Sir Owen Roberts, Professor R. C. Jebb, M.P., Professor Michael Foster, M.D. Lond., and Mr. E. H. Busk were inserted in Clause 1 of the Bill as Commissioners. The names, it will be seen, are the same as those in last year's Bill, with the exception that Lord Lister gives place to Professor Michael Foster.

THE MANCHESTER AND SALFORD HOSPITALS INQUIRY ASSOCIATION.

THIS association held a meeting on Feb. 24th to receive the report of a sub-committee which had drawn up various suggestions and resolutions. These suggestions were mainly directed towards the obtaining of sundry information as to hospital management and administration, but one of them, No. 3, ran as follows: "That the committee should discuss the right view of the aim and intention of a hospital in relation to the admission of patients—i.e., 'the ideal hospital patient.'" We should think that this discussion must have been most interesting. A patient can be ideal from so many points of view. From that of the secretary in an unendowed hospital he is the patient who only stays in for one night. Thus he does his share in "getting up the numbers" and does not cost the institution much. From the house surgeon's view the ideal patient is one who is fairly clean; civil-spoken, and grateful. To their credit be it said, most hospital patients come under this head. We fear that the ideal patient from every point of view will but rarely be found. But it is a good sign that an association has been formed to look after the use or abuse of hospitals, for no one can doubt that they are abused. It will be a long time before hospitals are brought back to their original and intended use of being simply places for the relief of the sick and needy; but in the meantime we can only wish every success to those associations which have commenced the arduous and in many ways disagreeable work of trying to remedy abuses.

LEGALISED QUACKERY.

A BILL has recently been introduced into the legislature of New York State having for its object the legalisation of the practice of "osteopathy." Last year bills of a like nature were passed in the States of South Dakota, Colorado and Illinois, but were rendered nugatory by the respective governors of those states refusing to affix their signatures. It will also be remembered—reference was made to the subject in a leading article in THE LANCET of Sept. 4th, 1897, p. 607—that during last summer a professor of "osteopathy" was prosecuted in Kentucky for practising medicine within the meaning of the Act. In that case the judge held that the charge was proved and the court ruled "that any person who for compensation proposes to apply any science which relates to the prevention, cure, or alleviation of the diseases of the human body is practising medicine within the meaning of the Statute." The *New York Medical Record* of March 6th, in an editorial article on "osteopathy," referring to the action of Kentucky says: "It would be well and in the best interests of the medical profession and the general public if this State were to follow the lead of Kentucky in her broad interpretation of the laws regulating the practice of medicine. Strenuous efforts should be made to nip in the bud this attempt to legalise the practice of osteopathy." That such a bill should have been even introduced in New York State, which has been the pioneer in medical reform, is regarded by the profession as an act of great audacity. The Medical Society of the State will defend the interests of the medical practitioners. It may be said that within the past few years this society has proceeded successfully against upwards of eighty persons who have broken the laws.

THE CERTIFYING OF LUNATICS.

DR. LOVELL DRAGE, the Hatfield coroner, recently held an inquest upon the body of a man, aged eighty-one years, which was found in a pond at Leverstock Green. Medical evidence was given by Dr. Hutchinson, of Hemel Hempstead, that there were no marks of violence on the body. The deceased's grand-daughter said that he had been quite childish for the last four years and that last year he had been certified as insane by a medical man, but a magistrate had refused to sign the order for his detention. The jury returned as their verdict: "Deceased walked into the Blackwater Pond, Leverstock Green, and was found drowned on March 9th, 1898, and he was of unsound mind at the time of his death." They added as a rider, "That it is unfortunate that the magistrate did not sign the order for the detention of the deceased in a lunatic asylum at the time of his examination in 1897." We quite agree with the jury. It used to be only too easy to get into an asylum, for during the first forty years of the century a lunacy order was a kind of *lettre de cachet* and the unfortunate victim was hurried off and imprisoned without either explanation or redress. Nowadays, however, it is by no means easy to get a lunacy certificate signed, but we may certainly take it that no medical man will sign a detention order without having very good reasons for so doing. This being so, it is intolerable that a non-professional person should be able to render a diagnosis and directions for treatment of no avail. In the case under consideration the life lost was perhaps one not very valuable to its owner, although such a death is a sad ending to a long life, but in similar cases which have occurred where homicidal tendencies were present many and more valuable lives might well have been sacrificed.

A PARISH COUNCIL IN ARGYLLSHIRE AND THE MEDICAL OFFICER.

A REMARKABLE letter of a very gratifying character has been addressed by the Duke of Argyll to Dr. McKechnie, of Bunessan, in the Island of Mull, and has at his Grace's instance been published in the *Oban Times* of March 5th. In length it considerably exceeds a column of THE LANCET, so that considerations of space prevent our reproducing it in full, but the following extracts sufficiently indicate its purport and the circumstances which elicited it.

"Edinburgh, Feb. 28th, 1898.

"SIR,—It is possible that consequent on a recent vote of a majority of the Parish Council—summarily and without reason dismissing you from your office—you may decide to leave the parish of Kilfinichen and seek professional employment elsewhere. I therefore think it my duty to address this letter to you to say that in my opinion you have been most unjustly treated by the present majority in the Parish Council. You have been upwards of twenty years medical officer of the parish of Kilfinichen. I am the largest proprietor and the largest ratepayer in the parish and during ...... the whole time of your service there I have never heard one word of complaint against you either on personal or on professional grounds. ...... It has been my duty to investigate the circumstances under which a majority of the Parish

Council has been misled to take a course so unusual and so unjust. The result has been a conviction on my part that you have been made the victim of some purely personal dislike conceived without any reasonable justification by one or two of the members of the Parish Council in matters entirely unconnected with your professional position. ...... The case is so flagrant that it has attracted the special attention of the Local Government Board in Edinburgh, which has certain statutory duties to discharge in the matter. ...... Lord Balfour in his letter [to the chairman of the Parish Council] has felt called upon to point out that the council has no moral right to dismiss a parochial medical officer on grounds which have nothing whatever to do with his professional duties. ...... When these facts are known it is very unlikely that any candidate of high character or honourable feeling will be found willing to take an appointment under such circumstances and under the apparently arbitrary power of such a council. ...... Should you, on the other hand, determine to appeal to the people among whom you have laboured so long, and who may, as I hope, be completely misrepresented by the present majority of the Parish Council, I shall be glad to continue you in the present small holding of land which you now occupy."

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.

In their report for the year 1897 the Council of the London and Counties Medical Protection Association, Limited, congratulate the members on the fact that a large number of highly important cases have been dealt with successfully. In by far the greater number it was found possible to defend members with complete success against legal proceedings that were commenced against them without incurring the heavier expense that would have fallen upon the society if the cases had gone into court. This desirable result was attained in a great degree by carefully investigating all the circumstances of the cases and by allowing it to become known that in those cases which were accepted as proper subjects for the society's intervention the members would be defended regardless of expense. Numerous communications were received from members complaining of slanders uttered against them in their professional capacity and in many cases ample apologies were exacted, but when inquiry showed that the alleged slanders were no more than the ordinary gossip of which medical practitioners frequently become the subjects the aggrieved persons were advised to disregard them. A considerable number of cases have been dealt with by the society in which members on claiming reasonable fees for their services have been met by threats of actions for damages for neglect or unskilful treatment. Much work has also been done by the society in suppressing unqualified practice and in stopping medical practitioners from assuming titles which they did not really possess. The annual general meeting of the society will be held on March 29th in its office at 12, New Court, Lincoln's Inn. The treasurer and chairman of the Council is Dr. G. A. Heron. The honorary secretaries are Dr. Hugh Woods (general) and Mr. A. G. R. Foulerton (financial). All communications with regard to subscriptions, &c., should be addressed to the honorary financial secretary at the office in New Court, as above.

"AGGLUTINATION IN TYPHOID FEVER AND 'ANTI-TYPHOID' VACCINATION."

On Feb. 10th a meeting of the Home Counties Branch of the Incorporated Society of Medical Officers of Health was held at the Holborn Restaurant, when a very interesting paper on the Agglutinative Reaction in Typhoid Fever and "Anti-typhoid" Vaccination was read by Dr. J. S. Tew, medical officer of health of the West Kent combined districts. Dr. Tew gave an account of the technique of the method which he employed and mentioned his results. He had no opportunity of examining cases before the end of the first week, but he "obtained a positive reaction with monotonous regularity in decided cases when the blood was taken during the third or fourth week." In two cases he obtained a positive reaction four and a half years and nine years after an attack of typhoid fever. Four cases giving a negative result, but in which the early symptoms closely resembled those of typhoid fever proved to be rapid phthisis, influenza of a gastric type, alcoholic excess, and gastritis. As regards "vaccination" against typhoid fever, in the early part of October, 1897, Surgeon-Major Semple offered to personally "vaccinate" anyone, who wished to be so treated, at the Kent County Lunatic Asylum where typhoid fever had broken out. Al the medical staff and a number of attendants accepted the offer. Not one of those "vaccinated"—84 in number—contracted typhoid fever, while of those "*unvaccinated*," numbering 120 and living under similar conditions, 16 were attacked. This is a significant fact, although it should in fairness be stated that the water was boiled after a certain date and other precautions were taken, so that the "vaccination" cannot be said to be altogether responsible for the immunity. Still the figures are striking. Out of 21 cases in which it was sought the agglutinative reaction was obtained in 18. The injection of the culture gave rise to a good deal of constitutional as well as local disturbance in the arm, the site of injection. Most of those treated felt quite well within three days, although the arm remained stiff and painful for longer. Dr. Tew's paper, which is published in full in the March number of *Public Health*, should be read by every medical man. His results would certainly seem to show that "anti-typhoid vaccination" has a most decided prophylactic or immunising effect and the value of this fact in an epidemic like that of Maidstone or Lynn cannot be over estimated.

THE ISLINGTON VESTRY AND THE WATER-SUPPLY.

Mr. A. E. Harris, the medical officer of health of Islington, in his latest report to the vestry, says that he would like to see all cisterns for the storage of water for domestic use altogether abolished. He points out that such a course would only be possible if a constant service were supplied by the water companies and if the mains were placed at a sufficient depth below the ground to ensure that the water-supply would not be cut off by frost during severe winters. Mr. Harris further observes that cisterns may become the cause of disease to those who drink water from them and a cause of death to rats, mice, and insects which may have the misfortune to fall into them. He relates a case which came under his own observation in which a putrid mouse was found in a water-cistern in a house at Islington in which a patient had suffered from enteric fever. It is not clear from his report whether Mr. Harris thinks that there was a causal relation between the putrid mouse and the case of enteric fever. Mr. Harris does well to insist on the importance of cleanliness in the case of cisterns which are used for domestic supply. The London water companies are often blamed for sanitary defects which occur in the houses of their customers—a fact which was pointed out many years ago by the late Sir Francis Bolton, the water examiner to the Local Government Board. And the neglect of examining cisterns is, unfortunately, not confined to poor districts like Islington, for the medical officer of health of Kensington has complained that he has very frequently found great negligence displayed by people living in that fashionable quarter. The Parliamentary Committee of the Islington Vestry have issued a report advising that the Royal Commission on the Metropolitan

Water-Supply should be informed that the vestry are of opinion that in the interests of the ratepayers and of the water consumers all the metropolitan water companies' undertakings should be purchased and managed by the London County Council—that the London water-supply should undergo "municipalisation." Everyone remembers the comfort afforded to the old lady by the blessed word "Mesopotamia." At the present day the word "municipalisation" appears to afford equal comfort to many people. The members of the Royal Commission, however, who are men of business, attach greater weight to matters of fact than to matters of opinion, and if the Islington Vestry are in possession of any facts which support their opinion they would do well to enlighten the Commissioners as to the grounds which they have for the faith that is in them.

ON March 15th, in the anatomy theatre of University College, before a large gathering of students, a presentation of plate and an address, to which 170 signatures were appended, was made to Mr. Percy Flemming, F.R.C.S. Eng., by the past and present students who have worked under him, on the occasion of his resigning the post of Senior Demonstrator of Anatomy which he has held for twelve years and now vacates on being appointed Assistant Ophthalmic Surgeon to University College Hospital.

DR. PERCY FRANKLAND, F.R.S., Professor of Chemistry at Mason College, Birmingham, will read a paper upon the Bacterial Purification of Water at the College on Thursday evening next, March 24th, at 8.45 P.M., at the invitation of the Midland Pharmaceutical Association. We are asked to state that the President and Council of the Association will welcome the presence of any member of the medical profession.

A PORTRAIT of Mr. Herbert Spencer by Professor Herkomer will be exhibited at the forthcoming exhibition of the Royal Academy and will be presented to the National Portrait Gallery. We join in the congratulations to Mr. Spencer upon the conclusion of his monumental work, "Synthetic Philosophy," in the list of subscribers to which are the names of several medical men.

SIR JAMES CRICHTON BROWNE will take the chair at the next annual meeting of the Association of Asylum Workers to be held on Monday, March 28th, at 4 P.M., at 11, Chandos-street, Cavendish-square, in the rooms of the Medical Society of London.

THE Lord Mayor will give a banquet at the Mansion House on May 4th to meet the Presidents of the Royal Colleges of Physicians of London and Surgeons of England and other members of the medical profession.

As announced in our Parliamentary Intelligence the Government have in preparation and will very shortly introduce in the House of Lords a Bill for the amendment of the Lunacy Laws.

THE Council of King's College, London, have appointed Dr. W. J. Simpson, D.P.H., late Health Officer of Calcutta, to the Professorship of Hygiene in the College, *vice* Dr. Charles Kelly, resigned.

A MEMORIAL signed by seventy-nine qualified female medical practitioners has been presented to Lord George Hamilton protesting against the Indian Cantonments Rules of 1897.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE fifteenth meeting of the Royal Commissioners was held in the Westminster Town Hall on Monday, March 14th. All the Commissioners were present. The water companies and the London County Council were represented by counsel as usual. Lord Robert Cecil appeared for the County Council of Hertfordshire and the Kent County Council were represented for the first time by counsel, Sir Joseph Leese, Q C., M.P., appearing on their behalf.

The sitting was occupied by the cross-examination of Mr. W. H. Dickinson, late chairman of the Water Committee of the London County Council, and by the examination of Sir John Lubbock, M.P.

Lord ROBERT CECIL commenced by asking Mr. DICKINSON some questions concerning the policy of the County Council with regard to the outside areas.

The witness said that in the case of Hertfordshire there were at present very few people supplied by the New River Company. It might be an onerous undertaking for London to supply all the Hertfordshire district. It was not proposed by the London County Council to hand over the Hertfordshire sources of supply to that county. The New River Company at the present time had the power to sink fresh wells and the County Council would possess the same power if they bought the company's property.

Mr. MELLOR pointed out that a right to dig wells was possessed by all owners of land.

Mr. DICKINSON said that there was a strong objection to taking more river water for the supply of London and that it was possible that an increased amount might be required from Hertfordshire. He contended that should they purchase the New River Company, if they were not allowed to draw more water from Hertfordshire payment would have to be made for the exemption by the Hertfordshire County Council.

In answer to the CHAIRMAN he said that his contention was that as far as Hertfordshire was concerned they would have the monopoly. In London, however, competition was possible and the witness thought that this was fair. The amount of water in Hertfordshire was limited. He did not agree that the people of Hertfordshire had any special right to the water in their county and said that that contention was new to him, and he did not deny Lord Robert Cecil's suggestion that he thought it was an unreasonable proposition. The witness thought the reasons for the purchase of the undertakings by the London County Council were that the County Council were in favour of the purchase, that they had provincial examples of the purchase of water undertakings by the local authorities, and that "finality" would be insured. He did not think that an efficient scheme of control could be arranged. He gave an instance in which at Balham, in the district of the Lambeth company, the water-supply was deficient during the summer of 1897. The explanation given by the company was that fish spawn had choked up the filter-beds.

Major-General SCOTT asked if this fact did not suggest that the storage reservoirs for unfiltered water were deficient and he suggested that if the London County Council would take means to see at what pressure water was supplied in the mains of the different companies they would have valuable information with regard to the efficiency of the supply.

In answer to the CHAIRMAN the witness said that if the properties of the companies could be inspected it would be an immense advantage.

Major-General SCOTT insisted that systematic examination of the pressure and a study of the variations of pressure in the supply-pipes would give most useful information with regard to the supply.

Mr. CRIPPS, Q.C., pointed out that such an examination would require the expenditure of money and that it would be necessary to have Parliamentary powers for it.

The CHAIRMAN said that it was not a new thing for Parliament to be asked to allow the County Council to spend money.

Mr. MELLOR asked whether the effects of control of the water-supply could not be carried out by a body elected somewhat on the lines on which the members of the Thames Conservancy were appointed. He would be glad to see a scheme which would ensure real effective control. It appeared to him that effective control might be better than purchase of the undertakings and that it was a very clumsy scheme that the undertakings should have to be bought and then resold.—Mr. DICKINSON thought otherwise and stated that in his opinion there was a "public demand" for purchase—an expression which the CHAIRMAN characterised as "a little misleading."

Mr. MELLOR went on to question the witness as to purchase by arbitration and at this juncture Mr. Gomme, comptroller to the London County Council, handed to Lord Robert Cecil what was understood to be a rough proof of a table dealing with details of the possible price of purchase.

Lord ROBERT CECIL thought the paper should be put in as evidence, but he did not examine on it.

Mr. BALFOUR BROWNE, on behalf of the London County Council, contended that nothing but purchase by the London County Council would be satisfactory.

The CITY REMEMBRANCER examined the witness at some length with regard to the arrangements which it was suggested should be made with the County Councils of Surrey and Kent. He suggested that in the outside areas the number of water consumers would increase at a greater rate than in the City, but that on the other hand the rateable value of places in the City would be likely to increase at a greater rate than would happen in the case of the property outside. At the present time if the water rates of the City of London were the same as those paid in the district of the West Middlesex Company people in the City would pay more for their water than they do now. On the other hand, at the present time the consumers of the water of the West Middlesex Company paid less than the customers of the other companies. It was therefore not to the advantage of the City of London that the undertakings of the company should be purchased until arrangements were made by which the people of the City of London should ensure that a definite settlement was made with regard to the prices they would be called upon to pay. The policy of the City of London was that the water-supply should be placed under efficient control. Reference was made to certain meetings which had taken place between representatives of the London County Council and of those of the Corporation of the City of London and some letters were read; these, however, were not of general interest.

Mr. DICKINSON, in reply to the City Remembrancer, said that in his opinion if the County Council managed the supply the people living in the City of London would not continue to have specially favourable terms with regard to the price they paid for water.

Sir JOHN LUBBOCK, M.P., was the next witness and the taking of his evidence occupied the rest of the sitting and was not completed before the adjournment until Monday next, March 21st. Sir John Lubbock gave weighty reasons against the purchase of the companies by the London County Council and it will be more convenient to present his evidence as a whole next week.

GLOUCESTER AND SMALL-POX.

(*Continued from p. 600.*)

ONE or two instances may be given of the way in which statements with regard to the hospital have been used to distract attention from want of vaccination as a cause of small-pox in Gloucester. In April, 1896, the *Vaccination Inquirer* wrote: "By way of what has been facetiously called isolation the sick have been huddled together in numbers four times too great for the hospital accommodation that had to be made to do duty for all of them." The hospital being for 48 beds a fourfold occupancy would mean nearly 200 patients. The assertion of the *Inquirer* is simply an untruth. It makes no approximation to fact, as there never were any such numbers in the 48-bed hospital. As to the normal air space, the number of cubic feet per bed is said to have been 1250, but in hospitals of wood and iron (such as existed both at Leicester and Gloucester) the theoretical requirement of 2000 feet is seldom met, and where there is a large proportion of children and convalescents 1250 cubic feet per bed can hardly be complained of. Another instance we find in a statement by Dr. Walter R. Hadwen. Writing in the *British Weekly* of Sept. 24th, 1896, he says regarding the hospital: "Dr. Brooke, of London, was at last sent for to take charge and he instituted an entirely new order of things. He introduced warm baths, appointed a matron and trained nurses and adopted a treatment consistent with the advanced medical ideas of modern times; and whereas until his advent the fatality had been 54 per cent. the fatality subsequent to his arrival was reduced to 8 per cent." In speeches at Reading, Coventry, &c., he gave the same figures—54 and 8 per cent. To the readers of the *British Weekly* he offered no indication of how these percentages had been arrived at, but in a lecture at Weston-super-Mare in the following month he made an explanation. He said that when Mr. Brooke entered on his duties he took over 281 patients. The total admissions previously to Mr. Brooke's arrival had been 558 and the deaths had been 151. The death-rate of 54 per cent. was obtained by ignoring the 281 cases in the wards and calculating the deaths on the other 277 cases only. Of the 281 cases we understand that only 2 died. But while the 281 are ignored as regards the calculation of 54 per cent. they play a most important part in producing the 8 per cent. which is alleged to have distinguished Mr. Brooke's control of the hospital. The total admissions under Mr. Brooke were only 145, but when the 281 are added we get 420 cases, and as the deaths under Mr. Brooke were 38 the rate comes out at 8·92 or practically 9 per cent. The 0·92 being dropped an 8 per cent. rate remains and is served up for the readers of the *British Weekly*. Let us take an extreme example and suppose that previously to Mr. Brooke's time there had been 100 patients admitted of whom 1 had died and 99 were mending but had not been dismissed when Mr. Brooke arrived, and that subsequently 1 case only was admitted and died. Then, following the method adopted by Dr. Hadwen, it would appear that previously to Mr. Brooke's coming the fatality-rate had been 100 per cent. and that subsequently it was only 1 per cent., while the facts would have been exactly the reverse—that the earlier fatality-rate was only 1 per cent. and the later 100 per cent. In view of his statistical methods there is no doubt that Dr. Hadwen is a valuable advocate of the cause of anti-vaccination. It is only fair, however, to Lieutenant-General Phelps to say that he had a large share in the promulgation, if not in the calculation, of these fatality-rates.

But the hospital is by no means the only excuse for the small-pox epidemic that anti-vaccinationists have furbished up. The Royal Commission having been told how very sanitary the town was, subsequent denunciations of it as insanitary have been all the stronger. Lieutenant-General Phelps has said that "the sanitary condition of the city was something of a horrible kind." Dr. Hadwen has described it as one of the "hotbeds of insanitation." Mr. George Newman, who was the principal local mouthpiece of anti-vaccination before the Commission and who had asserted that Gloucester had "always been well abreast of sanitary improvements," boldly ignored his own evidence and gave "the insanitation of the affected half of the city" as one of two causes of the epidemic. He had said nothing whatever to the Commission about this half of the city being insanitary. But small-pox prevailing chiefly in the south he now straightway turns his back on his own statement so far as it applied to the south and asserts that that district was insanitary. This insanitation, however, is only one of the two causes adduced by Mr. Newman. What is the other? In reply to a question he had unhesitatingly told the Royal Commission that the hospital was "outside the town." Yet the other cause to which he now attributes the small-pox is "the situation and neglect at the small-pox hospital." And he attacks the medical officer of health for not blaming the outbreak on these two causes—the hospital and insanitation. Dr. Campbell, he says, "ignores the question of *situation* of hospital as a factor. He denies neglect at hospital and he ridicules *insanitation*." The italics are ours and the quotations are from a published report of what the *Vaccination Inquirer* describes as "a powerful speech in which, at a recent meeting of the city council, Mr. Newman vigorously assailed the report of the medical officer of health." In his speech Mr. Newman had this protection, that at the time he attacked the medical officer the volume containing his own evidence before the Commission had not been published and he took good care not to let the council know that in the absence of small-pox he had himself insisted that the town was well abreast of sanitary reforms and that the hospital was outside the town.

It would be sheer waste of time to comment on all the mischievous nonsense that apologists for anti-vaccination have written or talked regarding Gloucester. In one place drainage is blamed, in another water-supply, in another house accommodation, in another overcrowding of schools. In defiance of topography Dr. Hadwen wrote in the *Bristol Mercury* that during the epidemic "the Severn goes on merrily washing the sewage backwards and forwards past the doors of the small-pox stricken houses." Now we have already learned, and Dr. Hadwen himself insists, that the great bulk of the small-pox was in the south of the city and, as Dr. Bond points out in an admirable tract issued by the Jenner Society, and as must be known to every Gloucester man, (1) the Severn is practically the boundary of the city on its north-west side, which is almost entirely occupied by docks, corn warehouses, &c.; (2) there are not a dozen houses "past whose doors" it runs; and (3) excepting for about two hours on not more than three days before and after the new and full moon the water flows rapidly and continuously away from the city instead of "backwards and forwards." One point of this statement of Dr. Hadwen, if the statement had been true, would have been found in another assertion, this time by Lieutenant-General Phelps, that "when the city ran short of water they pumped the water out of the river into the mains and it was drunk." In reply to this it appears from Dr. Bond's pamphlet ("The Truth about the Sanitary Condition of Gloucester") that in the epidemic years 1895–96 Severn water was had recourse to for drinking only on four nights in June, 1896, when the epidemic was nearly at an end. In defiance of arithmetic Dr. Hadwen says: "A large number of the houses were supplied by old wells which were contaminated with sewage," whereas it appears from the annual report of the medical officer of health for 1895 that the number of houses using shallow wells was only eighty-seven, or less than 1 per cent. of the houses of Gloucester at that time. Again, in defiance of known facts Dr. Hadwen (as reported in the *Coventry Times*, Sept. 9th, 1896) said, after the epidemic was at an end, that only about 100 cases of the disease had occurred in the northern part of the city, whereas, even taking Lieutenant-General Phelps's boundary line, the known cases to the north of it were 214. But the latter gentleman surpasses Dr. Hadwen himself here, for to the *Birmingham Daily Post* he wrote on July 28th, 1896, of "the failure of the twenty or thirty cases in North Gloucester to spread." Supposing that vaccination were as useless and mischievous as Dr. Hadwen and Lieutenant-General Phelps say it is, do they really think it justifiable in depreciation of vaccination to use instead of the ascertained figure 214 such phrases as "about 100" or "twenty or thirty"? If they did not know the facts, why did they pretend to know them? If they did know them, why did they mis-state them? Once more, in supporting the allegation that insanitation in the southern part of the city accounted for small-pox being more prevalent there Dr. Hadwen speaks of the houses as being largely "jerry-built." As a matter of fact, south Gloucester contains the newer part of the city, where the house-building has been done under municipal supervision for more than twenty years, while the northern part, where there was least small-pox, contained the oldest houses. Not only so, but in the "South Hamlet" the density of population was under thirty-two per acre, while in the next largest of the four districts, St. John Baptist, which is in the northern part, the density was over sixty-four per acre. Had small-pox occurred in the St. John Baptist district instead of in the south, is there any doubt whatever that we should then have had South Gloucester held up as modern, airy, and sanitary, with wide streets, with new houses built in accordance with the most recent teachings of science, with sewers ventilated by street gratings instead of belching their gases into dwelling-house drains, and with low density of population? On the other hand, in the St. John Baptist district we should have been told that the houses were slums, old, dirty, damp, and so densely crowded together that fresh air and ventilation were impossible, and instead of dilating on alleged bad drainage and jerry-built houses the evidence of Dr. C. Creighton before the Royal Commission would have been quoted to show that the outstanding causes of small-pox are over-crowding, insufficient ventilation, and domestic filth. But the small-pox was mainly in the south instead of in the north and so the sanitary condition of the south was denounced, while the north containing the overcrowded slums was praised for its excellent drainage, and to this alleged excellent drainage was attributed its freedom from small-pox. Needless to say it is a bit of elementary medical knowledge that the infections the spread of which is to be looked for in water-supply or drainage do not include small-pox any more than they include measles or whooping-cough.

Why, then, did small-pox attack the south much more than the north? In presence of the facts the answer is so very plain as to leave no excuse for dubiety. The youthful population of Gloucester was unvaccinated, infection found its way into infant schools in the south of the city, and from them the disease spread like fire amid dry tinder throughout that part of the town in which the great majority of the children attending these schools lived. As Dr. Coupland says: "In the middle of February there was a striking exacerbation. ...... This increase was due to the fact that within a few days of one another about forty children attending the Widden-street infants' school were attacked and ...... there is good ground for believing that shortly afterwards others of the public elementary schools similarly served to disseminate the disease until they were closed by the order of the sanitary authority. ...... The disease had now obtained a footing in the city which rendered it beyond control; the increasing numbers who remained in their homes served to keep up foci of contagion, which resulted in some quarters, both in the south and west of the town, being visited to a disproportionate extent, so that in some streets hardly a house escaped the disease."

The schools were overcrowded, Dr. Hadwen says. But what difference would it make to small-pox in a school whether there are ten children or eleven children or twelve children on any given bench? Was there ever a school in which the distance between one child and its neighbour was so great as to be beyond the carrying power of variolous infection? The drains of one of the schools were defective, he says. But in and from the many overcrowded schools throughout the country, with or without drainage defects, can a case be quoted in which, small-pox having been introduced, it spread among the juvenile population as it did when it gained entrance into the Gloucester schools, where it found the children unvaccinated? Before ever vaccination was heard of small-pox was a disease of childhood. Where infantile vaccination is carried out we have no such experiences of epidemics among children, but in Gloucester, where infantile vaccination was neglected, we find the disease returning to its old sphere of work among the children.

The last question is, what caused the sudden cessation of the epidemic? Dr. Hadwen says it was not re-vaccination. In the *British Weekly* he writes: "According to official figures the small-pox cases reached their high-water mark on April 9th, when a steady decline commenced—it had evidently played itself out. Now the Vaccination Committee which was organised for carrying out this universal cow-pox blood-poisoning was not appointed until April 21st and the staff did not commence their duties until April 27th, by which time the notifications had already declined from 211 on April 9th to 131. Now in Gloucester we are told it takes fourteen days or a month before the vaccination is 'protective,' so that taking for granted everybody had been vaccinated by the 30th and allowing the lowest period of computation this organised cow-poxing could not have become effectual until May 14th, but by that time the small-pox notifications had still further declined to 84." This is really very plausible, but there is just one thing that Dr. Hadwen refrains from even mentioning. The people of Gloucester did not wait for the appointment of any committee before starting to re-vaccinate. The work had been well begun all over the town weeks before the operations of this committee were in progress. On March 20th Dr. Bibby, the public vaccinator for the greater part of the city, informed the guardians that he was vaccinating persons at the rate of 400 daily and it became necessary to appoint an assistant to enable him to meet the demand. Indeed, the value of re-vaccination was called in question because in presence of so much of it it was alleged that small-pox still prevailed. For evidence of this we need only turn to another anti-vaccinationist, who signs himself W. Wallace Grant, honorary secretary Anti-Compulsory Vaccination League, who, writing from Newport-on-Usk on May 5th, 1896, to the *South Wales Daily Star*, delivers himself as follows: "I will now refer to the present time while the epidemic is at its height and the mortality has for the past four consecutive weeks remained stationary (43, 45, 43, 43), notwithstanding the weekly vaccination and re-vaccination of thousands of the citizens which has been going on for the last two months."[1] Mr. Grant, starting to make capital out of the fact that vaccination and re-vaccination had been very largely practised throughout March and April, declares that notwithstanding "the weekly vaccination and re-vaccination of thousands" small-pox had not declined. But when it became no longer possible to deny that small-pox had declined and had declined rapidly, Dr. Hadwen sends to the *British Weekly* the letter from which we have above quoted, *not* denying that re-vaccination had been largely practised in March and April, but writing in such a way that his readers who knew no better would accept the commencement of the committee's work at the end of April as the commencement of re-vaccination in Gloucester. What difference did it make to the vaccinated thousands whether their vaccination had been "organised" by a committee or done before the committee began to act?

(To be continued.)

THE NINTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

MORE recent information concerning the Ninth International Congress of Hygiene and Demography indicates that great efforts are being made to ensure a complete success. The general secretary, Dr. Amalio Gimeno, to whom all communications should be addressed at the Ministry of the Interior, Madrid, writes to inform us that the French as well as the Spanish railway companies have consented to grant a reduction in the fares equal to 50 per cent.; but what is even more valuable is the fact that this reduction will date from March 20th to May 10th, thus giving ample time for a prolonged tour in Spain. The Italian railway companies have also granted a reduction for members of the Congress. Excursions are being organised for the members of the Congress to the Escurial, the great semi-monastery and semi-palace built for Philip II. in the sixteenth century. The interior courts give the building the shape of a gridiron, which is supposed to be an allusion to the martyrdom of San Lorenzo. In any case Philip II took an oath at the battle of St. Quentin to build this place if San Lorenzo would grant victory to the Spanish arms. But many other places of equal and even greater interest will be visited. Thus there are to be excursions to Toledo, Aranjuez and to Andalusia, notably to Granada. All these excursions will be at a special and very much reduced tariff. Further, we are informed that Her Majesty the Queen Regent has graciously expressed the desire to receive the members of the Congress at her Royal Palace. There will also be a reception at the Presidency of the Council of Ministers, given by the Premier, Señor Sagasta, and at the Town Hall by the Madrid Municipality. In a word, the members of the Congress will be received at Madrid with the same hospitality and courtesy which they have enjoyed in other capitals of Europe. Nor is this a light undertaking. What it implies may be judged by the fact that at the International Congress of Hygiene and Demography held in London in 1891 2883 members attended, including 400 ladies, and at the ensuing Congress of Budapest there were 2557 members, including 317 ladies. The Provincial Council, as well as the Municipality of Madrid, and various corporations and official societies which have their centre in the capital are all uniting in organising *fêtes* and a hospitable reception for the members of the Congress. His Excellency the Minister of the Interior is president of the General Committee of Propaganda and Organisation. This committee is sub-divided into four sections or sub-committees, the Executive Sub-committee, the Sub-committee for the Exhibition, the Financial Sub-committee, and the Reception Sub-committee.

The following are the officers of the Congress as appointed by the General Committee: president, His Excellency the Minister of the Interior; president of the technique of the Congress, Dr. Julián Calleja; vice-president, the Under Secretary of State at the Ministry of the Interior; Secretary-General, Dr. Amalio Gimeno. Executive Sub-committee: president, Dr. Julián Calleja; vice-president, Marquis du Busto. Reception Sub-committee: president, Señor José Calvo Martín; vice-president, Señor Angel Fernández Caro. Exhibition Sub-committee: president, Señor Bernardo Mateo Sagasta; vice-president, Señor Modesto Martinez y Gutiérrez Pacheco. Finance Sub-committee: president, Señor Antonio Maria Fabié; vice-president, Señor Santiago Ramón y Cajal. Sixteen secretaries are attached to these sub-committees. Señor Pablo Ruiz de Velasco, President of the Madrid Chamber of Commerce and member of the Municipal Board of Health, is the treasurer of the Congress, and Señor Juan Alvarez Mariño is the accountant.

According to the latest arrangements the sections are maintained in their original order. There are ten sections for hygiene and three for demography. The ten hygiene sections are as follows: (1) Bacteriology as applied to Hygiene, (2) the Prophylaxis of Transmittable Diseases, (3) Climatology and Medical Topography, (4) the Hygiene of Cities, (5) the Hygiene of Food, (6) Childhood and School Hygiene, (7) the Hygiene of Exercise and of Labour, (8) Military and Naval Hygiene, (9) Veterinary Hygiene, Military and Civil, (10) Architecture and Sanitary Engineering. The demographical sections are (1) the Technique of Demographical Statistics, (2) Statistical Results, and (3) Dynamic Demography.

All who propose to attend the Congress should at once notify the same to the Secretary-General and forward the entrance fee of 25 pesetas. It appears that this payment need not be made in gold, therefore a 25 peseta Bank of Spain note, which can be purchased at any money exchange for about 16*s*., will suffice. Thus, in consequence of the depreciation of Spanish paper money the subscription does not amount to more than the 20 fr. or 16*s*. gold currency charged as the admission fee at all the Congresses previously held on the Continent. The purchase of a Spanish note is by far the easiest method of remitting the money, but it would be as well to register the letter containing the note. In exchange a card with two coupons will be forwarded, one for the outward and the other for the homeward journey. This, together with the card of membership to identify the traveller, must be presented at the railway station booking office. The bearer must be in a position to prove his identity whenever called upon to do so by the railway officials, and for this purpose, as also to claim letters at the post-office, a passport will be found useful. The railway companies reserve the right to withdraw the tickets and to charge full fares if any abuse is made of them. By this is meant, we presume, the employment of the tickets for others than the members of the delegate's family. The outward coupon is available from March 20th to April 16th and the return coupon from April 17th to May 10th. As already mentioned in the previous notices concerning this Congress, ladies belonging to the families of members can join in the receptions and excursions of the Congress on payment of an entrance fee of 10 pesetas, but to be full members of the Congress they must possess a professional title and pay the full fee. The meeting of the Congress affords a pleasant opportunity of spending the Easter week in Spain, and British sanitary reformers will be rendering good service to the cause they have at heart by being present in large numbers at Madrid.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on March 10th, the President, Sir WILLIAM MAC CORMAC, Bart., being in the chair.

The following recommendations of the Committee of Management of the Conjoint Examining Board were adopted:—

1. That the Technical College, Darlington, and the Higher Grade Board School, Hanley, be added to the list of institutions recognised by the Board for instruction in chemistry, physics, and practical chemistry.
2. That the Western University, London, Ontario, be added to the list of institutions recognised by the Board at which the whole curriculum of professional study may be completed, and whose graduates in medicine are admissible to the Final Examination.
3. That Mr. Thomas Cooke's course of operative surgery be recognised for the current year.

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[1] Quoted in *Vaccination Inquirer*, June, 1896.

The following report was received from the Laboratories Committee :—

1. *The work on Diphtheria for the Metropolitan Asylums Board.*—The preparation of antitoxic serum. Since Dec. 3rd the Director has supplied 7275 doses of antitoxic serum, each containing 2000 units, for the treatment of diphtheria in the hospitals of the Metropolitan Asylums Board and all the demands have been fully met. During this period 14,550,000 units have been supplied, against 9,954,000 units last quarter, which, however, extended over a period of two months only, being an increase of 4,596,000 units.

2. *Researches in connexion with the Grant from the Goldsmiths' Company.*—Dr. Cartwright Wood and Dr. T. G. Brodie have continued their investigations but as yet have nothing further to report. In fulfilment of one of the conditions of the grant from the Goldsmiths' Company that antitoxin should be if possible supplied for use amongst the poorer classes of the community the director has continued the supply of antitoxic serum to various general and children's hospitals in London during the past quarter, as well as to certain medical practitioners for cases fulfilling the necessary conditions.

The Council removed from the list of Members a Member of the College who had recently been convicted of felony, and the Secretary was directed to inform the Registrar of the General Medical Council of the fact.

The PRESIDENT reported that Dr. T. G. Brodie, Arris and Gale lecturer, had delivered three lectures on "The Chemical Properties and Place of Formation of the Antitoxins"; that Mr. H. J. Waring, Erasmus Wilson lecturer, had delivered three lectures on "The Pathology and Treatment of those Diseases of the Liver which are Amenable to Direct Surgical Interference"; and that Professor F. G. Parsons had delivered three lectures on "The Muscles of Mammals, with Special Relation to Human Myology."

A letter was read from Dr. Isambard Owen thanking the Council for granting permission to the Metropolitan Counties' Branch of the British Medical Association to hold a conversazione at the College.

A letter was read from Mr. F. Rowland Humphreys, honorary secretary of the Midwives Bill Committee, enclosing a copy of the Bill together with papers relating thereto, and stating that the Bill would come up for second reading before the House of Commons on May 11th, and that as a division was sure to take place the Committee were anxious to secure the support of the College, which, under Clause 5 Section I. of the Bill, is entrusted with the duty of appointing three members to the Midwives' Board.

The matter was referred to a committee to consider and report.

A petition was read from Members of the College resident in Italy asking the support of the Council in protecting their interests as British practitioners in that country in view of the proposed legislation of the Italian Government enacting that qualified medical men of other countries shall not in future be allowed to practise in Italy without holding the degree of an Italian university. It was referred to a committee consisting of the President and Vice-Presidents to consider and report.

A petition was read, signed by certain Fellows and Members of the College, claiming that the right of electing a representative of the College to the General Medical Council is, by Section 7 of the Medical Act, 1886, vested in the Fellows and Members of the College, and requesting the Council forthwith to make arrangements to hold an election and enable the Fellows and Members to choose a representative to be a Member of the General Medical Council.

The Secretary was directed to inform the petitioners that the questions raised by them were under consideration.

A letter was read from the Chairman and Honorary Secretary of the delegates of the metropolitan medical schools stating that the deputation to the metropolitan Members of Parliament on the subject of the London University Commission Bill will probably be received after the Bill has been read in the House of Commons and suggesting that each institution interested in the Bill should appoint a small committee to see the member for the district in which the institution is situated and urge upon him the importance of this measure to education in London.

The President and Mr. H. G. Howse were requested to take steps to promote the Bill.

BERKELEY HOSPITAL.—The annual meeting of this hospital was held on Feb. 2nd. The report stated that ninety-two patients had been admitted during 1897. The financial statement showed that the gross expenditure was £502 and that owing to building a new mortuary and laundry the institution was £31 in debt. Lord Fitzhardinge was elected president.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL INSPECTORS OF THE LOCAL GOVERNMENT BOARD.

Upon an Outbreak of Enteric Fever at King's Lynn, by Dr. F. ST. GEORGE MIVART.[1]—The outbreak of enteric fever which occurred in Lynn during the past autumn attracted much public attention, more particularly as it followed so closely on the Maidstone epidemic and as, like the latter, it was attributed to polluted water service. Dr. Mivart's report places on record the principal facts of this Lynn outbreak. Suddenness of onset was one of its most conspicuous features. Cases of enteric fever occurred in Lynn and in the adjoining village of Gaywood before the beginning of October; but the number of these cases—namely, 5 in July, 2 in August, and 9 in September—could not be considered unusual for these places. In the course of October, however, no fewer than 303 persons, dwelling in 255 houses, were attacked by the fever; while additional 141 persons were attacked and other 96 dwellings were invaded during November. "In the fortnight ending on Oct. 26th," says Dr. Mivart, "fever in Lynn and Gaywood increased thirty- to forty-fold and maintained during the next and succeeding fortnight a nearly equal degree of prevalence. Afterwards it quickly declined, so that by the beginning of December the epidemic as such was practically at an end." Lynn and Gaywood together had a population of 19.312 in 1891. A total of 453 cases and 44 deaths which were referred to enteric fever in Lynn and its neighbourhood between Sept. 1st and Nov. 30th thus represent an attack-rate of 23·4 and a death-rate of 2 28 per 1000 of census population. There appears to be no room for doubt that this epidemic was occasioned by specific pollution of the public water-supply which serves both Lynn and Gaywood. Dr. Mivart deals with the evidence in detail and demonstrates that no explanation of infection by way of milk, by sewers, or by insanitary conditions in the dwellings invaded will in any way account for the general features of the outbreak. On the other hand, it was altogether consistent with an infected water-supply that when the great outbreak of fever came in October the disease was found to be spread broadcast over the whole district served by the water-supply, there being, at the beginning at all events, not the least tendency to grouping of cases. And as a matter of history the unwholesomeness of Lynn water was notorious. It was indeed no longer ago than 1892 that an extensive outbreak of enteric fever (135 cases in Lynn and Gaywood, with fifteen deaths) was shown by Dr. Bruce Low, of the Medical Department of the Local Government Board, to have been due to specific infection of the public water-supply which, he pointed out, was then exposed to multifarious risks of excremental pollution. In 1897 the inhabitants of Lynn were still served with water from this polluted source—namely the supply drawn from the Gaywood river. Here, in brief, is Dr. Mivart's account of it. The Gaywood rises from springs at the base of the chalk; two out of three principal groups of springs are polluted at the outset, one group rising beneath a cemetery, the other being fouled by solid and liquid refuse from a farmstead. In its course to the intake the river and its tributaries undergo manifold pollutions—slop-water from three hamlets, cesspool overflows, slaughter-house drainage, a public-house urinal, and the washings of a laundry among the number. A mile above the intake the river flows past gardens in Gaywood village where there are privies on the brink of the stream; in its course to the intake it is separated merely by an insufficient barrier of clay puddle from ditches receiving house drainage and cesspool overflows. The pipes which lead from the intake to the reservoir are only three feet below the surface of manured allotment gardens; they are not embedded in concrete and they leak freely. The reservoir itself is exposed to divers risks of pollution, while, lastly, the "filtration" which the reservoir water undergoes before it is delivered to the Lynn consumer is quite inadequate. Thus in respect of this Gaywood river supply at the time of the outbreak there were as usual a multiplicity of conditions which courted catastrophe. The immediate occasion of the disaster of October, 1897, appears to have been a storm of rain of exceptional severity which occurred in the neighbourhood of Lynn on Sept. 29th. A local rain-gauge recorded as much as 2·25 inches of rain in the course of twenty-four hours on that date. This downpour led to extensive flooding of the Gaywood river and inevitably caused an exceptional quantity of excremental and other foulness to be washed into the stream. "There can be no doubt at all," Dr. Mivart observes, "that the epidemic, as such, was due to infection of enteric fever gaining access to the waterworks as a result of this rainstorm." He recalls that a similar flooding of the Gaywood river occurred shortly antecedent to the 1892 outbreak.

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[1] London: Eyre and Spottiswoode, East Harding-street, E.C.; John Menzies and Co., Edinburgh and Glasgow; Hodges, Figgis, and Co., Dublin. 1898. Price 5*d*.

Lynn has suffered severely by this epidemic, but here, as in the case of Gloucester during the recent small-pox outbreak the sympathy of thoughtful people with the town must needs be somewhat qualified. In Lynn the danger of the water-supply had long been known to the inhabitants and had been impressed upon them again and again by the many responsible experts who had had the question submitted to them. And the 1892 outbreak had already afforded demonstration, if any were needed, of the ability of this water to convey disease broadcast among those who drank it. Nor again was this case one where the supply was furnished by a water company over whose operations the inhabitants of Lynn had no control. The supply is the borough supply and is owned by the Lynn Corporation, and its use up to the present time appears to have been a matter of deliberate choice by the majority of the people of the town. For even when the Town Council of Lynn, after the 1892 epidemic, had been moved to set about obtaining a supply of wholesome water from a new source the predominant party of "economy" frustrated their action. A Provisional Order of the Local Government Board, however, at length enabled the Town Council to proceed with their scheme, and these new works, Dr. Mivart reports, at the time of his visit seemed likely to be completed in six or eight months. It appears, therefore, tolerably certain that had it not been for the opposition of the party of "economy" the lives and money expended in the 1897 outbreak would have been saved.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Sunderland Port Sanitary District.—During 1897 there were 6269 vessels entering this port and of this number only five carried infectious disease—i.e., three cases of enteric fever and two of small-pox. The port sanitary inspector visited 2747 of these vessels, and when we read that there were no less than 37,532 persons on board we recognise what an important matter the sanitary control of our shipping is. Of the vessels inspected 8½ per cent. were found to present some sanitary defect, and Dr. Scurfield points out that with the Board of Trade allowance of seventy-two cubic feet of air space and twelve superficial feet of floor space to each seaman it is necessary to insist on the most scrupulous cleanliness and efficient ventilation. In our experience, however, this adequate ventilation of the confined quarters of the seamen is a most difficult matter. In connexion with national cleanliness we note that the Russian, Danish, and Dutch vessels were found on the whole in a good sanitary condition, while the Norwegian ships yielded the highest percentage *quâ* insanitary details. Next came the German and next the French. The British vessels occupied a middle position as regards cleanliness.

Newton Abbott Urban District.—Mr. W. Harvey strongly objects to the construction of his "Sanitary Committee," or rather to the multitudinous duties it is called upon to perform. To it are referred, he tells us, "all irregular matters not directly concerning the financial, lighting, road, and market committees," and it is only after discussing all these irregular subjects that it turns its exhausted mental energies to a consideration of matters sanitary. This practice is, as Mr. Harvey rightly remarks, "a relic of the dark ages, when sanitation was looked on with contempt, and any system of thrusting it into the background was accepted." Newton Abbott is much afflicted with the poultry nuisance, and fowls and ducks exist there "probably in tens of thousands." Mr. Harvey, after dwelling upon this nuisance, remarks: "No wonder that half the youth of England does not attain even to the requirements of our moderate army standard." But surely Mr. Harvey does not regard this fact, if fact it be, as due to the keeping of fowls and ducks in crowded backyards? Newton Abbott is supplied with water from the Torquay reservoirs, and the council of this town have, it appears, decided to buy up the houses in the watershed from which the Hennock reservoirs are filled. This is a wise and far-sighted measure, and it may be referred to in Mr. Harvey's somewhat elaborate language: "It is a great work, final and logically basic, as far as can be foreseen, for which posthumous applause will be rendered; future generations of Torquinians when they see other corporations floundering in a mire of difficulties to attain the same end will have solid reason to call this resolute action of their predecessors blessed."

Islington Sanitary District.—Mr. A. E. Harris in his last quarterly report states that during November and December last it became necessary to order the closure of four elementary public schools in his district on account of the prevalence of measles. In no instance, he tells us, did the teachers give notice of the unusual prevalence of measles among the scholars, and had it not been for the information afforded by the death returns he thinks it possible that nothing would have been discovered. The teachers were, it is reported, apparently ignorant of the fact that their school code renders it obligatory on them to notify the cases to the medical officers of health. Mr. Harris is about to discuss the whole question of schools in their relation to infectious disease in his current annual report.

Wigan Urban District.—Mr. William Berry speaks favourably of the voluntary notification of first cases of measles in Wigan. On cases being notified the inspector visits the house and instructs the parents as to isolation and disinfection. The number of deaths from measles in Wigan during 1897 was 34 as against 116 in 1896, and if the same fatality-rate obtained in 1896 as in 1897 there must, Mr. Berry thinks, have been some 2268 8 cases in 1896. He regards it, however, as improbable that the same fatality-rate obtained in the two years. The school authorities have rendered valuable assistance during the past year.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6710 births and 4535 deaths were registered during the week ending March 12th. The annual rate of mortality in these towns, which had been 20·9 and 20·7 per 1000 in the two preceding weeks, rose again last week to 21·1. In London the rate was 21·5 per 1000, while it averaged 20·8 in the thirty-two provincial towns. The lowest rates in these towns were 13 8 in Burnley, 14·5 in Norwich, 15 7 in Birkenhead, and 16·0 in Wolverhampton; the highest rates were 24·6 in Sunderland, 25·1 in Liverpool, 26·1 in Gateshead, and 29 1 in Swansea. The 4535 deaths included 538 which were referred to the principal zymotic diseases, against 504 and 481 in the two preceding weeks; of these, 258 resulted from measles, 124 from whooping-cough, 68 from diphtheria, 40 from "fever" (principally enteric), 31 from diarrhœa, and 17 from scarlet fever. No death from any of these diseases was recorded last week in Plymouth; in the other towns they caused the lowest death-rates in Croydon, Nottingham, and Burnley, and the highest rates in Oldham, Swansea, Bristol, and Leicester. The greatest mortality from measles occurred in London, Brighton, Bristol, Swansea, Leicester, and Derby; from whooping-cough in Birmingham, Oldham, Sheffield, and Gateshead; and from "fever" in Preston. The mortality from scarlet fever showed no marked excess in any of the large towns. The 68 deaths from diphtheria included 33 in London, 6 in West Ham, 4 in Bristol, 4 in Cardiff, 4 in Birmingham, and 3 in Liverpool. No fatal case of small-pox was registered during last week either in London or in any other of the thirty-three large towns; and only one small-pox patient was under treatment in the Metropolitan Asylum Hospitals on Saturday last, the 12th inst. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2445, against 2781, 2674, and 2534 on the three preceding Saturdays; 123 new cases were admitted during the week, against 233, 199, and 175 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 416 and 425 in the two preceding weeks, further rose to 429 last week, but were 136 below the corrected average. The causes of 78, or 1·6 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bristol, Leeds, Newcastle-upon-Tyne, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the six preceding weeks from 17·4 to 21·8 per 1000, further rose to 25·0 during the week ending March 12th, and was 3·9 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 18·9 in Aberdeen and 21·2 in Dundee to 25·5 in Greenock and 26·9 in Paisley and Glasgow. The 753 deaths in these towns included 25 which were referred to whooping-cough, 18 to measles, 18 to diarrhœa, 7 to scarlet fever, 7 to diphtheria, and 6 to "fever." In all, 81 deaths resulted from these principal zymotic diseases, against 72 and 78 in the two preceding weeks. These 81 deaths were equal to an annual rate of 2·7 per 1000, which was 0·2 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 20 and 27 in the two preceding weeks, declined again to 25 last week, of which 19 occurred in Glasgow and 3 in Paisley. The 18 deaths referred to measles were within 2 of the number in the preceding week, and included 16 in Glasgow. The fatal cases of scarlet fever, which had declined from 12 to 8 in the three preceding weeks, further fell to 7 last week, of which 3 occurred in Glasgow and 3 in Edinburgh. The 7 deaths from diphtheria exceeded the number recorded in recent weeks, and included 4 in Edinburgh and 2 in Glasgow. Of the 6 fatal cases of "fever" 4 were registered in Glasgow and 2 in Greenock. The deaths referred to diseases of the respiratory organs in these towns, which had been 117 and 142 in the two preceding weeks, further rose to 187 last week, and exceeded by 35 the number in the corresponding period of last year. The causes of 38, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the two preceding weeks from 28·5 to 32·5 per 1000, further rose to 37·3 during the week ending March 12th. During the past ten weeks of the current quarter the death-rate in the city has averaged 32·2 per 1000, the rate during the same period being 21·9 in London and 19·4 in Edinburgh. The 250 deaths registered in Dublin during the week under notice showed an increase of 32 upon the number in the preceding week, and included 16 which were referred to the principal zymotic diseases, against 9 and 16 in the two preceding weeks; of these, 6 resulted from scarlet fever, 5 from "fever" (principally enteric), 3 from whooping-cough, 1 from diphtheria, and 1 from diarrhœa. These 16 deaths were equal to an annual rate of 2·4 per 1000, the zymotic death-rate during the same period being 3·0 in London and 2·1 in Edinburgh. The 6 fatal cases of scarlet fever exceeded the number recorded in any week since November last. The deaths referred to different forms of "fever," which had been 4 and 7 in the two preceding weeks, declined to 5 last week. The 3 fatal cases of whooping-cough exceeded the number in any recent week. The 250 deaths in Dublin last week included 42 of infants under one year of age, and 68 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded those recorded in the preceding week. Four inquest cases and 1 death from violence were registered; and 102, or more than a third, of the deaths occurred in public institutions. The causes of 12, or nearly 5 per cent., of the deaths in the city last week were not certified.

BRISTOL HOSPITAL SUNDAY FUND.—As the result of the collection on Jan. 30th the sum of £1074 has been received for the Bristol Hospital Sunday Fund.

THE SERVICES.

NAVAL MEDICAL SERVICE.

INSPECTOR-GENERAL OF HOSPITALS AND FLEETS ALEXANDER TURNBULL, M.D. Edin., has been placed on the Retired List.

THE following appointments are notified:—Fleet-Surgeon Christopher Pearson to the *Wildfire*, additional, for Sheerness Dockyard and Naval Barracks. Staff-Surgeons: Horatio S. R. Sparrow to the *Hermione*; and Harold R. Osborne to the *Boscawen* (temporary). Surgeon Richard Stanistreet to the *Hermione*.

ARMY MEDICAL SERVICES.

Surgeon-Lieutenant Marriott, doing duty at Dover, has received orders to embark for India. He is to be succeeded by Surgeon-Major C. W. Thiele. Surgeon-Captain Whitestone is posted to the Station Hospital, Belfast, for duty. Surgeon-Captain Dalton and Surgeon-Major Flood have embarked for service in West Africa. Brigade-Surgeon-Lieutenant-Colonel Steele proceeds to Bristol to assume medical charge of that station. Surgeon-Captain Mould has assumed medical charge of troops and Station Hospital at Lydd.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Colonel Hughes, A.M.S., is brought on the Administrative Medical Staff of the Army, vice Surgeon-Colonel Scott, transferred to the Home Establishment. Surgeon-Captain Arnim and Surgeon-Lieutenant-Colonel McCloghry have respectively delivered over and received charge of the office of the Deputy Sanitary Commissioner, Sind Registration District. Surgeon-Lieutenant-Colonel McCalman (Madras) has been transferred by the Secretary of State for India to temporary half-pay.

VOLUNTEER CORPS.

Artillery: 1st Fifeshire: Surgeon-Lieutenant H. W. Laing, M.D., to be Surgeon-Captain. 1st North Riding of Yorkshire (Western Division, Royal Artillery): Surgeon-Lieutenant H. G. O. Collett to be Surgeon-Captain. *Rifle*: 3rd (Morayshire) Volunteer Battalion the Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): The under-mentioned gentlemen to be Surgeon-Lieutenants: Donald Graham Campbell, M.B., and John Bruce, M.B.

"THE CASE OF THE ARMY DOCTOR UP TO DATE."

Under this title the *New Century Review* has an article signed by Mr. T. H. S. Escott. In a previous article in the same magazine it was hinted that the real obstacle to the only practicable solution of the problem presented by the deplorable condition of the Army Medical Service was the attitude, "not of Lord Lansdowne, but of his military advisers, and above all, by those obstinate incarnations of British militarism who, because of the admiration their exploits in the field compelled, are mistakenly permitted to assert a power which is wholly mischievous and to which they have no sort of claim in the Council." The present article points out that while there are fewer healers available for our soldiers in the field than ever, the work which these healers have to do is immeasurably greater, more responsible, and more exacting. An Army Medical Corps, after the pattern of the Army Scientific Corps, membership of which should confer substantive military titles, would, the writer thinks, remove every complaint and secure every suffrage. The article concludes: "The object of adequate medical attendance in the Army is to obviate or to minimise human suffering. To dispense with skilled aid for that end would be to relapse into savagery. Yet the increasing lack of reputable doctors for the Army exposes us to something more than a risk of that unfeeling and impolitic retrogression. From Lord Wolseley, the great captain, surrounded by a professional staff steeped in all the unreasoning prejudices of their order, the appeal must be made to Lord Rosebery, the citizen and politician, whose intelligence is not tied down to any procrustean bed of martial prejudices, who, it may be hoped, is still, as when he first became a power in his country, alert of intelligence, free from fettering traditions of caste, nimbly resourceful, quick to perceive the true bearings and the final issues of any subjects submitted to him, and slow only to let himself be an instrument in the hands of those unwise disciples in arms who are now exercising so mischievous an influence over Lord Lansdowne and who seem to think that professional wrong and national danger are a small price to pay for a vain, a malignant, a purely selfish, and most unpatriotic triumph."

DEATHS IN THE SERVICES.

Fleet-Surgeon Christopher Knox Ord, M.D. Edin., F.L.S., at Lewisham, on March 13th, in his seventy-third year. He entered the Navy in 1847, and served with the Baltic expedition of 1854 on board the *Boscawen*, receiving the Baltic medal. Two years later he was promoted to be Staff-Surgeon. He acted as Surgeon to the Royal Marine battalion sent out for service in Japan, and was present at the bombardment of the batteries at the Straits of Shimoneseki and the capture of the batteries, &c., 1864. In 1869 he was promoted be Fleet-Surgeon and he retired in 1873.

Deputy-Surgeon-General Edmund J. Macgrath, of Kilboron, Co. Clare, on the 5th inst., aged sixty years.

Mr. William Wakefield, M.D., late 6th Dragoon Guards (Carabineers), on March 19th, at Painswick, Gloucestershire.

THE PLAGUE RIOTS IN BOMBAY.

Advices from Bombay state that the strike movement has subsided. It has been proposed that search parties should be abolished experimentally and that all suspicious cases should be reported by the head men of the various communities.

The revised regulations for entry into the Naval Medical Service have now been issued and can be obtained from the Medical Department of the Admiralty.

Correspondence.

"Audi alteram partem."

THE VACCINATION BILL.

To the Editors of THE LANCET.

SIRS,—I think it my duty to draw the attention of the profession to the fact that one of the recommendations of the Commission is wholly ignored in the proposed Bill as just introduced by Mr. Chaplin. The Commission advised, I believe, with general concurrence that State payment for successful vaccinations should no longer be made exclusively to those holding appointments, but that all registered practitioners should be entitled to claim fees for their successful cases on the sole condition of being willing if required to submit such cases to inspection. It would, of course, have followed that all such vaccinations would have to be done according to official directions as regards number of places, &c. These fees were to be payable for re-vaccinations as well as for primary ones. This recommendation had, I think, four very important results in view.

1. It would greatly diminish the number of those who escape vaccination, since it would become the interest of private practitioners, especially amongst the poor, to look up their patients and vaccinate.

2. It would do much to diminish the reluctance of mothers, since the vaccination would be done by the family medical man and not by a stranger.

3. It might be expected to secure better private vaccination, at any rate as regards the number of pocks and the character of scar.

4. It would vastly increase second vaccinations. This is perhaps the most important point of all and it is not in any way provided for in the new Bill. It would become the interest of the whole profession to perform second vaccinations and these would be done without cost to the patient.

The plan recommended would not conflict with the present arrangements, which would, for the present at least, continue as they are. That it would encounter some official opposition is only to be expected, for it would be expensive; but it is surely not fair to suggest that vaccination if thrown open to the profession would be less efficiently performed than at present. Believing that the recommendation to which I refer would conduce more than any other to that end which we all desire—the more complete protection of the community from the risk of small-pox—I am unwilling that it should escape the attention of the profession. It is for the latter to form its opinion and make it known.

I am, Sirs, yours faithfully,
JONATHAN HUTCHINSON.
March 16th, 1898.

"THE MIDWIVES REGISTRATION BILL.

To the Editors of THE LANCET.

SIRS,—I am given to understand that a clear statement of the views of the promoters of the Midwives Bill in respect to the assumption of medical titles by registered midwives would be acceptable.

I have not had the opportunity of laying the matter before my committee, but I am certain that I should be acting in accordance with its views in stating that when the matter is before the House no objection would be raised to the insertion of a specific clause to the effect that a midwife registered under the Bill must not assume any medical title such as, for example, L.M.

One other point has been raised—namely, with reference to the right of entry into and supervision over houses belonging to Midwives and utilised for the reception of pregnant women. I am strongly of opinion that the insertion of a clause to this effect would be considered to involve grave interference with the rights of the subject and as such would be in danger of wrecking the Bill. It is surely a question for the police, not for a clause in the Midwives Bill.

I am, Sirs, yours faithfully,
ROWLAND HUMPHREYS,
March 15th, 1898. Honorary Secretary Midwives Bill Committee.

To the Editors of THE LANCET.

SIRS,—Mr. F. R. Humphreys's explanations for the inadequacy of this Bill which he addresses to you in the current issue are really astounding. He claims credit for it as "a genuine attempt to solve a difficult problem." Assuming that it is genuine, then it is a very poor attempt and instead of solving the problem it would make confusion more confounded. One was under the impression that the defective penal clause protecting the title only and not the practice of midwifery was an act of omission instead of one of commission, but evidently this is not so. He says: "Practical legislation is what is wanted, hence no provision to prevent women practising as midwives unless they use certain titles is inserted in the Bill." Practical legislation! Where, then, is theoretical or useless legislation to find a place? He also asserts that "Parliament will not look at a Bill which legalises a monopoly." What? not even when "about 1000 mothers and probably 10,000 children lose their lives annually" under the present system. Mr. Humphreys apparently would be no party to a Bill that would absolutely weed out the future practice of incompetent women, because he seemingly vaguely imagines that by simply saying to the public that certain registered women are provided—just as there have been registered medical men provided, and even by the State, free of cost — this great sacrifice of life would cease. However, before Mr. Humphreys made such statements about Parliament and monopolies he should have verified his facts and have consulted, say, Mr. J. B. Balfour, Q.C., together with Mr. Skewes-Cox, respectively practising members of the so-called higher and lower branches of the legal profession and two of the backers of the Bill, and have asked them what Parliament did last session to legalise a monopoly as from Jan. 1st this year—a monopoly without the redeeming feature of the saving of the lives of "about 1000 mothers and probably 10,000 children," but one which if non-existing would at the worst touch the pockets of a class. It passed a Bill containing a clause providing that persons who *for pay*, not being members of the legal profession, shall draw instruments of transfer (which hundreds of unqualified law clerks could do *without injury to the public* and as a matter of fact do do every day as servants) shall be liable to a penalty of *£50*. So much, then, for Parliament and monopolies. But Mr. Humphreys, in defence of this same objection to the Bill—that it protects a title so easily evaded and not the practice—in replying to Mr. Garrett Horder, in your contemporary, the *British Medical Journal*, adopts other tactics. He avoids the issue altogether by quoting the words of Sir Walter Foster, M.P., who, referring to another matter before

Parliament, "the Plumbers' Registration Bill, 1897," stated "that they were bound to recognise the members of the trade or profession it was proposed to register who were *practising at the time the Bill was passed*," and the members of the House are reported to have replied "Hear, Hear." To such a statement applied to the Midwives Bill no one, so far as is reported, has raised the slightest objection—indeed, it is provided for in the Bill under discussion by Section 4, "Provisions for existing Midwives," that a midwife who has already been in practice for two years may be registered without an examination, &c. But this is entirely a different point to the one he is there attempting to discuss and I repeat that he deliberately is evading the issue.

Again, Mr. Humphreys admits that "it is perfectly true that the use of such a title" as Licentiate in Midwifery "is not expressly forbidden in the Bill," and let us mark well the reasons he gives that it is not so prohibited: "for it would then be merely a question of evading terms." If this strikes Mr. Humphreys as a cogent reason for the non-protection of a title belonging to the profession of which he is a member does it not strike him also of the absolute absurdity of attempting to "solve a difficult problem" by a Bill which to nullify in practice is "merely a question of evading terms." Mr. Humphreys has evidently yet to learn that specious fallacies are not arguments or facts. Has he ever heard, I wonder, of the expression "driving a coach and four through an Act of Parliament." If not I would refer him to the words of that profound thinker, Herbert Spencer, who in denouncing immature, ill-considered, and ill-devised legislation, says, in effect if not in the actual words, that no prophecy is more safe than that the results anticipated by such legislation will be vastly exceeded in amount by the results never anticipated.

But, to resume the exact point and to follow Mr. Humphreys in his context, he goes on to say: "Clause 5 *(f)* places the approval of 'the rules for regulating, supervising, and restricting within due limits the practice of midwives' in the hands of the General Medical Council." True, the section does this with regard to *practice* but, be it noted, nothing is provided either in this section or in any other of the Bill for "rules" to restrict the use of midwifery titles by registered midwives. Then he proceeds: "The assumption of title would prove at once that the midwife who assumed it intended to step beyond the province assigned to her" and "therefore she would at once be liable to be struck off the register." This explanation is, of course, Mr. Humphreys's own; the words speak for themselves. According to him assumption of a title by a registered midwife against which there is no penal provision in the Bill would be conclusive proof of an intended misdemeanour in practice and therefore punishable as an actual misdemeanour. This free-and-easy manner of prejudging and assuming guilt might be very convenient, but the laws of England are not administered in this grotesque manner; with such clouded ideas of legal procedure one can well imagine what a slight conception Mr. Humphreys has as to the true requirements of a good act of Parliament.

If Mr. Humphreys will provide a list of the results he anticipates from such an invertebrate measure I will venture to provide him with a list of results which he possibly never anticipates. I am, Sirs, yours faithfully,

Leeds, March 14th, 1898. J. H. WIGHAM.

"A RARE TRANSPOSITION."

To the Editors of THE LANCET.

SIRS,—Mr. W. H. Brown reports a case of transposition of the heart only and he concludes by remarking that he has not met with records of a similar condition. May I call his attention to a case which, except for the cyanosis and the dyspnœa, corresponds with the one he has reported? The patient was shown at the Leeds and West Riding Medico-Chirurgical Society by Dr. Wardrop Griffith on April 30th, 1897, and the case is reported in THE LANCET of May 29th, 1897. I am, Sirs, yours faithfully,

Weymouth-street, W. CHAS. W. CHAPMAN.

To the Editors of THE LANCET.

SIRS,—"Anatomist," in THE LANCET of March 12th, asks for further details in the matter of the instance of transposed heart. The circumstances under which the examination had to be made prevented my securing the specimen, otherwise I should have brought away the contents of the thorax for dissection. *The aorta turned to the left. The cavities of the heart were in their ordinary relations. The heart was placed at its usual level* so far as the spinal column was concerned. I fear that I cannot add any further information to the above meagre description. I am, Sirs, yours faithfully,

W. H. BROWN.

Queen-street, Leeds, March 14th, 1898.

MR. VICTOR HORSLEY AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—All those who have at heart the maintenance of cordial relations between medical men of different countries owe a debt of gratitude to Mr. Victor Horsley for the leading part he has taken in inducing the General Medical Council to write its second letter to the Privy Council. More than once during recent years erroneous impressions created abroad by the publication of certain speeches made on the General Medical Council have had to be corrected privately, and it was high time that a clear and accurate statement should be made. It is to be hoped that the first letter has now been withdrawn, for the discrepancies between the two official documents would appear still more perplexing and unaccountable abroad than here. Someone has made—and not for the first time—a serious blunder, the repetition of which should be prevented.

I am, Sirs, your obedient servant,

Harley-street, W., March 14th. J. KESER.

"THE TESTIMONIAL TO DR. ARLIDGE."

To the Editors of THE LANCET.

SIRS,—Your kindness in publishing the lists of subscribers to the testimonial to Dr. J. T. Arlidge induces me to ask you to notice the result of the subscriptions so kindly placed in my hands. This sum, with some additional subscriptions received by the Manchester and Liverpool District Bank and by Mr. Folker, enabled the committee to present Dr. Arlidge with an illuminated address and a handsome gift of plate. The medical faculty and the committee of the North Staffordshire Infirmary have presented Dr. Arlidge with a full-sized portrait in recognition of his long and valued services as physician and subsequently as consulting physician to that important institution and it has now been placed in the board room of the infirmary.

I am, Sirs, yours faithfully,

CHAS. F. MOORE.

Upper Merrion-street, Dublin, March 14th, 1898.

"THE HEAT OF THE INCANDESCENT ELECTRIC LAMP."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 12th there appears an interesting and useful annotation on the above subject. In further illustration of the point I venture to refer to an apparatus for cooking or other purposes where the heat is produced by broad-filament incandescent lamps with a reflector of special construction. A thermometer placed midway between two such lamps twelve inches apart quickly registers 350° F. The temperature can be regulated by a rheostat or by adjustment of the reflectors. Such an apparatus adapts itself admirably to medical uses and where dry heat at a very high temperature is indicated I never use any other method of obtaining it. By means of such an arrangement heat may be localised upon any particular limb or organ or applied to the whole surface of the body. It is easy to show that in order to obtain the most intense heat rays the heat-producing source ought to be of a luminous character, and by far the best means of securing high temperatures with luminosity is the electric light. Here heat is produced without combustion and the many disadvantages that accompany the latter.[1]

I am, Sirs, yours faithfully,

Mansfield-street, W., March 11th, 1898. W. S. HEDLEY.

MEDICAL REFORM.

To the Editors of THE LANCET.

SIRS,—I fail to see the benefit or wisdom of the startling headings "Battle of the Clubs" so constantly appearing in our medical journals and I venture to think that a large proportion of your readers would rejoice at the discontinuance of this belligerent term. It cannot be productive of any good and must, I fear, tend to prolong an unmerited feeling of animosity against the profession in the minds of all club worshippers, who are always well posted with these paragraphs. We maintain the justice of making public the various errors perpetrated by the so-called medical aid and other societies and clubs and our chief aim now should be how best to elevate the tone of the coming practitioner. Two essential features demand consideration—reform of preliminary examination and the institution of the one-portal system, and I would suggest that these subjects should be set down for discussion as early as possible by every medical society throughout the land, when a concentration of the results should bring weight of evidence sufficient to move the General Medical Council to prompt and energetic action.

I am, Sirs, yours faithfully,

March 15th, 1898. S. STRETTON.

A FLAGRANT CASE.

To the Editors of THE LANCET.

SIRS,—My late unqualified assistant has opened a shop not five hundred yards from my surgery. He purposes vending drugs, instruments, &c., as well as prescribing for and dispensing medicines to anyone seeking his advice at his shop. I also understand he is to visit cases at their own houses and attend midwifery. Can I adopt any means to prevent his doing so? It seems hard on general practitioners that they are liable to have their names erased from the Register by the General Medical Council for employing unqualified men without giving them the means of protecting themselves from those pirates. I enclose my card.

I am, Sirs, yours faithfully,

March 15th, 1898. A VICTIM.

⁂ If the unqualified assistant sells drugs or falsely pretends to be a registered medical man he can be prosecuted. Otherwise in the present state of the law no more can be done against him than against any other quack.—ED. L.

THE PLAGUE IN INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

THE weekly death-rate for the city of Bombay still keeps terribly high. For the past seven days 2059 deaths have been recorded, giving a rate of over 130 per 1000 per annum. Of this number 1500 may be put down to plague. There are some slight indications, however, of improvement in the plague mortality. The type of the disease still keeps extremely virulent. The operations of the Plague Committee have provided for large numbers of the people being temporarily turned out of their infected houses and given quarters in camps. It cannot be expected, however, that 10,000 or 15,000 thus isolated would make much impression among a population of 900,000 people, and it is worthy of note that last year, when segregation of the healthy and infected was not resorted to, the mortality was less than it has been this year. On the other hand, a voluntary exodus of people to the estimated number of 300,000 took place last year, which may have reduced the actual number of those attacked if it had no effect on the duration of the epidemic. Large numbers of the well-to-do, estimated at 12,000 people, have this year moved to bungalows or temporary sheds in the suburbs within the island. It is probable, therefore, that this clearing of the population from certain districts, together with the other measures adopted by the Plague Committee, will soon have some effect on the number of cases and consequently on the death-rate, although it is impossible to estimate how much of a decline may be due to the sanitary measures adopted and how much to a natural subsidence of the epidemic.

Another European nurse, Miss McDougal, has unfortunately died from the plague. It is stated that one of her delirious patients expectorated on to her face and that some of the sputum entered her eye. Inflammation followed the next day, with subsequently enlargement of and infiltration around the parotid and cervical glands. It has been noted that cases in which these glands become affected are almost invariably fatal.

Strong representations are being made in the local press that, with the published results of M. Haffkine's inoculation so unmistakeably proving its advantages, all those who are brought in immediate contact with the sick should not only have every opportunity given them to be inoculated, but should be urged by the authorities to go through the operation. The Government, however, still refrain from even advising those under them to go through the process, and the Plague Committee still continue to abstain from giving it any support.

Nothing further has been discovered with regard to a curative serum. The preparation now being further tried, which was made on the lines of the curative serum for diphtheria, does not show any distinct advantages. There are many cases in the fever hospital showing relapsing fever and plague occurring in the same individual. This is not only distinctly shown by clinical evidence but also by bacteriological examination. The symptoms of plague seem to be somewhat subdued by their association with relapsing fever, and the prognosis in these cases seems better than in those of plague alone.

A fire broke out in one of the temporary plague hospitals resulting in the death of three patients from the exertions attending their hasty removal. Some of the European nurses greatly distinguished themselves by their efforts to save the patients from the rapidly burning sheds, but unfortunately lost all their baggage by the destruction of a wooden building specially allotted to them.

Feb. 24th.

PROSECUTION OF A QUACK AT THE BLACKBURN COUNTY COURT.—On Monday, March 7th, before Judge Coventry, J. Tempest was sued by the Apothecaries Society of London for the sum of £20, the penalty for acting as an apothecary without having previously obtained a certificate as required by the Apothecaries' Act of 1815. For the plaintiffs it was stated that defendant had practised in the Oswaldtwistle district for the past two or three years, purporting to practise under an American diploma, and had issued pamphlets and handbills in which he described himself as a properly qualified man. The words "Dr. Tempest" were painted on the lamp over his door. In the defendant's examination it was elicited that he was "a fellow of the London college of safe medicine." Judge Coventry fined the defendant £20, but leave to appeal was given.

BIRKENHEAD MEDICAL SOCIETY.—At a meeting on March 11th, Dr. R. S. Marsden, President, being in the chair, Dr. Edgar Stevenson read a short paper on the Eye Complications of Influenza, drawing attention to the chronic nature of any eye affection which might occur during, or be precipitated by, an attack of the disease, and inviting a discussion on the nature of the headache which is so prominent a feature of almost every case. He also read notes of a remarkable case of optic neuritis occurring after influenza, and gave his reasons for considering that the lesion in these cases was more likely to be due to a form of cerebritis than to meningitis. An interesting discussion ensued, in which the following gentlemen took part:—Dr. Harris, Dr. Pinkerton, Mr. Harrington, Dr. Carden Pearson, Mr. Wilkinson, Dr. Dixon, Dr. Lambert, and the President. Dr. Stevenson replied.

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[1] These points were brought forward by me in a recent communication to the Balneological Society, when the apparatus was shown. It is devised and constructed by Mr. H. J. Dowsing, 24, Budge-row, Cannon-street.

Obituary.

SIR RICHARD QUAIN, BART., M.D., F.R.C.P. LOND., F.R.S.,

PRESIDENT OF THE GENERAL MEDICAL COUNCIL; PHYSICIAN EXTRAORDINARY TO HER MAJESTY THE QUEEN; CONSULTING PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE CHEST, BROMPTON, AND TO THE SEAMEN'S HOSPITAL, GREENWICH.

THE medical profession will share with us our deep regret at the death of Sir Richard Quain, the venerable President of the General Medical Council, which occurred on Sunday last, March 13th, at his residence in Harley-street.

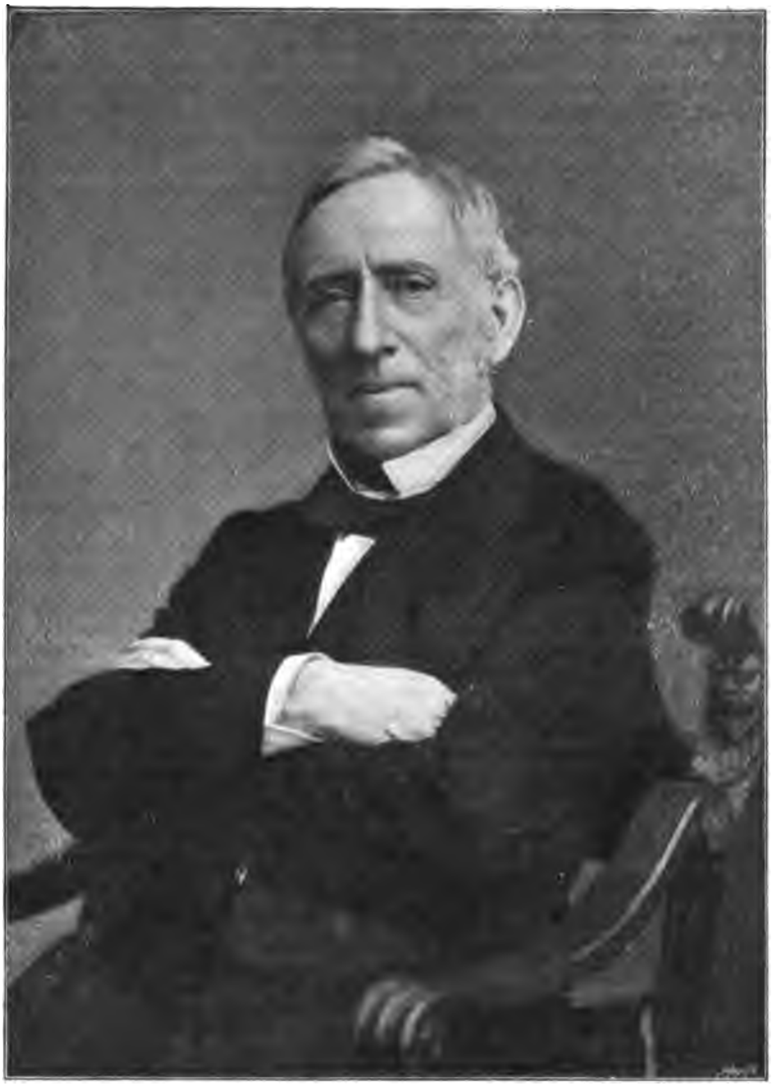
Richard Quain was born on Oct. 30th, 1816, at Mallow-on-the-Blackwater, co. Cork, a market town of some importance in the northern portion of that county. The Quain family, which produced three such eminent members of our profession as Jones Quain, the anatomist, Richard Quain, the surgeon, and Richard Quain, the subject of our present biography, had long been one of the best-known and respected families in the county of Cork. Sir Richard Quain's father, John Quain, was the younger brother of Richard Quain, of Ratheahy, whose three sons, Jones Quain, Richard Quain, and John Richard Quain, were destined to make their mark, the two former as exponents of anatomy and surgery and the latter as a lawyer and finally as a judge in the Court of Queen's Bench. John Quain, the father of the distinguished physician whose death it is our sorrowful duty to record, was married in 1815 to Mary, the daughter of Michael Burke, of Mallow, whose mother was the great-grand-niece of Bishop Burnet, Lauderdale's famous rival, who had the honour of performing the coronation ceremony of William and Mary. The Burkes of Mallow were among the most ancient branches of one of the most honoured families in Ireland, so that young Richard Quain could lay claim to honourable if not absolutely historic ancestry on both sides. After receiving his early education at the diocesan school at Cloyne, in the same county as his home, Mallow—for his father, John Quain, of Carrigoon, had removed to Mallow on his marriage—he turned his attention to the profession of medicine, probably animated thereto by the example of his cousins, who had both by this time earned distinction as teachers of anatomy—Jones Quain at Mr. Tyrrell's school in Aldersgate and Richard Quain at University College, London, where he succeeded Bennett, an old Irish friend of the family, as demonstrator of anatomy. In pursuance of this design Mr. John Quain apprenticed his son Richard to a respectable apothecary of Limerick, in whose service he saw and observed much that was useful to him in his after career. This period of his life was spent in the typical routine of an open surgery or "doctor's shop" of the early part of the present century; his master, being an apothecary before the Act of 1815, appears, like most provincial practitioners of his class, to have had several—at any rate two or three—apprentices. Having thus acquired an insight into the essentials of general practice Richard Quain in 1837 proceeded to University College, London, where his two cousins Richard and Jones, his seniors by sixteen and twenty years respectively, held the responsible posts of demonstrator and professor of descriptive and practical anatomy. To the teaching of these two men he owed much, and not to their teaching only but also to their warm-hearted sympathy. They both took the greatest interest in their young cousin's studies and were proud of his successes. Thus it was under the most favourable conditions that Richard Quain became a pupil at perhaps the most ably administered institution of the time, such men as Anthony Todd Thompson, Samuel Cooper, Robert Edward Grant, Sir Robert Carswell, Liston, Elliotson, and Erasmus Wilson (then a rising young anatomist) being members of the teaching staff. As a student Richard Quain showed the greatest diligence combined with most acute powers of observation and won many distinctions. His buoyant Irish nature and native wit made him very popular with his fellow students, among whom there were many who became his life-long friends. He was but two years the senior of John Erichsen and was also a contemporary with C. J. B. Williams and Professor Sharpey, who were his predecessors by a little, and with Edmund Parkes, John Marshall, and Russell Reynolds, who were his juniors. In 1840 he graduated M.B. of the University of London, gaining the scholarship and gold medal in physiology as well as taking honours in surgery and midwifery. He thereupon became house-surgeon at University College Hospital; this post he held for a year, and at the end of that time became house-physician, a position which would now be best described by the term "resident medical officer;" in the labours of this office he remained for five years, during which time he accumulated much valuable knowledge. University College Hospital was at this particular period doing far more than its share of casualty work, it being the nearest institution to the great centre of railway constructing enterprise in its most busy period, for the great North-Western line was in process of continuation to London and the influx of north-country labourers and engineers made an enormous difference to the number of the working population of the district tended by the hospital. During his tenure of the office of house-physician—namely, in 1842—he passed his examination for the degree of M.D., obtaining honours in medicine. He received a gold medal and a certificate of special proficiency and was next year elected a Fellow of University College.

In 1848 he was elected assistant physician to the Hospital for Diseases of the Chest at Brompton, then a comparatively new institution. Among his colleagues when he began his long connexion with the Brompton Hospital were Dr. Walshe, Dr. Theophilus Thompson, and Dr. Cotton. In 1855 he became a full physician to this institution, and from 1875 until the time of his death he was a member of its consulting staff. It does not fall to the lot of many hospitals to have the services of so eminent and successful a physician for a period of fifty years and for more than half of that time his assiduous and active help. He was likewise for many years consulting physician to the Seamen's Hospital at Greenwich and to the Royal Hospital for Consumption at Ventnor.

His connexion with the Royal College of Physicians of London was long and intimate and it is there that his familiar figure will perhaps most greatly be missed. In 1846 he became a Member and in 1851 a Fellow of that body and identified himself closely with its conduct. The offices he there held were Member of Council and Censor in the years 1867, 1868, and 1882, Lumleian Lecturer in 1872, Senior Censor in 1877, Harveian Orator in 1885, and Vice-President in 1889. In 1888 he narrowly escaped succeeding Sir William Jenner as President, but Sir Andrew Clark was finally elected.

Perhaps amid the multifarious public work of the profession in which Sir Richard Quain found a field for the employment of his great energy and experience none was more congenial than that of the General Medical Council. It is scarcely within the memory of living men to think of the General Medical Council without the association of Sir Richard, or rather Dr., Quain. He was not indeed a member at the very beginning. He was elected as a Crown Nominee in November, 1863, and took his seat in 1864. From that time to the time of his death he continued to be a Crown Member, having been seven times appointed, and was throughout most actively associated with the principal work, both general and in committee, of the Council. It is noticeable that at the time of his death no individual who was a member of the Council at the time when he joined it in 1864 is alive except Sir Henry Acland. He had scarcely taken his seat in 1864 when he was elected to the Executive Committee. He was made trustee of the English Branch Council at this time. In the same year he was placed with Dr. Christison, Sir James Clark, Dr. Thomas Watson, Mr. J. H. Green, and others, on the Pharmacopœia Committee. He became chairman of this committee in the year 1874, and continued so till his death. It may be said that the Pharmacopœia was his peculiar care and the Pharmacopœia Committee his favourite committee, and probably those who knew him best would say that his chief anxiety was to retain his connexion with the Council till the appearance of the new Pharmacopœia, in the preparation of which he took special interest.

But though the Pharmacopœia Committee was perhaps his favourite one he was very active in several other committees. He was chairman of the Executive Committee, of the Dental Committee, and of the Penal Cases Committee. In all of these, as well as in the proceedings of the General Council and of the Branch Council for England, he took the most active and business-like interest. Moreover, incessant attention is required from the president in the long intervals



Richd Quain

between the sessions to details of business in connexion with the office and the preparation of the Register. At times this work was most exacting, as in the years of the election of Direct Representatives and at the time when the Council was negotiating for the possession of its present premises and when these were undergoing complete reconstruction. On all such occasions it was remarkable to notice how familiar with details the late president was and how clear was his memory on all subjects. He was no merely passive president, for he took an active part in the business of all the committees of which he was a member, and even in the discussions of the Council reserved to himself the right both of expressing his views strongly and of recording his vote. Opinions will differ as to the merit of the views he held and the votes he gave on different subjects, but all will admire the grip which he had of the Council's business and the shrewd estimate which he formed of the Council's position in relation to the State and the Crown on the one hand and to the medical profession on the other. Sir Richard Quain's presidency began in 1891, following that of the late Mr. John Marshall who died in that year. On the expiration of his first term of office in 1896 he was re-elected unanimously. The addresses with which he opened the sessions of the Council may be consulted with advantage as records of the questions engaging the attention of the Council and of the practical and statesmanlike views which he took and which were generally sustained by the after-history of subjects. He was not eloquent; occasionally there was even a lack of breadth and dignity in his presentation of a subject. But, nevertheless, he will remain and be remembered as one of the most active, devoted, and efficient presidents the General Medical Council has had, though his predecessors were Sir Benjamin Brodie, Joseph Henry Green, Sir George Burrows, Sir George Edward Paget, Sir Henry Acland, and John Marshall.

Richard Quain was in 1865 appointed a member of the Royal Commission to inquire into the Nature, Causes, and Methods of Prevention of the Rinderpest or Cattle Plague which was then devastating many cattle-rearing districts, and as to the pathology and causation of which very little definite knowledge had up to that time been obtained. Among his colleagues were Lord Spencer (chairman), the present Prime Minister who was then Lord Cranborne, Lord Sherbrooke (better known to history as Mr. Robert Lowe), Lord (then Dr. Lyon) Playfair, Dr. Edmund Parkes, the famous sanitarian and physician, and Dr. Henry Bence Jones. In the valuable transactions of this Royal Commission Quain took a very prominent and useful part; in fact, for several months the question occupied almost his entire time. The whole matter was gone into most exhaustively by the Commission and not the least searching and pregnant questions were those addressed by Dr. Quain to the various veterinary and medical witnesses. He throughout this inquiry showed himself an excellent and logical cross-examiner. Among the medical witnesses called were Dr. Burdon Sanderson, who made an exhaustive report describing his experiments; Dr. Marcet; Dr. John Syer Bristowe; and Dr. Lionel Beale, who conducted the microscopical portion of the inquiry. It is not surprising that after hearing the evidence adduced during the long sitting of this Commission Dr. Quain should have sided with the section who desired the extermination of the plague "at any price." This was the view of the majority, but throughout the country there was an opinion, founded on insufficient data, that too high a price might be paid even for the stamping out of this fearful disease. This section of public opinion found its spokesmen on the Commission in the persons of Earl Spencer, Lord Cranborne, Mr. Clare Sewell Read, and Dr. Bence Jones. The majority included Mr. Lowe, Dr. Lyon Playfair, Dr. Richard Quain, and Dr. Edmund Parkes. Dr. Quain's work on this Commission very thoroughly justified his appointment and his letters to the *Times* and his articles in the *Saturday Review* went far indeed to change public opinion on the whole matter. The voice of the public at large was at first very strongly raised against the "stamping out" recommendations of the Commission. These recommendations, as Dr. Quain ably pointed out, would ultimately save many millions of pounds to the country, and the event has proved the correctness of his views. In the conduct of Royal Commissions of Inquiry perhaps the most essential detail is the arrangement of the method and scheme of the investigation. For this portion of the work of this most successful inquiry Richard Quain was in great measure responsible. In the third report of this Commission there were a number of valuable drawings illustrating the pathology of the disease and these were at the instance of Quain presented to the Royal College of Physicians of London.

As a journalist he was a frequent contributor to the *Saturday Review* and in early days a regular leader writer on THE LANCET. Outside journalism the literary works of Sir Richard Quain if small in quantity are great in utility. His first important essay was a dissertation on "Fatty Diseases of the Heart," which is to be found in the Royal Medical and Chirurgical Society's Transactions for 1850 and which formed the basis of the able and exhaustive article on the same subject which he contributed to the great Dictionary of Medicine which he edited many years afterwards. He likewise in conjunction with other members of the staff of the Brompton Hospital for Consumption compiled the reports for several years of the cases treated in that institution. Early in his career at University College Hospital he published two interesting contributions, one in THE LANCET (1845)[1] on "Bright's Disease of the Kidneys," and the other in the *Edinburgh Monthly Journal of Medicine* on "Injuries to the Valves of the Heart." His Lumleian Lecture delivered before the Royal College of Physicians of London in 1872 dealt with the subject which is particularly associated with his name—the Diseases of the Muscular Walls of the Heart.

His next in point of date, and undoubtedly his greatest, work, the well known "Dictionary of Medicine," in the editing and arrangement of which the leisure time of several years between 1875 and 1882 was spent, appeared in 1882. Since Copland's "Dictionary of Medicine," which appeared in parts, commencing in 1844 and terminating in 1858, scarcely a generation had passed, yet the strides of medical science had been so very great that the work of Dr. James Copland had become quite out of date and since its appearance no work arranged in the convenient form of a dictionary of medical science had appeared. Reynolds's "System of Medicine" had been published in the meanwhile and its volumes contained a mine of valuable matter from the pen of its editor and other recognised medical authorities, but the System was not intended to be an encyclopædic book of reference. Quain's Dictionary of Medicine as it first appeared consisted of one bulky volume of 1800 pages and was the joint work of a very large number of prominent medical writers, Dr. Quain himself and his editorial coadjutors, Dr. Frederick Roberts and Dr. Mitchell Bruce, contributing largely and adding the shorter articles unsigned. Among the authors who contributed to the first edition and whose loss we have had to deplore since the Dictionary appeared are Sir J. Risdon Bennett, Dr. John Syer Bristowe, Sir George Buchanan, Dr. Matthews Duncan, Dr. Langdon Down, Dr. Murchison, Dr. Brown-Séquard, and Dr. Edmund Parkes. The work admirably filled the want long felt by the medical profession of a thoroughly convenient and at the same time exhaustive book of reference. It had the additional advantage of being thoroughly brought up to the knowledge of the day, for, as its editor remarked in the preface, although it occupied some years in production each part of it was so arranged as to permit of alteration and addition up to the very time of going to press. The editor's own articles chiefly dealt with affections of the heart. That on Fatty Degeneration of the Heart, founded in great measure on his paper contributed to the Royal Medical and Chirurgical Society in 1850 is perhaps the mostnotable of them. Sir Richard Quain's faculty for the arrangement of facts in such order as to convey them to the mind of the reader in a succession which makes the whole train of reasoning symmetrical is particularly noticeable in this essay, and it is also traceable to but little less an extent in the articles on "Angina Pectoris," "Aneurysm of the Heart," "Diseases of the Bronchial Glands," and in the general remarks on "Disease."

In 1885 Dr. Richard Quain delivered the Harveian Oration at the Royal College of Physicians, taking for his subject "The Healing Art in its Historic and Prophetic Aspects." He commenced by briefly quoting the adverse remarks that had been made as to the progress of medicine as a science by such men as Hoffmann, Gregory, and Sir William Hamilton. In refutation of the statements of these and other great men he cited many curious and occasionally amusing instances of the extraordinary superstitions with regard to medicine and surgery from which humanity had but recently freed itself. In a valuable appendix he mentioned such ridiculous cases as that of the woman of Godalming who was alleged to have been delivered of litters of rabbits and who was believed in even by some of the faculty in the days of George I.

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[1] THE LANCET, Nov. 29th, 1845, p. 594.

In 1887 the Royal University of Ireland conferred upon him the honour of an M.D. *Hon. Causâ* and in the same year the Royal College of Physicians of Ireland made him a Fellow of their Corporation, and in 1889 he was honoured with the degree of Doctor of Laws of the University of Edinburgh. In addition to these honorary degrees he was made a Doctor of Medicine of the University of Dublin in 1890, in which year also he was appointed Physician Extraordinary to Her Majesty the Queen. He was a Fellow of the Royal Society (elected in 1871); a Fellow of the Statistical Society; a Fellow and late President of the Royal Medical and Chirurgical Society; a Fellow of the Royal Botanical Society; a member and late President of the Pathological Society of London, to the Transactions of which he made several valuable contributions; a member and late President of the Harveian Society of London; and a member of the Senate of the University of London, selected by the Queen in 1860.

On New Year's Day, 1891, Her Majesty conferred upon him the well-deserved honour of a baronetcy of the United Kingdom.

Richard Quain married in 1854 Isabella Agnes, the only daughter of Mr. George Wray, of Cleasby, in Yorkshire, who, however, did not live long to enjoy the titular distinction which her husband had earned, for, to his profound grief, she died within a few months of the conferment of the honour. The baronetcy becomes extinct with his death as Sir Richard Quain leaves no son. Four daughters, however, survive him.

To few men in our profession has the gift of every characteristic that calls forth the affectionate esteem of their brethren been so liberally vouchsafed as to Sir Richard Quain. His genial presence and his brilliant power of saying epigrammatic things, and saying them with the true humorous instinct of his race, made him ever popular; while his wide sympathies and unvarying kindness gave him in the eyes of those who had the privilege of personal relations with him something more true and permanent than social popularity, the affection of his younger brethren in the profession of medicine.

Sir Richard Quain's funeral took place on Wednesday afternoon at the Hampstead cemetery, in the presence of a large and distinguished assembly of patients, friends, medical men, and official representatives of various public bodies with which the deceased physician was connected.

KESTER EDWARD KNIGHT, M.R.C.S. ENG., L.S.A.

BY the death of Mr. K. E. Knight, which occurred at his residence, 41, Waverley-road, Southsea, on March 10th, after a painful illness, which extended over a period of about three months, Portsmouth has lost its oldest and one of its most valued medical practitioners. Mr. Knight was in practice in that town for nearly sixty years. He was born at Stedham House, near Midhurst, Sussex, where his father owned a large estate, on Jan. 18th, 1814, and he had thus attained the ripe age of eighty-four years. He belonged to a family remarkable for health and longevity and inherited a thoroughly vigorous constitution. His father lived to seventy-eight years, his mother to eighty-nine years, and of twelve children four lived to seventy-nine years, or over. He received his medical education at University College Hospital and became a Licentiate of the Society of Apothecaries in 1837 and a Member of the Royal College of Surgeons of England in 1838. After holding the house-surgeoncy at the Chichester Infirmary he commenced practice in Portsmouth about the year 1838. He was appointed surgeon to the Royal Portsmouth Hospital in 1857 and held that office for twenty-five years, and when he retired in 1882 he was unanimously elected by the Board of Management to the complimentary office of consulting surgeon, which he held to the end of his life. Thus from first to last he was connected with the Portsmouth Hospital for over forty years. His portrait was taken at the request of his colleagues, by whom he was very highly esteemed, and is hung in the board room of the hospital. His presence was good and calculated to inspire confidence; tall, somewhat spare, he bore well his eight decades of life. As an operator he was calm, cautious and deliberate and possessed much manipulative skill. At one time he had a large obstetric practice and he kept a record of over 5000 cases which he had attended. He took a keen delight in manly sports; in his younger days he was a good shot, a capital cricketer and quite at home in the saddle across country with the hounds. He was the senior Freemason not only in Portsmouth but in Hampshire. He had a wonderfully retentive memory and in 1897 (when in his eighty-third year) he published a little book containing his reminiscences of the early life of the Queen. Mr. Knight never married. Kind-hearted, considerate, and unselfish, a man of much professional ability, his loss will be keenly felt by many friends to whom his kindly spirit had endeared him.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Theophilus Parvin, formerly Professor of Midwifery and Gynæcology in Jefferson Medical College, Philadelphia.—Dr. Edward Constant Seguin, formerly Professor of Neurology in the College of Physicians and Surgeons, New York.—Dr. Geo. C. Briggs, formerly Professor of Materia Medica in the University of Vermont.—Dr. Carlos de Silonis y Ortiz, Professor of Anatomy in the Barcelona Medical School.—Dr. Charles Nicolas, Extraordinary Professor of Hygiene in the University of Lausanne.—Dr. Gayraud, formerly *Professeur Agrégé* in the Montpelier Faculty of Medicine.

HOSPITAL ABUSE.

(BY OUR SPECIAL COMMISSIONER.)

XIV.—GLASGOW (*concluded*).[1]

DR. ERSKINE has carefully worked out the figures showing the enormous increase of indoor and outdoor patients in recent years. In the wards of the thirteen charitable hospitals of Glasgow, large or special, 15,169 in-patients were treated in the year 1894–95. The number of out-patients at the same institutions was 76,593. The total of the two classes of patients was therefore 91,762, or 109 per 1000, counting the population according to the extended boundaries at 840,000. To this must be added 30,831 patients who were recipients at the purely outdoor charities and we reach the figure of 122,593, or 145·9 per 1000. The outdoor and indoor patients of all the medical charities, hospitals, infirmaries, convalescent homes, homes for the infirm and incurable, &c., amounted to 135,447, or 161 per 1000. In other words, one out of every six persons received aid from medical charities in the year. Taking the insane and the patients treated indoors at the parochial hospitals and asylums the total for the year was 12,643, or 15 per 1000, as opposed to 24,649, or 19 per 1000, indoor patients of the hospitals supported by subscriptions. But then there were also 6403 patients treated for infectious diseases in the municipal fever hospital, or 7·6 per 1000. Adding these fever cases to the other cases the total proportion treated at the public expense was 22·6 per 1000 as opposed to 29·3 per 1000 treated by charity, and the two systems taken together give in round figures 52 per 1000. But this estimate, of course, only applies to in-patients. To show the enormous increase that these figures represent Dr. Erskine calculates that at the Royal and Western Infirmaries 6654 patients were treated in 1874, or 1 in every 71 of the population. In 1884 the figures were 8728, or 1 in every 58. In 1894 the number of patients increased to 10,081, or 1 in 56, an augmentation of more than one-half in the twenty years, though the population only increased by one-fifth. At the Maternity Hospital the number of patients rose from 1291 in 1874 to 2836 in 1894, an increase of more than 2 to 1, while the population only increased 1 to 5. At the Eye Infirmary there were 4157 patients in 1874 and 15,267 in 1894, a four-fold increase. Such, statistically, is the grievance with which the profession has to contend in Glasgow. It seems undeniable that the number of persons who now resort to hospitals has immensely augmented.

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[1] The previous articles on this subject were published in THE LANCET on the following dates: (1) Sept. 26th, 1896, Plymouth and Devonport; (2) Oct. 10th, 1896, Exeter; (2 *concluded*) Oct. 17th, 1896, Exeter; (3) Oct. 31st, 1896, St. Thomas's Hospital, London; (4) Nov. 14th, 1896, Liverpool; (4 *continued*) Nov. 21st, 1896, Liverpool; (4 *concluded*) Dec. 12th, 1896, Liverpool; (5) Jan. 2nd, 1897, Manchester; (5 *continued*) Jan. 9th, 1897, Manchester; (5 *concluded*) Jan. 23rd, 1897, Manchester; (6) Feb. 6th, 1897, Leeds; (6 *concluded*) Feb. 13th, 1897, Leeds; (7) April 17th, 1897, Coventry; (8) May 1st, 1897, The Royal London Ophthalmic Hospital; (9) May 8th, 1897, France, United Action and Legislative Action; (10) May 15th, 1897, Leicester; (11) June 5th, 1897, Nottingham; (12) July 31st, 1897, Birmingham; (12 *continued*) Aug. 14th, 1897, Birmingham; (12 *continued*) Sept. 4th, 1897, Birmingham; (12 *concluded*) Sept. 18th, 1897, Birmingham; (13) Oct. 30th, 1897, Southampton; and (14) March 5th, 1898, Glasgow.

Speaking on this subject to one of the medical men who is a member of the board of management of the Western Infirmary I did not find any disposition to recognise that the grievance was particularly urgent. He acknowledged that cases which were suitable medically were admitted without any inquiry as to social position. Complaints certainly had been made as to abuse among the out-patients, but "this was not a burning question." At the Western Infirmary threats had been made with regard to instituting an inquiry concerning the financial position of some of the patients, but this was not carried out for fear of offending the workmen subscribers. Indeed, the directors of the Western Infirmary, referring to this matter, said: "They thought it better to face the risk of admitting a few undeserving cases rather than that the susceptibilities of thousands of deserving working men and women who had subscribed for years should be hurt in their hour of need by what they consider offensive investigation into their means." The building of grand palatial hospitals with "professors" in attendance, tended to attract persons of a higher class. If dispensaries were put in a poor locality there would be less abuse. My informant urged that there was a psychic cause for abuse. The Victorian Infirmary was a beautiful place overlooking a large park, but they had opened a dispensary for out-patients in a poor district and there no abuse occurred, whereas at the hospital itself there was some abuse. Country people especially came to get a second advice as against that which they had obtained from their local medical man. Very often they only saw a student, but they went back to their village impressed with the idea that they had been advised by "the professor." A practitioner from the outskirts of Glasgow was on one occasion acting as visiting physician at the Western Infirmary when one of his private patients was introduced. He had come up to Glasgow for hospital advice.

Calling at the Western Infirmary I was informed that the clerk made inquiries about the income of patients only after they had received medical advice and when they asked for medicine. Many patients, however, avoided this inquiry by walking out of the hospital with their prescription and having it made up by a dispensing chemist. It was only in very exceptional cases, when patients were particularly well dressed, that questions were asked before they obtained advice.

At the Royal Infirmary I was told that all the patients were examined on their merits, though they often brought with them a recommendation from their usual private medical attendant. The workmen had committees to manage their funds at large works. But these were isolated committees and no one had yet conceived the idea of federating them. As subscribers of £5 and upwards these committees could send a representative who would have a voice in the management of the hospital but they had not so far availed themselves of this right. The medical staff before giving medicine were supposed to make inquiries but they rarely did so. Yet it was not believed that there existed much abuse. Undoubtedly there were many trivial cases and these wasted much time. The patients were generally very poor, mostly labourers whose wages ranged from 18*s.* to 24*s.* per week. The better class of workmen, notably those engaged in shipbuilding, were all subscribers to the hospital and therefore they conceived that they had a right to attend. Indeed, it seemed to be tacitly acknowledged that the payment of 1*d.* per week conferred this right. It had been proposed at a meeting of the board of management that no out-patient should be admitted who earned more than 25*s.* a week. Nothing, however, came out of the proposition and it is believed that by far the greater number of patients do not earn 25*s.* a week.

At the Victoria Infirmary I was informed that the porter takes the names of all applicants and the medical staff is supposed to make inquiries if they suspect the patients can afford to pay. As a matter of fact, not half a dozen such inquiries are made in the course of the year. At this hospital there are four workmen governors on the board and their technical knowledge of machinery is often very useful, but they do not help to prevent abuse.

Calling on several practitioners to ascertain their opinion on the question I was told of cases of abuse that had come to their knowledge. Thus at the Royal Infirmary a lady came in her carriage and wanted advice for her servant though it was not the right hour and her husband was known to be in receipt of an income of £2000 a year. Then a man presented himself who had received a blow in the ribs. To be examined he took off a gold watch and chain and put it on the table. The wife of a tradesman attempted to get some medicine free. She had put on an old bonnet and a tartan shawl. At another hospital a clergyman came with his daughter, who wanted her tonsils removed; another patient was a business manager and a third patient held a well-paid post. When the medical attendant remonstrated he was reprimanded. I was also told of a person in receipt of a large income who sent his children to the Eye Infirmary to be measured for spectacles. When some observations were made he retorted that he was an old subscriber to the hospital and therefore thought he had a right to ask for advice. One of the medical men on whom I called expressed the opinion that at least 10 per cent. of the cases treated at the hospitals might be qualified as cases of abuse. It often happened that ladies sent their children with a servant and there were many cases of minor surgery which should go to the local practitioner instead of to the hospital. Also a considerable number of well-to-do people came from the provinces thinking they would get better advice. On the other hand, some of the practitioners with whom I spoke, and more particularly the consulting physicians and surgeons, did not think there was much abuse. Some people could pay small fees, but this with the cost of medicine came too hard upon them. Those who seemed able to pay would be found on inquiry to have already spent more than they could afford in seeking the advice of private practitioners and were thus compelled to go to the hospital. There is certainly a great deal of indifference prevalent among members of the profession in Glasgow concerning this and, indeed, most other questions that affect medical practitioners in a collective sense. The idea of forming a union to uphold medical ethics and defend the economical interests of the profession has scarcely germinated. Little has been done in this direction, and some of the medical men in their present disunited condition engage in unrestrained competition. It is difficult to say how long this state of things will continue for as yet there seems to be no rift in the sky.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Lying-in Charity.

THE fifty-fifth annual meeting of this charity was held on March 4th under the presidency of the Lord Mayor (Councillor Beale). The report stated that the midwives of the charity had attended 700 cases during the year with the death of one mother. The cost per case had been 14*s.* 9*d.* The assistance of the honorary surgeons was called in in thirty-one cases. The diminution in the number of cases attended was attributed to the migration of the population from the centre of the city to outlying districts and to the improved state of trade, which had admitted of the cost of medical attendance being paid. The medical committee in their report strongly urged the establishment of a lying-in hospital for the training of midwives, monthly nurses, and medical students. They pointed out that in Birmingham something like thirty lives were lost every year from infective or preventable causes associated with confinement. The Lord Mayor, in moving the adoption of the report, said that it was contemplated to amalgamate the charity with the District Nursing Society and questioned the applica tuoifo subscriptions for the purpose suggested by the medical committee. Some discussion followed and the scheme for the present was left in abeyance. The usual votes of thanks were passed.

Birmingham and Midland Counties Sanatorium.

The annual meeting of the Governors of this institution was held on Feb. 28th. Mr. J. B. Clarke presided. The committee in their thirty-second annual report stated that during the year there had been 1190 persons admitted to the Blackwell Institution. The subscriptions amounted to £1570 12*s.* as compared with £1429 18*s.* the previous year. With regard to the Sutton Coldfield Institution 293 patients were admitted and the subscriptions were £440 5*s.* This branch it was stated had not received so much support as it deserved, mainly from want of knowledge of the special advantages offered to the large class for whom it had been arranged. The Earl of Coventry was elected president for the ensuing year and thanks were given to the various officers.

Birmingham General Dispensary.

Mr. Alderman Johnson presided over the 104th annual meeting of this charity on Feb. 23rd. The total number of patients admitted during the year by tickets had been 37,203, showing an increase of 2205. The average cost of patients had been 3*s.* 11$\frac{1}{6}$*d.* Teeth cases and accidents were treated without ticket and to these there had been 6955. Two additional medical officers had been appointed, thus increasing the staff to ten. A balance of £445 was carried forward.

Training Institution for Nurses.

At the annual meeting on Feb. 25th of the Birmingham and Midland Counties Training Institution for Nurses the Lord Mayor presided. The report stated that the number of nurses on the staff was 84, of whom 73 were trained and 11 were probationers. The statement of accounts was favourable. The committee regretted the death of the honorary surgeon, Mr. Oliver Pemberton, and reported that Mr. Gilbert Barling had been appointed in his place. They also recorded the loss of the honorary physician, Sir Willoughby Wade, who was leaving the town, and recommended the appointment of Dr. Rickards to fill the vacancy. The report was adopted and various votes of thanks were passed.

Cleansing the Courts.

The first week's work done in the direction of improving the sanitation of the poorer parts of the city showed that twenty-one of the largest and dirtiest courts had been cleansed under the direction of the Health Committee. Out of 192 notices served upon tenants nearly 100 had been complied with. The charge was being collected from the owners; this amounts to about 2*d.* per house. The lime-washing of closets and tub-sheds amounts to a few pence more. This desirable work is to be carried out throughout the city and will doubtless ensure a much more healthy and comfortable appearance apart from the moral effect upon the occupants, whose habits are opposed to the light of day and cleanliness.

March 16th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester and Salford Sanitary Association.

THE annual meeting of the Manchester and Salford Sanitary Association was held on March 5th, the Lord Mayor (Alderman Gibson) occupying the chair. Dr. Leech submitted the report of the committee reviewing the proceedings of the association for the last twelve months. It drew attention to the non-success of efforts to induce the Baths Committee to provide cottage baths in densely populated districts. It seems surprising that a committee so enlightened as to establish large and well-equipped baths in various parts of Manchester should decline to enable the very poor, especially the women and young children, to wash and be clean at the small cost entailed by the provision of cottage baths. But there seems to be a common misapprehension, shared by the Lord Mayor, that cottage baths mean baths in all cottage houses. What is urged by the association, and especially by the Ladies' Health Society, is that a cottage or perhaps two adjoining cottages should be converted into inexpensive public baths fitted with simple appliances where poor women could give themselves and their children a good wash. They would not be used by men, who can much more easily go to the larger public baths than can the women. Many of these districts are a considerable distance from the palatial baths, which look so grand as to be deterrent to poor women who would not hesitate to take their children to a cottage in a neighbouring street like that in which they have their lodging. But city councillors are sometimes apt to think that the Abanas and Pharpars with which they decorate the city are better for all classes and cases than any cottage baths can possibly be. Reference was also made to the unsuccessful attempt made to dissuade the Gas Committee—of which Alderman Gibson was chairman—from mixing the dangerous water gas with coal gas for illumination and the committee still protests against this proceeding as strongly as possible, stating that in Philadelphia, where it is largely used, 34 deaths occurred last year from poisoning by carbon monoxide derived from water gas. Of these 18 were suicidal, 14 were accidental, and 2 were homicidal. Lectures to satisfactory audiences of working-class people are still continued and much is being done by the association and its allies, the Ladies' Health Society and the Smoke Abatement League, both in leavening the lower and educating the upper strata of society to the knowledge and appreciation of sanitary laws. In moving the adoption of the report the Lord Mayor warned the association against presuming "to instruct and order the corporation," because it would be "taking to itself a position that ought to be held by the elected representatives of the people," meaning, apparently, that the elected of the people must educate themselves. He adverted also to the use of water and oil gas, saying that "the corporation had explained that it was no more dangerous than ordinary gas," and that though gas containing water and oil gas had been used in Manchester "nobody seemed to know anything about it." The chief danger arises, of course, from the odourless carbon monoxide, which kills stealthily and insidiously, but if the gas-makers will only be good enough to mix it with a strong-smelling coal-gas the dangers of water-gas may be somewhat lessened.

Midwives and Death Certificates.

An inquest was held on March 9th by the city coroner on the body of an infant who was born on the previous Sunday morning and died the same afternoon. The midwife who had attended the mother, on receiving her fee, at once gave the parents a certificate to take to the registrar. He, however, refused to accept it and the matter was reported to the coroner. At the inquest the midwife said the birth was premature and so she gave the certificate. "She had previously given certificates which had been accepted by different registrars." The coroner is reported to have said "God help us all" if midwives were allowed to do this kind of thing. "There was a good deal said about the registration of midwives and of giving them more powers, but instead of that they ought to take away what power they already possessed." He said also that they were not intended "to take the post of doctor," but were only nurses, and that "if they desired to act beyond the duties of the nurse they should be compelled to go through a proper medical training and qualify as doctors." In this case the midwife was not present at the time of death and did not know the cause of death, but still gave a certificate. "It might have been murdered," as the coroner said, "for all she knew." The city coroner has had a large experience as to infant mortality and in connexion therewith sees much of midwives, so that the above expression of opinion should carry some weight. It seems unlikely, however, that any expression of opinion will influence those who are bent on the creation of an inferior and necessarily imperfectly educated order of practitioners who will compete not in midwifery alone, but in general practice also, with the legally qualified general practitioner. With the knowledge of what is done even now it is futile to expect that they will pay much regard to any strict boundary line of duty.

Health on the Ship Canal.

From the report of the medical officer of health of the

Port of Manchester (Dr. J. H. Crocker) it appears that from April to December last year he inspected 790 vessels. Of these 431 steamers and 207 sailing ships were British, while 108 steamers and 44 sailing ships were foreign. Defects or insanitary conditions were found on 86 vessels, but notwithstanding all the too true stories, so often repeated, of the prodigious power of its "stinks" the amount of sickness on the canal during the year was very slight.

Small-pox on the Canal.

At a meeting of the Manchester Port Sanitary Authority on March 3rd there was some discussion respecting a case of small-pox on board a ship in the canal. An agreement exists between the Manchester and Liverpool Port Sanitary Authorities by which the latter are to prevent such cases from coming up the canal and to take charge of them at Liverpool. But it seems that some misunderstanding arose and the clerk to the Manchester authority received an intimation that the case referred to was coming to Manchester. The man was, however, at once removed to the Ladywell Sanatorium, the whole of the crew were vaccinated and confined to the ship while in port, and the ship was disinfected. The misunderstanding between the authorities has been removed and in future the medical officer of Liverpool will remove all cases of small-pox from vessels bound for Manchester and as far as possible disinfect the ships. The medical officers of Widnes and Warrington are also to be approached with a view to similar arrangements being made with them.

March 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Annual Dinner of the Edinburgh Royal Medical Society.

THIS interesting event was held on March 11th. The guest of the evening was Mr. Mitchell Banks, F.R.C.S. Eng., of Liverpool, who is an Edinburgh graduate and had been during his student days a member of the society. It is the custom of the society thus to entertain one of its former members who has risen to eminence outside Edinburgh. In replying to the toast of his health Mr. Banks referred to the medical curriculum and said there were too many subjects taught and too much learning expected from the modern student of medicine. He thought that by the modern university system they were in danger of spoiling the aptitude of the student for teaching himself. It was a hard thing now to get a student to sit down at a bedside and worry out a difficult clinical case as they used to do in the old days. Sir William Gairdner, in replying for the Scottish Universities, said that he was not quite satisfied that the labours of the Commission had in all respects been for the good of Scotland. With regard to the fall in the number of students he had anticipated that and did not think much of it. He was not quite clear about the arrangement for putting professors upon fixed salaries. He had, however, no fear for the universities in the future so long as they could keep up the standard, and as long as the professors could say that their chairs were their main business so long would the Scottish Universities hold their own.

School of Medicine of the Royal Colleges of Edinburgh.

At a meeting of the Governing Board of the School of Medicine of the Royal Colleges of Edinburgh, Dr. G. A. Gibson presiding, the secretary, Mr. R. N. Ramsay, reported that the number of students attending the school during the current winter session was 1184, an increase of 285 as compared with the corresponding session of the previous year. Mr. Cotterill, Mr. Cathcart, Dr. Gulland, Dr. Fleming, and Dr. Aitchison Robertson have been elected as lecturers.

University of Glasgow.

The list of gentlemen on whom the Senatus proposes to confer the honorary degree of LL.D. at the April graduation includes the names of Alexander Duncan, B.A., secretary and librarian to the Faculty of Physicians and Surgeons, Glasgow, and John Millar Thomson, F.R.S., Professor of Chemistry in King's College, London. The profession in Glasgow will heartily endorse the academic recognition of Mr. Duncan's long and valuable services. Mr. Wm. Houldsworth, of Rozelle, Ayr, has intimated his intention to present to the University the sum of £5600 for the purpose of endowing a research scholarship in connexion with the Faculty of Science. The Court has decided to allow women students to compete upon the same terms as men for all open bursaries in arts, medicine, and science that were established prior to Aug. 30th, 1864.

Glasgow Infirmaries.

The directors of the Western Infirmary have announced their intention to proceed with the erection of a new building for the accommodation of the out-patient department. The building will be situated in the infirmary grounds and will include two wards for the reception of patients suffering from diseases of the skin. The estimated cost of the new dispensary is £25,000. Towards this the directors have received a grant of £5000 from the Bellahouston trustees and subscriptions amounting to a further sum of £10,000, leaving an additional £10,000 yet to be raised. The three new operating theatres at the infirmary are now in full working order and, though the critics are not perfectly happy, the great value of the new theatres is universally recognised. The plans for the reconstruction of the Royal Infirmary have been carefully considered by the medical and surgical staff and it is understood that the very extensive modifications proposed by the staff are likely to be adopted by the committee. Arrangements are already in progress to provide temporary accommodation for patients during the building operations. At a meeting recently held in Glasgow it was decided, on the motion of Mr. Robert Bird, seconded by Dr. Marion Gilchrist, to raise a sum of money for the endowment of a children's cot in memory of the author of "Alice in Wonderland."

Lectures by Medical Men.

On the evening of Sunday, March 13th, Professor Sir Wm. Gairdner, K.C.B., delivered a "lay sermon" in Trinity Congregational Church, Glasgow, his subject being "Tolstoi and the Sermon on the Mount." The concluding lecture of the series of lectures on art subjects instituted by the Glasgow Corporation was delivered on March 12th by Dr. Thomas Bryce, Lecturer on Anatomy in Queen Margaret College; the subject of the lecture, which was freely illustrated by limelight views, being "The Anatomy of Expression." A course of special lectures to ladies on the Relation of Alcohol to Health and Disease is announced; the lecturers will be Professor McKendrick, F.R.S., Dr. W. L. Reid, and Dr. Robert Brown.

March 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Dublin Sanitary Association.

THE annual meeting of the Dublin Sanitary Association was held in Leinster House on March 8th, Dr. J. W. Moore, the President, occupying the chair. The annual report which was read dealt chiefly with the various attempts that had been made during the year to provide suitable hospital accommodation for convalescent patients. Sir George Duffey, President of the Royal College of Physicians of Ireland, in moving the adoption of the report said that when last year he had proposed a similar resolution the health of Dublin was in a far more unsatisfactory condition than it is at present. According to the Registrar-General's recent returns the death-rate in the Dublin registration district during the first eight weeks of the current year was 1·9 per 1000 under the mean rate in the corresponding period of the previous ten years. There was a decline also in the epidemic of scarlet fever, which had been so prevalent, though there does not seem as yet to be any steady diminution in the number of cases of typhoid fever. The establishment of the home for convalescents in connexion with Cork-street Fever Hospital had proved most useful. The report, however, showed that the existing hospital accommodation for the treatment of infectious diseases was still altogether inadequate for the number of fever cases among the population. Sir Christopher Nixon, in moving the election of the council for the ensuing year, made some interesting observations in reference to the vexed question of hospital accommodation for convalescents and mentioned a proposal made by the outgoing President of the association so long ago as 1879, that a convalescent hospital should be provided, consisting of four different portions, for patients recovering from small-pox, scarlet fever, measles, and typhus fever respectively. He (Sir C. Nixon) thought that such a plan might be adopted at the present day with a modification which would exclude small-pox patients from all connexion with other convalescents. The speaker alluded also to the total want of means for conducting bacteriological investigations in Dublin. In Liverpool, Manchester, Aberdeen, and in Belfast there were, he said, special bacteriological departments, organised and in the charge of experts, where such important procedures as, for example, the examination of milk for the germs of tuberculous disease could be properly carried out, yet neither the Dublin Corporation nor the Local Government Board had made any move in the matter.

The Local Government Bill.

If the provisions of the Local Government Bill as published remain unaltered the measure will seriously affect many of the lunatic asylums of Ireland. As regards the largest—the Richmond District Asylum—the present Board of Control will be abolished and the general management of the institution will be vested in a committee appointed by the county councils of the respective counties which form the contributing area of the district. Moreover, the Richmond district had secured advantageous terms in reference to loans by a special Act of Parliament passed in 1877 to which no allusion is made in the new Bill. The county councils will in future—and the matter may be very important—appoint not only the assistant medical officers of the asylums throughout Ireland but also the medical superintendents who have hitherto been appointed by the Lord-Lieutenant.

The Richmond District Lunatic Asylum.

At a meeting of the Governors of the Richmond District Asylum held on March 10th the medical superintendent, Mr. Conolly Norman, reported the occurrence of three fresh cases of beri-beri during the last fortnight and remarked that although but few of the patients suffering from that disease were now in any apparent danger a large number still remained in a most unsatisfactory condition, showing but little tendency towards recovery.

The Belfast Workhouse.

The coroner for Belfast has drawn the attention of the Local Government Board to an inquest held by him on March 2nd in reference to the death of an inmate of the Belfast Workhouse. It seems that the ward in which the deceased man died contained about 100 infirm patients and at night no ward-masters are present, the inmates being left in charge of pauper attendants, who retire to bed at the same time as the other inmates. No medical attention is paid to the inmates of the infirm ward while therein unless the inmates themselves, the ward-masters, or pauper attendants call the attention of the medical officers to the condition of the inmates. The man who died had a bad cough for eight months, and although a week prior to his death he complained to a pauper attendant of being unwell this was not reported either to the ward-master or to the medical staff. At the post-mortem examination congestion and inflammation of the lungs were detected, showing that the deceased required medical attention. It is evident that the man should have been in hospital, but he did not receive medical treatment and his serious condition was not observed by either the pauper attendant or the ward-master, and he was found dead in his bed on Feb. 28th. The jury acquitted the medical staff of blame because unless their attention was specially called it was not their business to medically supervise the inmates of the infirm ward, and further, it was stated that each resident medical officer had almost 400 patients daily under his care, so that in the opinion of the jury it was physically impossible that he could attend to such a number even if it was his duty to do so. While the jury acquitted the medical staff of blame they strongly condemned the system which permitted the deceased to die without any supervision or medical help. It is at the request of the jury that the coroner writes to the Local Government Board urging a reform of a system which they strongly condemned. The Board has promised that the subject shall receive their attention.

The Royal Victoria Hospital, Belfast.

The Belfast Corporation (Hospitals) Bill came before the Committee of the House of Lords on March 8th. The object of the Bill is to enable the Commissioners for general control and correspondence and for superintending and directing the erection, establishment, and regulation of asylums for the lunatic poor of Ireland to transfer certain lands in the city of Belfast for hospital purposes to the Corporation of Belfast and to the trustees of the Royal Victoria Hospital of Belfast. The Bill not being opposed has passed through Committee, but the report of the House will be kept back pending the introduction of amendments in accordance with the Committee's decision that the charter (which is not completed) should be obtained defining the purposes of the hospital.

Londonderry Lunatic Asylum.

A resolution urging the Government to take over the entire expense of the Irish asylums so that for the future they should be wholly maintained at the cost of the State as an Imperial charge was passed unanimously by the Governors of the Londonderry Lunatic Asylum on March 1st.

March 14th.

PARIS.

(From our own Correspondent.)

Monoxide of Carbon Produced in the Blood by Chloroform

At the meeting of the Academy of Sciences held on March 7th M. Niclou reported that he had found a new method of estimation for the presence of feeble traces of monoxide of carbon. He shakes up the air or the liquid under suspicion with iodic acid. Iodine is set free and can be estimated by the usual methods if it is in appreciable quantity or by a colorimetric method if the quantity is very small. This is a valuable method of investigation, for up to now to investigate traces of monoxide of carbon the method has been to make a sparrow breathe the suspected air and then after death its blood is examined with the spectroscope after the method of Claude Bernard. Thanks to the new method, MM. Degrez and Nislou have been able to perform experiments upon the blood of those anæsthetised by chloroform, experiments which have been disputed by M. Saint Martin. These observers have found that monoxide of carbon exists in normal blood in very small proportion, but that the quantity of this gas is notably increased under chloroform anæsthesia. For example, in one case under the influence of chloroform the investigators found 7 c.c. of monoxide of carbon per litre of blood. The question whether anæsthesia and sleep are not produced by monoxide of carbon is interesting. With the object of settling this point MM. Degrez and Niclou have studied the condition of the blood during the anæsthesia produced by ether. In no case did they find that the normal proportion of monoxide of carbon was increased. The increase of that gas under chloroform anæsthesia is therefore due to the breaking up of the chloroform.

Tuberculous Meningitis produced Artificially.

At the meeting of the Society of Biology held on March 5th Dr. Louis Martin gave a demonstration of how tuberculous meningitis could be produced in guinea-pigs and rabbits by injecting tubercle bacilli into the cerebro-spinal fluid. He took a slightly curved needle and put it into the cavity of the cranium, passing through the ligaments joining the occiput to the atlas, keeping the needle against the occiput, using this bone as a guide so as not to injure either the medulla or the cerebellum. This operation in the guinea-pig is one of extreme delicacy. When the injection is made it must be made very slowly so as not suddenly to increase the tension of the cerebro-spinal fluid. Guinea-pigs injected with tuberculous cultures in the cerebro-spinal fluid die on from the ninth to the fifteenth day. After the injection the animal suffers from fever, but it neither wastes nor is there any paralysis. Three or four days before death the coat stares, the guinea-pig rolls itself into a ball, and loses weight very rapidly; paralysis appears during the last day or two and specially affects the hind limbs; the animal is very ill and dies with its temperature much raised. Dr. Martin has generally noticed flattening of the abdomen. In the rabbit the operation is very easy and these animals are much less sensitive to tubercle than are guinea-pigs. The progress of the malady is less rapid; wasting and paralysis do not appear before the third week or even later. They die after five weeks or even two months and on making a post-mortem examination tubercle is found surrounding the vessels and there is general gelatinous œdema spread over the peduncles of the brain exactly in a similar manner as in children. By the courtesy of M. Marfan Dr. Martin was enabled to use some cerebro spinal fluid from a child who had died from tuberculous meningitis. Half a cubic centimetre was injected into a guinea-pig in the manner above described, with the result that it died in eight days, and under the microscope the meninges were found to be swarming with tubercle bacilli. Dr. Martin cultivated the meninges and obtained a culture of the tubercle bacillus. A control guinea-pig inoculated under the skin with the same dose died in four weeks. Dr. Martin also obtained some cerebro-spinal fluid from a tuberculous patient during life by means of a lumbar puncture and inoculated this fluid into the cerebro-spinal space of a guinea-pig. The animal died in eighteen days. A control guinea-pig inoculated hypodermically only showed a small ulcerated patch at the point of injection. In two months after the injection the animal was still alive. With the view of finding out if this investigation would be a help in the diagnosis of tuberculous meningitis Dr. Martin drew off some cerebro-spinal fluid from rabbits infected with tuberculous meningitis and having injected it into guinea-pigs observed that they died after an interval of time in direct relation to the date at which the rabbit died. In a rabbit already showing signs of paralysis Dr. Martin drew off 2 c.c. of cerebro-spinal fluid and on the next day the rabbit, which had been lying motionless on its side, was able to stand up on its feet; the improvement was, however, of short duration, for the rabbit died six days after the operation.

Blackmailing a Medical Man.

A medical man at Lille was recently arrested at the instance of a girl, who to avenge herself on her lover had accused him of having conspired with the medical man to procure abortion on her. The medical man in question was sent to prison. The inquiry showed that the whole charge was false. The sworn declarations of the girl were obviously inconsistent. Among the surgical instruments shown to her by an expert she pointed out one as having been used to procure the abortion which it would be obviously impossible to use for this purpose. On the other hand she said that the medical man had operated upon her on Dec. 23rd and that the abortion took place on Jan. 12th. On the representations of the expert witness the magistrate released the medical man after twenty-four hours' imprisonment. The daily press has vigorously criticised the conduct of the magistrate in so promptly arresting a medical man on the mere complaint of one who, to say the least of it, was not to be trusted.

The Expert Witnesses in the Laporte Case.

At the time of the arrest of Dr. Laporte, who has just been honourably acquitted, the medical men of Paris were naturally very angry with Dr. Socquet, whose hurriedly drawn-up report was, as everybody said, the cause of the prompt imprisonment of Dr. Laporte. M. Varnier, Professor of Obstetrics at the Faculty of Medicine, published at this time an article which caused a great sensation in which he reprinted the report of M. Socquet and then his second report, which was drawn up in conjunction with Professor Maygrier. He compared them with each other word by word and attacked them with extreme violence. The trial before the Court of Appeal made it possible for the public to become acquainted with the exact text of these reports which were laid before the court. It was easy to see that the text of reports upon which M. Varnier had established his position was altogether inaccurate and on the contrary it became evident that the expert witnesses had been perfectly impartial. The Society of Legal Medicine in its recent meeting on March 14th had a long discussion in which the exact text of these reports was laid before the members, together with the specimens from the post-mortem examinations and photographs of the same. The Society of Legal Medicine passed a resolution unanimously declaring that the attitude of the experts was absolutely inexplicable.

March 15th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Centenary of the Voltaic Pile.

IF electricity entered on a new éra with the experiments of Galvani, of Bologna (1737–1798), it is to Volta that it owes its development along purely physical lines. These are accepted facts in the history of science—facts which redound to the honour of Italy. Not so well known, however, was the other fact that besides "physiological electricity" the application of the electric force to therapeutics is also of Italian origin, till it was established by the great German physiologist who died eighteen months ago at Geneva, Professor Moritz Schiff. That indefatigable worker and independent thinker in two papers (which appeared in THE LANCET of July 22nd and July 29th, 1876, pp. 117 and 150) traced the inception and progress of "Physiological and Medical Physics" from Galvani and Volta down through Marianini to Nobili, whose findings, as rectified by Matteucci, became the starting-point of fresh discoveries by the latter investigator till in 1829 he succeeded in proving (the words are Professor Schiff's) "that if along a dead animal tissue there runs the current of a simple pile the putrefaction is notably arrested and its products modified." The use made of this pregnant observation by Matteucci himself and a host of successors belongs to recent medical history and explains the enthusiasm with which Galvani twenty-one years ago received the honours of a memorial statue in his native Bologna and with which Volta, at the hands of a committee of Lombard telegraphists, physicists, and medical men will shortly be commemorated at his birthplace on Lake Como "nell' occasione del centenario della pila." Already scientific Italy is on the alert to celebrate worthily the centenary of this noble and prolific discovery and besides the Minister of Public Instruction their Excellencies the Ministers of Public Works, Finance, and Posts and Telegraphs have given their adhesion to the project and their coöperation towards its success. The medical contingent is also notably "representative" and will, it is hoped, utilise the occasion to wrest from Ministers some better means of following up the "bahnbrechend" work of Matteucci and his disciples than has yet been vouchsafed it. A "Volta prize" open to the *alumni* of all Italian Universities or more effectively equipped laboratories for the study and teaching of "physiological electricity" would be undoubtedly useful and eminently in keeping with the best traditions of the great Lombard investigator and discoverer.

Expectoration in Public Vehicles.

The movement in New York [1] for the suppression of this practice, as dangerous as it is disgusting, has its counterpart in Italy, where in many of the public conveyances (steam tramcars and even railway carriages) may now be seen notices conspicuously posted inviting passengers to refrain "dallo sputare" (from spitting) for the twofold reason of "decenza e salute" (decency and health). Considering that Italians were prominent in recognising the facility with which tuberculosis may be contracted by the inhalation of the germs wafted from the desiccated sputum left by expectorating tuberculous patients on carpeted floors or even on flagged pavements it is surprising that they should have waited for American initiative in the prohibition of "spitting outside the pocket-handkerchief." But in this, as in so many other salutary innovations, we must find comfort in the adage, "Better late than never."

German Students in Italy.

The reciprocity of civilities between two nationalities that used to be at deadly war is one of the most gratifying spectacles of the closing century. Just about a year ago,[2] under the title of "Inter-Academic Courtesies," I drew attention to the visits paid by professorially conducted Italian students to the chief Teutonic seats of learning and now we are witnessing on the part of Italy a return of the hospitality so graciously and generously vouchsafed to her by Germany. At this moment the chief Italian medical schools—from Genoa to Bologna, from Rome to Naples—are playing the congenial *rôle* of hosts to the select Burschenschaft of the Fatherland and, be it also added, are playing it with the goodwill and the liberality characteristic of the scientific undergraduate. "De minimis non curat juventus academica"; and that of Italy seems honourably emulous of its German counterpart in acting the "profuse Amphitryon" regardless of expense. At the banquets at which the visitors from the German schools have been entertained, I may add, there has not been the faintest semblance of "vulgar excitement"—a result to be expected when the ties between guests and hosts are those of science in general and the healing art in particular.

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[1] THE LANCET, March 12th, 1898, p. 783.
[2] THE LANCET, April 17th, 1897, p. 1122.

March 13th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Function of the Ciliary Muscle.

AT a recent meeting of the Vienna Medical College a paper on the Function of the Ciliary Muscle was read by Dr. Fukala. This muscle possesses a radial portion (Müller's muscle) the fibres of which pass to the middle of the eyeball, and a meridional portion (Brücke's muscle) lying towards the sclerotic outside the former. It is well-developed anteriorly, but decreases posteriorly. Brücke knew only the anterior part of the meridional portion, extending backwards for a length of about 0·1 inch, and believed that by its contraction it drew the choroid forwards and caused a relaxation of the zonule of Zinn, whereas the radial portion has an effect on accommodation. Brücke's muscle begins at Schlemm's canal and after a short meridional course divides into fibres which pass equatorially and become interwoven. In the inner layer, close to the choroid, there are, according to Schultze, equatorial fibres crossing the meridional fibres; in this way muscle nodes arise which form a network round the greater part of the eyeball and oppose, according to Dr. Fukala, the excessive dilatation which might be brought about by the external muscles. An elongation of the axis of the eye due to these causes would change emmetropia into myopia and increase a myopia already existing. The radial and meridional portions undergo different developments according to circumstances. In emmetropia both layers are equally well developed, for the emmetropic eye has a good power of accommodation and resists the action of the external muscles. In hypermetropia the radial layer is the stronger of the two, the meridional one being degenerated, for the hypermetropic eye requires to exercise its power of accommodation and there is no necessity for opposing elongation of the axis. In myopia there is atrophy of the radial part and hypertrophy of the meridional part, for accommodation is in this case less required; but it now becomes important to prevent elongation of the axis of the eye. Dr. Fukala's theory that the muscular network regulates expansion in the eye is supported by the fact that in myopia changes such as staphyloma posticum are found to occur at the posterior pole of the eyeball, where the fibres of Brücke's muscle are deficient.

Medical Aid Associations.

Some food for reflection is provided by a recently published report giving particulars of the operations of medical aid associations for the working classes during 1896. The membership shows an increase of 18,180 and the income an increase of 35,067 gulden (about £2922), the advance on previous figures being 10·4 per cent. The salaries of the medical officers amounted to 126,437 gulden (about £10,537), the advance in this department being only 3·1 per cent. The report states that there is an intention to extend the scope of these associations so as to include not only workmen but their families. The position of the medical officers of these associations is not altogether an enviable one, for they must not prescribe expensive medicines and they must be continually on the alert to detect malingering as well as to prevent the patients turning their illnesses to pecuniary advantage. There are three chief medical officers who are well paid and have only to exercise supervision over their colleagues. These associations have a total of 202,237 members. Medical aid associations for employers of labour have also been introduced, notwithstanding a protest made by the Medical Chamber, and nineteen medical officers have been appointed. The Medical Chamber, in fact, has extremely little influence in questions of this kind.

Decrease of Blood-pressure by Mechanical Means.

Some experiments on the effect of centrifugal force on the human body have been made by Dr. Wenusch, whose attention was attracted to the subject by the fact that when the arm is swung in a circle the hand becomes red from a determination of blood to the veins and capillary vessels. Experimenting on persons with normal circulatory apparatus he found that there was a decrease in the pulse rate and the blood-pressure when they were kept for ten minutes on a horizontal platform making sixty revolutions per minute round a vertical axis. In a case where the pulse-rate was 92 per minute and the manometer showed that the blood-pressure was 145 millimetres before the commencement of the experiment, the effect of the rotation was to bring down the pulse rate to 62 per minute and the pressure to 125 millimetres. Diminution of the pulse rate and blood-pressure were also observed in two cases of cardiac insufficiency. Rotation has the effect of increasing the amount of blood in the peripheral portions of the body and decreasing the amount in the central portions; between these two extremes there is a zone in which the blood-supply is normal.

The Chair of Forensic Medicine at Vienna University.

The medical professors of Vienna University have proposed Dr. Alexander Kolisko as Professor of Forensic Medicine, in succession to the late Dr. Hofmann. Dr. Kolisko is one of the most eminent authorities on pathological anatomy in Austria and his lectures are always attended by a great many English and American medical men.

March 14th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Australian Association for the Advancement of Science.

THE Australian Association for the Advancement of Science has recently held its seventh meeting. Sydney was the town selected on this occasion and the work of reading and listening to papers, in which a week was spent, was diversified by excursions to various places of interest in the vicinity. The inaugural ceremony took place in the great hall of the University on Jan. 6th, when about 500 guests were entertained by the president of the association, Professor Liversedge. On Jan. 7th Professor Liversedge delivered the presidential address, in which he summed up the history of the association and gave a synopsis of the progress of chemistry. The following are a few of the very numerous papers, abstracts of which appear in the *Town and Country Journal*. Mr. R. H. Matthews, L.S., read a paper on Pictorial Art among Australian Aborigines and Australian Initiation Ceremonies. Among the important portions of these ceremonies might be mentioned the use of the bull-roarer, fire and smoke ordeals, the extraction of a tooth, the application of human blood, the eating of human ordure, and the employment of certain mystic white stones. The section of biology was opened by Professor C. J. Martin, M.B., D.Sc. Melb., with an address on the Relations of Morphology and Physiology. Mr. A. W. Howitt, F.G.S., delivered an address on the "Origin of the Aborigines of Tasmania and Australia." The Australian might, he thought, be said to represent hunting tribes of the neolithic age, and their original stock might be assumed to have been a low form of Caucasian melanochroi. The weight of evidence went to show that the Tasmanian aborigines were offshoots of that stock to which the name of oceanic negritos was applied. An address on "The Centre of Australia," delivered by Professor W. Baldwin Spencer, of Melbourne University and illustrated with about sixty lantern slides attracted a large audience. He said that to reach that part of the country it was necessary to travel 680 miles by railway from Adelaide to Oodnadatta and then on camelback for two or three hundred miles. The business was concluded on Thursday, Jan. 13th, on which day Sir James Hector, K.C.M.G., M.D. Edin., F.R.S., lectured on "Antarctica." He said that very little is known about the Antarctic continent, although it is an immense area in extent almost equal to Australia.

Lunacy and its Treatment in Victoria.

The Melbourne *Age* brings an indictment against the Lunacy Department in Victoria. It affirms that very few, if any, of the asylums have been kept up to a proper standard of efficiency. There is more insanity in Victoria in proportion to the population than in any other country in the world, the proportion being 3·5 per 1000. The percentage of cases in the Victorian asylums has for years past shown a steady decline (from 54 to 30 per cent.), while the death-rate has been increasing. In the adjacent colony of New South Wales the percentage of recoveries has increased and the death-rate remained steady. The difference in the two colonies is attributed to the policy of cheese-paring and retrenchment adopted in Victoria. The number of medical officers has been reduced. Vacancies in the staff have not been filled, overcrowding has been permitted, and the asylums are not equipped with modern appliances. At the Kew Asylum there are 1000 patients under the care of two medical officers. In the estimates for 1896-97 provision was made for a second medical officer at the Yarra Bend Asylum, but the position remained unfilled for nine months, the salary being so small that no one would take the position. The head of the Lunacy Department, Dr. M'Creery, has done all in his power, but is hampered by want of funds. He himself is greatly overworked. In addition to being Inspector of Asylums and head of the whole department he is superintendent of the Kew Asylum, the largest asylum in the colony. In his last annual report he admits that the Victorian asylums compare unfavourably with those of other countries and do not give patients the advantages it should be possible to secure for them. Private asylums are not permitted in Victoria and paying patients are received at the asylum. The accommodation provided for them is very poor and is a disgrace to the Government. The result is that the friends of well-to-do lunatics generally send them out of the colony for treatment. The whole subject was considered by a sub-committee appointed by the Victorian Branch of the British Medical Association, who recently formed a deputation to the Chief Secretary on the matter, and probably some alterations and improvements will be made.

Infectious Disease in Victoria.

The number of typhoid fever cases reported to the Board of Health of Victoria has increased all over the colony lately. For the fortnight ending Jan. 22nd, 1898, 254 cases were reported with 24 deaths. For the corresponding period 1897 the number was 188 cases and 5 deaths. Diphtheria also shows a slight increase. In connexion with the reporting of infectious cases medical practitioners are dissatisfied with the fee allowed for making a report—viz., 1*s.* It was originally 2*s.* 6*d.*, but was reduced when the Government retrenched everything. The Medical Defence Association brought the matter before the Board of Health recently and probably the fee will be raised. The conveyance of patients with infectious disease to and from hospitals has recently been a cause of dispute between the Richmond City Council and the President of the Board of Health. The Richmond Council has promised an ambulance for the purpose and as under the Health Act it is an offence if persons suffering from infectious disease travel in tramcars or trains the council decided to prosecute in cases where patients were known to be travelling to and from the Children's Hospital while suffering from typhoid fever and diphtheria. Dr. Gresswell, the President of the Board of Health, when interviewed on the subject, characterised the action of the Richmond Council as harsh under the circumstances, seeing that there is no infectious diseases hospital yet established to which such cases can be sent and the people are too poor to pay for medical advice at their homes. To this the Richmond Council replied that in such cases the council provided medical attendance and that during 1896-97 1465 visits were paid to poor patients at their homes by a local medical man retained for the purpose by the council.

Feb. 1st.

THE *Councillor and Guardian* contains an appreciative little sketch of Mr. A. C. Farrington, M.R.C.S., M.R.C.P. Edin., who has done much to popularise parish council work in the Norfolk parish of Shelfanger, where he lives. As he has retired from practice he is able to devote much time to his favourite hobby—mechanical invention, his latest performance in this direction being the construction of a "secret voting machine."

Medical News.

UNIVERSITY OF CAMBRIDGE.—At the congregation on March 10th the graces suspending the Professorship of Surgery and establishing a temporary Readership in its place were passed. The General Board, with whom the appointment of the new Reader will rest, invite applications for the office to be sent to the Vice-Chancellor by May 2nd. At the same congregation the following were admitted to degrees in Medicine and Surgery:—

Doctor of Medicine.—F. C. Bottomley, B.A., M.B., B.C., Gonville and Caius.

Bachelor of Medicine and Bachelor of Surgery.—E. R. Delbruck, B A., King's; H. W. B. Shewell, B.A., Trinity; J. E. Charles, B.A., Caius; A. J. Petyt, M.A., Christ's; A. V. Peatling, B.A., Magdalene; A. E. Paterson, B.A., Emmanuel, and W. J. Lindsay, B A., Sidney.

Bachelor of Surgery.—C. R. Skryme, Christ's.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. J. de Bruin has qualified as *privat-docent* of Pediatrics.—*Basle:* Dr. Roth, Professor of Pathological Anatomy, has resigned his chair.—*Bonn:* Dr. Max Eichler has qualified as *privat-docent* of Otology.—*Budapest:* Dr. Julius Dollinger has been appointed Professor of Surgery, with charge of the First Surgical Clinic; Dr. Arthur Sarbó has qualified as *privat-docent* of the Diagnosis and Examination of Nervous Diseases. — *Cadiz:* Dr. Antonio Gonzalez Pratz has been appointed Professor of Clinical Medicine.—*Iurieff (Dorpat):* Dr. Nikolai Savaleieff, of Moscow, has been appointed Extraordinary Professor of Special Pathology.—*Moscow:* Dr. Tikhomiroff has been appointed Professor of Pharmacology. — *Munich:* Dr. Josef Trumpp has qualified as *privat-docent* of Pediatrics.—*Naples:* Dr. P. Malerba has been appointed Professor of Physiological Chemistry.—*Padua:* Dr. Penzo, of Turin, has qualified as *privat-docent* of Surgical Pathology.—*Pisa:* Dr. E. Respighi, of Bologna, has qualified as *privat-docent* of Dermatology and Syphiligraphy.—*Vienna:* Dr. Julius Weiss has qualified as *privat-docent* of Internal Medicine.

THE PASSION PLAY AT SELZACH. — It is announced that performances of the Passion Play will again be given at Selzach, in Switzerland, during the summer of 1898. The dates fixed are June 19th, 26th, and 29th, July 3rd, 10th, 13th, 17th, 24th, and 31st, Aug. 7th, 14th, 15th, 21st, 28th, and 31st, and Sept. 4th and 11th. The first tableau commences at 11 A.M. All information as to tickets, hotels, &c., can be obtained by applying to the following address: Graber, Selzach, Switzerland, the envelope being further marked "Bureau of Information."

THE LATE MR. H. W. FREEMAN.—Mr. Alderman Freeman, F.R.C.S. Irel., J.P., of Bath, who died last November, has left personalty amounting to £75,524. The deceased, who was a native of Bideford, bequeathed £1000 to the Bideford Infirmary and £15,000 to the Royal United Hospital, Bath, subject to certain trusts, to maintain a convalescent home for the patients and sick members of the staff of this hospital. His bequest of £1000 to the Middlesex Hospital, London, was mentioned in THE LANCET of March 12th.

HUNTERIAN SOCIETY.—An ordinary meeting of this society was held at the London Institution on March 9th, Mr. A. H. Tubby, vice-president, being in the chair. The following pathological specimens were exhibited and discussed:—Mr. Tubby: Large Cystic Kidney removed by operation.—Mr. Targett: Malignant Disease of the Uterus.—Dr. W. Rawes: Subserous Fibroid of the Uterus, showing necrosis of the centre and calcification of the periphery.—Dr. A. T. Davies and Dr. J. H. Drysdale: Double Thoracic Aneurysm simulating malignant growth of the left lung. The heart was displaced entirely to the right of the median line.—Dr. Drysdale: Sacculated Aneurysm of the Aorta.—Dr. Hingston Fox: Strangulation of the Ileum beneath an adherent Meckel's diverticulum.—Mr. John Adams: Bullet Wound of the Chest. The auricles, aorta, superior vena cava and right lung were perforated.—Dr. F. J. Smith: Tuberculous Kidney, Bladder, and Testes, with Angular Curvature of the Spine.—Dr. Sequeira: Tuberculous Peritonitis in a boy, with extensive Adhesions of the Intestines.

Forfarshire Medical Association.—A meeting of this society was held in the University College, Dundee, on March 4th, Dr. G. O. C. Mackness, vice-president, being in the chair.—Dr. Stalker read notes of a case of Spinal Myelitis of Syphilitic Origin. The chief symptoms were girdle pains, paralysis of the lower limbs, hyperalgesia in parts, incontinence of urine, exaggeration of deep reflexes, with absence of rigidity. The case improved rapidly under treatment.—Dr. Buist read notes of a case of Cystocele on which he had operated. He made a vertical incision in the anterior vaginal wall, stitched the postero-inferior portion of the bladder wall in folds, and made the vertical incision into a transverse cicatrix. The result of the case was relief without recurrence six months after.—Dr. Halley read notes of a case of Acute General Erythema following a septic ulcer. The patient was a man, aged seventy years, who had suffered for several years from an ulcer of the leg. The ulcer having become septic and gangrenous he was admitted to the hospital. At the same time his whole body became covered with an erythematous rash. He had had no rigor or sore throat but his temperature was 101° F. It was considered advisable to amputate through the middle of the thigh,. The case gave no trouble, the rash disappeared, and desquamation commenced immediately on its disappearance. Dr. Halley discussed the possibility of the rash being due to an idiosyncrasy on the part of the patient to the carbolic lotion which was used as a dressing, but he considered that it was more probably due to septic absorption.—Mr. Greig read notes of cases he had attended in which eczema and erythema had followed the application of antiseptic dressings.—Pathological specimens were shown by Dr. G. F. Whyte and Dr. Kynoch.

National Registration of Plumbers.—The annual public meeting of the Bradford district council, in connexion with the National Registration of Plumbers, was held on March 9th at the Technical College, Bradford. Mr. Charles France, architect, presided, and was supported by Alderman Richard Hind, Master of the Worshipful Company of Plumbers; Dr. W. A. Evans, medical officer of health; Mr. James Watson, city waterworks engineer; Mr. J. H. Cox, city surveyor; and Mr. F. W. Richardson, city analyst. Dr. Evans, in seconding the adoption of the report, said the work of registration was certainly progressing. It was hardly necessary to point out the value which all sanitarians attached to the efficiency of plumbers' work. It was very often the scamping of plumbers' work or the employment of unqualified people which was the cause of the preventable diseases which were the scourge of communities. He hoped the Bill for the Registration of Plumbers would have better fortune than it had previously had. Alderman Hind said he was very glad to see the names of two medical officers on the list of public representatives of the council, for much of the sanitary progress of any community depended upon the interest of these gentlemen. He acquiesced in Dr. Evans's expression of the hope that the Plumbers Registration Bill would meet with a better fate this year than it had hitherto experienced. It was admitted on all hands that much of the preventable disease of the country was caused by bad plumbing work inside the house, and it was therefore regarded as most important that some provision should be made whereby any person who wanted to employ a plumber should be able to know whether or not the person whom he had in view had had the necessary and proper training. Speaking of the Worshipful Company of Plumbers he said that though for a time it had passed out of the hands of the plumbers it was now interesting itself in the trade in a very practical way. Mr. James Watson proposed a resolution—"That this meeting reaffirms the desirability of the speedy passing into law of the Plumbers Registration Bill." He said he had had something to do with the initial stages of the registration of plumbers in Scotland, for he was convinced that the plumbers very largely had control of the public weal especially in congested communities. He contended that it was the bounden duty of Parliament, whose first object should be to see to the public health, to give the qualified plumber a status and standing by registration in order to encourage him to do his best for the community in which he lived.—Mr. F. W. Richardson, city analyst, then delivered a lecture on "Microbes and Sanitation," in which he described and illustrated the nature of microbes, the poisons formed by disease germs, the causes of the various preventable diseases, the conditions favourable to diseases and epidemics, the influence of filth, bad water supplies, and defective plumbing, and the importance of sanitation generally in regard to disease. Votes of thanks to the chairman, to the lecturer, and to Alderman Hind closed the meeting.

Death of a Centenarian.—The Rev. Edward Allen, the oldest clergyman in the Church of England, died at Tiverton on March 4th in his 101st year.

Dartmouth Cottage Hospital.—The eleventh annual meeting of this institution was held recently. The report showed that 68 patients had been admitted during 1897 and that the total number of admissions since the establishment of the hospital was 452. The expenses of maintenance for the past year amounted to £304 and a balance of £62 remained in hand.

Exhibition at Rochefort-sur-Mer.—Rapid progress is being made with the buildings of the International and Colonial Exhibition which is to be held at Rochefort-sur-Mer from June to October. The magnitude of the work will be understood from the fact that the central dome of the buildings is to be at least eighty feet in height. The exhibits will include commercial, industrial, and marine products, pictures, &c.

Victoria Infirmary of Glasgow.—The report of the Victoria Infirmary of Glasgow for the year ended Oct. 31st, 1897, shows that 123 patients were under treatment on Oct. 31st, 1896, and that 1590 were admitted during the year; there were 134 deaths, 49 of which occurred within forty-eight hours after admission, and 135 cases remained under treatment on Oct. 31st, 1897. The operations included 14 cases of ovarian tumour, 52 other abdominal sections, 12 excisions of the hip, 12 excisions of the knee, and 16 cases of trephining. The average daily number of patients was 188, the average residence was thirty-one days, and the average cost per head £4 9s.

The Factory Girls' Country Holiday Fund.—The society was started ten years ago, and 39 girls and women were sent for a holiday during the year 1888. Since then the number has steadily increased, and during the past year (1897) 1250 girls and women were sent to the country or seaside at a cost of £1230 3*s.* 6*d.*, of which sum the amount of £246 17*s.* 7*d.* was paid by themselves. It is somewhat surprising that the committee find it necessary to include the following paragraph in their report: "All the railway companies, in spite of many appeals, still refuse to grant reductions of fares."

National Dental Hospital.—Mrs. Victor Horsley distributed the prizes to successful students of the last session at the Queen's Hall on the 14th inst. In acknowledging a vote of thanks Mr. Victor Horsley alluded to the brighter prospect which was now before the student in his professional career and to the necessity for broader education. Those who took advantage of the facilities now supplied would be the first to reap the reward. There were, however, still a few, even among his colleagues on the General Medical Council, who did not appreciate the necessity of surgical knowledge for a dentist, but this retrograde feeling was confined to a very limited number.

Literary Intelligence.—Messrs. Macmillan and Co. will publish early in April the fifth volume of the System of Medicine edited by Professor Clifford Allbutt. It will deal with the Diseases of the Respiratory Organs, Diseases of the Pleura, and partly with Diseases of the Circulatory System. The sixth volume, which is well advanced, will complete the secttion dealing with Diseases of the Circulatory System, and will also deal with Diseases of the Muscles and of the Nervous System, including Mental Diseases. A series of short articles on the Diseases of the Skin will complete this important work. It seems practically certain that a seventh volume will be required, but this will include a complete Index. It is expected that the remaining volumes will be issued before the end of the year.—We understand from Messrs. Sampson Low, Marston, and Co. that the whole of the fourth and a large part of the fifth new and popular editions of Dr. Theodor Billroth's "The Care of the Sick at Home and in the Hospital" were subscribed for prior to publication, a result upon which we congratulate the translator.

COUNTY LABORATORY FOR GLAMORGANSHIRE.—At the meeting of the Sanitary Committee of the Glamorganshire County Council, held on March 4th, it was decided to establish a bacteriological and chemical laboratory in Cardiff and to advertise for a bacteriologist at a salary of £250 per annum. It is hoped that the laboratory will be in working order by June next. The initial expense is set down at about £500 and the annual cost of maintenance at £390. This valuable institution owes its formation to the energy of Mr. H. Lewis (the chairman of the County Sanitary Committee), Mr. Naunton Davies, F.R.C.S. Edin., Dr. T. H. Morris, and Dr. W. Williams (the medical officer of health of the county).

CITY OF LONDON LYING-IN HOSPITAL. — The report of this institution for the year ending 1897 states that during the year 521 women have been delivered in the hospital, being 28 more than in 1896, and the highest number since 1863. 524 children were born—viz., 279 boys and 245 girls; three women had twins; 29 children were stillborn, 22 of these being either decomposed or premature; 15 children were apparently stillborn but were restored, and three women and 15 children have died. None of the maternal deaths were from septic causes. Of 1668 women delivered by the midwives at their own homes 1686 children were born; of these 872 were boys and 814 girls; 18 women had twins; 69 children were stillborn and 29 apparently so though subsequently they were restored; 6 women and 32 children have died. The financial condition of the hospital is satisfactory.

EPSOM COLLEGE.—The College has recently sustained a great loss by the death of Mr. P. H. Maddock, one of the assistant masters. Educated at Marlborough and Lincoln College, Oxford, for several years he had been a most earnest and successful worker with the head-master and the staff in raising the tone and the scholarship of the school to its present position. He was a good form master, devoted to his boys, and they were very attached to him. His colleagues of common room were his friends. By his will he has bequeathed £500 to the college, which will doubtless be used to perpetuate his memory. His pictures and his library, consisting of several hundreds of valuable works, he has given to the school. Such interest and affection for an institution in which he lived and worked will show how close is the tie between the teachers and the taught and will go far to explain the growing reputation of the college. His friend and sole executor has generously given the valuable entomological collection made by Mr. Maddock to the college museum.

THE DENTAL HOSPITAL OF LONDON. — The fortieth annual meeting of governors of this institution was held at the hospital, in Leicester-square, on March 17th. The committee, in their report, which was unanimously adopted, regretted the necessity of calling attention to a slight falling-off in the amount received from annual subscriptions, a diminution which they hoped might be due solely to the very unusual demands made on the public during the Diamond Jubilee year and they trusted that their next report would show an improvement in this direction. The total amount received for the general fund was £2677 13*s*. 7*d*., including £109 7*s*. 6*d*. from the Prince of Wales's Hospital Fund, £109 7*s*. 6*d*. from the Hospital Sunday Fund, and £141 18*s*. from the Hospital Saturday Fund. The contributions to the building fund amounted during the year to £2928 14*s*. 11*d*., including £577 5*s*. received from the trustees and members of the Managing Committee, in addition to their previous donations. The erection of the new hospital buildings has not progressed so far as the committee wish, owing partly to difficulties with various public authorities (in meeting these difficulties they have to acknowledge much assistance from the Charity Commissioners) and partly to the advance in price of building material and other unavoidable causes. The medical report showed that the number of operations performed in the hospital had increased from 19,255 in 1874 (when the present buildings were taken over) to 57,654 in 1896 and to 62,512 in 1897, and the committee thought that these figures alone should be sufficient to recommend the claims of the institution for increased help and support. Donations or subscriptions will be gladly received by the bankers, Messrs. Barclay and Co., Limited, 1, Pall-mall East, S.W.; the treasurer, Mr. Joseph Walker, M.D. St. And.; or the secretary, Mr. J. F. Pink, at the hospital, Leicester-square, W.C., the latter of whom will be very pleased to supply any information concerning the hospital.

THE LATE MR. GEORGE MÜLLER.—Mr. George Müller, the founder of the well-known Orphan Homes at Bristol, where 2000 children are now supported by voluntary contributions, died suddenly on March 10th. Mr. Müller who was ninety-two years of age, succumbed to an attack of syncope.

HOSPITAL FOOTBALL.—The final tie for the Rugby Challenge Cup was played at Richmond on Tuesday, March 15th, when St. Thomas's Hospital, the holders, were beaten by Guy's Hospital by one goal and three tries to a dropped goal. This is the first time for ten years that St. Thomas's have been beaten in this competition.

EAST-END MOTHERS' HOME.—The annual meeting of this institution will be held on March 22nd, at 9, Grosvenor-gardens, S.W., at 3.30 P.M. The report of the Committee of Management for 1897 states that the number of in-patients admitted was 237 and of the out-patients who attended 241. Financially the year compares favourably with the previous twelve months. The general health of the patients in the Home has been very satisfactory. It is pointed out in the medical report that "privacy in many model dwellings is often very difficult to procure and the Home meets this to a certain degree by providing accommodation for confinements. It is hoped that the proposal to add to the existing accommodation may be carried into effect."

PRESENTATIONS TO MEDICAL MEN.—On the 3rd inst. at a social meeting of the Glasgow and South-Western Railway Ambulance Class Mr. R. C. Robertson, M.B., C.M. Glasg., the class lecturer, was the recipient of a pair of opera-glasses and a gold pendant, and Mr. J. Laurie, M.D.Glasg., who gave several lectures during Dr. Robertson's illness, was presented with a pair of silver candlesticks.—On the 3rd inst., at a social meeting of the station corps of the St. John Ambulance Association, Perth, Mr. W. Robertson, M.D. Glasg., the instructor of the class, was presented with a study chair.—Mr. Geo. M. Johnstone, M.D., F.R.C.P. Edin., of Leith, was entertained at dinner on the 3rd inst., at the Peacock Hotel, Newhaven, Edinburgh, by the parish council officials, on the occasion of his approaching marriage, and presented with a complete set of silver fruit knives and forks, and also a case containing accessories in the shape of silver nut-crackers and grape scissors. At the same time Dr. Johnstone was the recipient from friends and patients resident in Leith of an address and a silver salver.—On the 5th inst. the railway employés on the Great Central Railway at Stairfoot, Barnsley, assembled in one of the waiting-rooms for the purpose of receiving efficiency certificates of the St. John Ambulance Association, presented Mr. C. B. B. Savory, M.D. Edin., of Stairfoot, the lecturer to the branch, with a silk umbrella.—Dr. John T. Arlidge, J.P., of Newcastle-under-Lyme, has been presented by the medical faculty and the Committee of the North Staffordshire Infirmary with a full-sized portrait in oils, which is now hung on the walls of the board-room of the institution, as a testimonial in recognition of the personal services he had rendered to the infirmary and to medical science. It may be stated that the subscribers were exclusively limited to past and present members of the general and medical committee of the infirmary. Another fund was started at the instigation of Dr. Moore, of Dublin, with which a handsome illuminated address and a massive silver salver were provided and have also been presented to Dr. Arlidge, the salver bearing the following inscription: "Presented to J. T. Arlidge by several of his friends in grateful remembrance of his unvarying kindness and professional skill, and likewise in recognition of the value of his published works and long continued exertions to advance the interest of the working classes."—On March 8th, at the annual meeting of the Tunbridge Wells Eye and Ear Hospital, Mr. Geo. Abbott, L R.C.P. Lond., M.R.C.S., of Tunbridge Wells, the founder of, and an active worker during the lengthened period of eighteen years in, the institution, was the recipient on the occasion of his official retirement of a beautifully illuminated address, suitably recognising his valuable services to that hospital and to the town of Tunbridge Wells. A sum of £85 has been voluntarily subscribed which, in accordance with his suggestion, has been applied to form a nucleus of a fund for aiding convalescent patients from the hospital.—At a meeting of the subscribers of the Hambrook Village Hospital, held on Feb. 28th under the presidency of Captain Belfield, Dr. E. Crossman was presented with a silver salver bearing the following inscription: "Presented to Edward Crossman, Esquire, M.D., by subscribers of the Village Hospital, Hambrook, in recognition of his valuable and devoted services to that institution as medical director during thirty years—1867-1898."—At a meeting of the parishioners of Bere Ferrers, Devonshire, held on March 5th, the Rector (the Rev. F. W. Wintle) presented Mr. A. Keppel Reede, L.R.C.P. and S. Edin., with an illuminated address, a silver teapot, sugar basin, tongs, and cream dish, as a mark of their respect and esteem upon the occasion of his leaving the neighbourhood.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Amendment of the Lunacy Laws.

THE Government have in preparation and will very shortly introduce in the House of Lords a Bill for the amendment of the Lunacy Laws.

London University Commission Bill.

During the Committee Stage of this Bill in the House of Lords the Duke of Devonshire announced the names of the Commissioners as follows:—Lord Davey, chairman, the Bishop of London, Sir William Roberts, Sir Owen Roberts, Professor Jebb, M.P., Professor Michael Foster, and Mr. E. H. Busk, Chairman of Convocation. These names are the same as were proposed in the Bill of last year, with the exception that Professor Michael Foster takes the place of Lord Lister.

Petroleum Lamp Accidents.

The House of Commons has re-appointed its Select Committee on the keeping, selling, using, and conveying of petroleum and other inflammable liquids and the precautions to be adopted for the prevention of accidents with petroleum lamps. It is not expected that the Committee will occupy much more time in the collection of evidence.

The Vaccination Bill.

The names put on the back of the Vaccination Bill are those of Mr. Chaplin, Mr. A. J. Balfour, Sir Matthew White Ridley, and the Attorney-General. The second reading of the Bill is down for Monday, but it is not likely to be taken then.

HOUSE OF COMMONS.

THURSDAY, MARCH 10TH.

Mortality on the Gold Coast.

Mr. Chamberlain, replying to a question addressed to him by Mr. Loder, said that the number of British civil officials in Sierra Leone and the Gold Coast was about 30 and 125 respectively, and the number of deaths among them was 5 and 14 in 1896 and 2 and 5 in 1897. A comparison based upon a longer period appeared, however, to show that the Gold Coast was more unhealthy than Sierra Leone.

Accidents in Aerated Water Factories.

Mr. Tennant asked the Home Secretary with reference to the special rules issued to aerated water factories exempting labellers from wearing face-guards, masks, or veils of wire gauze or goggles while labelling bottles standing in cases, whether that exemption was in accordance with the recommendations of the departmental committee appointed to inquire into the subject, and whether his attention had been called to the case of the boy Chafer, employed by Mr. G. H. Gibson, at Brigg, who in November last lost an eye from a bottle bursting whilst labelling bottles standing in cases, and whether he would revoke the exemption which prevented the boy from being adequately protected.—Sir M. White Ridley replied that the Home Office Committee, with which the hon. Member was connected, made a general recommendation that labellers in these factories should wear face-guards, but did not discuss the question of the labelling of bottles in cases. The accident was reported on at the time and the facts were as stated, but the hon. Member must surely be aware that the Home Secretary had not the power at pleasure to make or alter special rules. They must be settled either by arrangement with the employers or by arbitration and in the present case he could not regard the occurrence of a single accident, much as he regretted it, as a sufficient reason for reopening a question which had just been settled after long and difficult negotiations.

Death Certification.

Sir Walter Foster asked the President of the Local Government Board whether he was aware that a case of supposed sham burial was brought before the Chancellor of the Diocese of London at a Consistory Court on Wednesday last; and whether, seeing that the Select Committee on death certification published evidence in their Report in 1893 showing that the law was very inadequate to prevent the occurrence of such cases, he would bring in a Bill to amend the law as regards death certification in accordance with the recommendations of the Select Committee. Mr. Chaplin replied: I am aware that the Chancellor of the Diocese of London has decreed a faculty authorising the opening of a vault with a view to ascertaining whether a coffin contains a certain body. I cannot hold out any expectation that the Government will propose in the present session any legislation on the subject of death certification.

Deaths in the Regent's Canal.

Sir M. White Ridley, replying to Sir M. Bhownaggree, said that between August, 1896, and August, 1897, inquests were held on thirty-one bodies found in the Regent's Canal. In eight cases a verdict of accidental death was returned and probably in some of the other cases also death was accidental. A special report had been made to him on the subject setting out the safeguards which seemed desirable, but he had no power, he feared, to enforce any adoption of them by the company.

MONDAY, MARCH 14TH.

The Lunacy Question.

Mr. William Corbet asked the Home Secretary if his attention had been drawn to a special report of the Commissioners in Lunacy to the Lord Chancellor, presented last Session, in which they stated that whereas in 1859 the number of lunatics, idiots, and persons of unsound mind in England and Wales was 36,762 the number had increased in 1896 to 96,446, showing a ratio to every 10,000 of the population of 31·18 as compared with 18·67 at the previous period, and also to the last (the fifty-first) report issued by the Lunacy Commissioners, in which they regretted the very large increase of 2919 in the number of lunatics in England and Wales on Jan. 1st, 1897; and whether he would consider what could be done, by promoting an International Commission or by some other means, to arrest the increase of insanity.—Sir Matthew White Ridley replied that his attention had been called to these reports. It was, in fact, at his request that the Lord Chancellor called for the special report from the Commissioners. The Commissioners after a very careful investigation considered that there was no important increase of fresh insanity, and he was not satisfied that an International Commission would throw any additional light on the matter. The question would of course continue to receive very careful consideration.

Health of the Troops in India.

Major Rasch asked the Under Secretary of State for War whether the battalion of the Somerset Regiment now in India was found unfit for active service at the front owing to disease and sent back; what was the nature of the disease and the number of men found unfit for service from that cause; and what was the proportion remaining fit for duty.—Mr. Brodrick replied that the First Battalion Somersetshire Light Infantry was employed throughout the operations of the Mohmand Field Force and returned to Peshawar when that force was broken up. It suffered somewhat during the operations from fever and ague. But on Oct. 1st last it had 895 men fit for duty. There was nothing to show that the battalion was unfit for active service.

TUESDAY, MARCH 15TH.

The Registration of Stillbirths.

Sir Walter Foster asked the Home Secretary whether his attention had been called to Mr. Justice Grantham's remarks at the Central Criminal Court on March 10th, at the trial of Amelia Hollis, with reference to the present system of putting away stillborn children, and whether, seeing that the report of the Select Committee on Death Certification in 1893 expressed the opinion that the absence of legal requirements that such births should be registered prior to the disposal of the bodies was fraught with very serious danger to child life, he would bring in a Bill to amend the law in the direction recommended by the Select Committee.—Sir M. White Ridley replied: "My attention has been called to the remarks of the learned judge, and I may say that one of the recommendations made by the Select Committee—namely, the equalising of the burial fees for stillborn children with those for children not a month old—has long been the rule of the Home Office in its administration of the Burial Acts. The general subject of death certification is engaging my attention, and I am at the present moment in communication with the Local Government Board about it."

The Effect of the Dum-Dum Bullet.

Mr. Powell Williams, Financial Secretary to the War Office, said in reply to Mr. John Dillon that the Dum-Dum bullets were made in India by the Indian Government and were issued by it to the army in India. They were found to inflict when they strike soft tissues a wound sufficiently severe to stop an enemy. They did not in any way infringe the Convention of St. Petersburg. Some of these bullets had been specially manufactured at Woolwich for one of the West African colonies at the request of the Crown Agent.

Introduction of the Vaccination Bill.

At this sitting of the House Mr. Chaplin asked and obtained leave to introduce "a Bill to amend the law with respect to vaccination." He made the request at the commencement of public business, when by the rules of the House he could only speak for a limited time and only one other member could follow him.

Mr. Chaplin's speech was as follows:—I hope that within the time permitted by the standing order I shall be able sufficiently to explain the changes which are made in the laws relating to vaccination by the Bill which I ask leave to introduce. There are various reasons which make these changes, in my judgment, eminently desirable. Prominent among them is the fact that the Royal Commission appointed so long ago as 1889, after many years has presented a report, which was published towards the end of 1896. Another and not less cogent reason is to be found in the lamentable outbreaks of small-pox which have recently occurred in Gloucester and Cheshire and which must be fresh in the recollection of the House. Now, I do not dwell upon the views, emphatically pronounced, upon the necessity for vaccination and its efficacy in either preventing or diminishing the evils of small-pox. They appear to me to be conclusive and unanswerable, but I must refer to some of the recommendations which are made by the Commissioners. Some of them relate to administrative changes in the methods and procedure under which the practice of vaccination is conducted at present. Others refer to modifications of the existing law under which children are required to be vaccinated whether their custodians desire it or not. In the first category there are some which seem to be of primary and cardinal importance. One of these relates to the kind of lymph which they recommend should be used in future, and on this point I may remind the House that there have been some most remarkable discoveries in recent years, and if we take advantage of them, as I hope and I believe we shall, they will go far to revolutionise the whole of the present system of public vaccination. I am referring now to the results which it is proved are obtained by the preservation of lymph taken from the calf in glycerine. The inquiries of the Royal Commission have been strengthened and confirmed by further investigations made upon their recommendation. These investigations were conducted by Sir Richard Thorne and Dr. Copeman on behalf of the Local Government Board since the report of the Commission was published into the systems in practice abroad—in Paris, Berlin, Dresden, Cologne, and Geneva—from which it appears that calf lymph preserved in this way possesses remarkable properties and advantages. In the first place, all extraneous organisms when the lymph is mixed with glycerine are destroyed. For instance, it is found that such organisms as the microbes of tubercle, erysipelas, and diphtheria, and other diseases (even when they have been added for the purpose of experiment) very shortly disappear, although the lymph retains its full activity for vaccination purposes. Secondly, it can be kept for long periods and upon an emergency large quantities can with facility be supplied; and, thirdly, which is a matter of the first importance, the necessity for arm-to-arm vaccination and consequently all risk and possibility of inoculation with syphilis, whatever it may have been heretofore, wholly disappears. On this point the Commission make two recommendations — that lymph shall be placed within the reach of all and that no parents shall be required to submit their children for vaccination by means of anything but calf lymph. Well, we accept their recommendations. By arrangement with the Medical Institute of Preventive Medicine the Local Government Board have acquired the necessary accommodation and preparations for the supply of lymph are now in progress; and while the Bill provides that vaccination will continue as at present to be obligatory vaccination by anything but calf lymph will cease to be compulsory. But this change in the law naturally carries with it another of perhaps even more importance to the comfort of parents and of children. At present the statutory arrangements for vaccination in England and Wales are based on the requirements that vaccination shall be performed with humanised lymph from arm to arm. This necessitates the attendance of parents with their children at the various vaccination stations throughout the country on two occasions—on the first occasion for vaccination, on the second, a week afterwards, for inspection, when the attendance of the child is also required for another purpose—viz., that lymph may be taken from the arm, if necessary, to be used upon another child. But under the Bill vaccination from arm to arm will cease to be compulsory, and with lymph supplied from other sources there will be no necessity for the attendance of children at the stations to provide the required lymph for others. On this point we adopt another recommendation of the Commission—viz., that vaccination should be domiciliary, and accordingly the Bill provides that instead of requiring the attendance of children at the stations the vaccinator will be required to attend at the house of the child. Instead of sending the child to the doctor the doctor in future will go to the child, and in this way we shall assimilate as nearly as possible the law and practice in England to what it is in Scotland, where vaccination has never been the difficulty that it is sometimes with us. In addition to this we enact that where children must now be vaccinated within three months after birth that period is extended to twelve months on the ground that all authorities agree that there is greater immunity from any risk of undesirable consequence from vaccination at twelve than at three months. There is one other subject which I must refer to for not more than a moment—viz., the existing penalties for non-compliance with the law. I have been unable to accept the recommendation that anyone objecting to vaccination may escape the obligation by simply making a statutory declaration to that effect. The effect of this, it seems to me, would be to make vaccination a dead letter wherever people wish and choose to do so, and nothing could be more unfortunate or injurious to the community than the discontinuance on any considerable scale of the practice of vaccination; and I observe that the Commission themselves were not united upon that point. Where they are agreed and where we are disposed to meet them is in the recommendation that where people conscientiously object they may be relieved from the imposition of repeated penalties. This recommendation was unanimously made in an interim report which was published six years ago, and it is also the unanimous recommendation of the Select Committee of 1871. I am the more disposed to agree with it because, so far as I can learn, this provision of the law has not attained its object. Repeated penalties have often been enforced without securing the vaccination of the child on the one hand and, on the other, they have a tendency to bring the vaccination law into bad odour and to rouse opposition to it which could not otherwise exist. We propose, therefore, to repeal the provisions of the existing Acts which admit of repeated penalties. These are the main provisions of the Bill which I desire to introduce to-night. We have sought, on the one hand, to remove every objection which can reasonably be urged to vaccination and to give every facility for its operation and, on the other hand, to modify the law where its operation appears to be uselessly harsh. These changes will be, as we believe, especially in the interests of the poorer parents who have not always the same facilities for the vaccination of their children as their richer neighbours. It would be manifestly impossible to allow vaccination to fall into disuse, and we have good reason, I think, to hope that full advantage will be taken of the facilities we give in future, and that they will be instrumental in lessening the prevalence and minimising the effects of one of the most loathsome and terrible diseases which afflict the human race.

Sir Walter Foster followed Mr. Chaplin and congratulated him on the very practical measure he had prepared. It appeared that the salient points of the report of the Royal Commission had been seized and, so far as he could see at present, the Bill would meet many of the difficulties which now beset the protection of public health. As to the use of the new form of lymph, if the public mind could once be convinced that there was a means of vaccinating children without incurring the risk of communicating disease, one of the great obstacles would have been overcome. As he gathered, parents would still be liable to prosecution, and if that were so he was afraid the Bill would not satisfy certain opponents of vaccination but, on the contrary, would enable them to keep up mischievous and hurtful agitation.

Leave being given, the Bill was introduced and formally read a first time.

BOOKS, ETC., RECEIVED.

Arrowsmith, J. W., Quay-street, Bristol.

Some Incidents in General Practice: being a Second Series of Reminiscences. By Augustin Prichard, Surgeon. 1898.

Baillière, Tindall, and Cox, King William-street, Strand, London.

Idiopathic Ulcerative Colitis—Dysentery. By James F. Gemmel, M.B. 1898. Price 12*s.* 6*d.*

Borntraeger, G., Berlin.

Zur Austilgung der Syphilis. Von Dr. E. Kromeyer. 1898.

Bradley and Son, Reading.

Transactions of the Reading Pathological Society. Vol. II. Fifty-sixth Session, 1896–7. 1897.

Clay, W. F., Teviot-place, Edinburgh.

The Scottish Medical and Surgical Journal. Edited by Wm. Russell, M.D., F.R.C.P. Edin. Vol. I. Illustrated. 1897. Price 24*s.*

Coblentz, Oscar, Berlin, W.

Therapeutisches Vademecum der Haut- und Geschlechts-Krankheiten für Practische Aerzte. Von Dr. R. Ledermann. 1898.

Cox, Horace, Bream's-buildings, London, E.C.

Poultry for the Table and Market *versus* Fancy Fowls. By W. B. Tegetmier, F.Z.S. Third Edition. 1898. Price 2*s.* 6*d.*

Kimpton, Henry, High Holborn, London.

Traumatic Injuries of the Brain and its Membranes. By C. Phelps, M.D. Illustrated. 1898. Price 21*s.* net.

A Text-book of Surgery. By Dr. H. Tillmanns. Translated by B. T. Tilton, M.D. Edited by L. A. Stimson, M.D. Vol. II. Regional Surgery. Illustrated. 1898. Price 21*s.* net.

Diseases of the Stomach. In Three Parts. By J. C. Hemmeter, M.B., M.D. Illustrated. 1898. Price 30*s.* net.

Lea Brothers and Co., New York.

Essentials of Obstetrics. By C. Jewett, A.M., M.D., Sc.D.; assisted by H. F. Jewett, M.D. Illustrated. 1897.

Lewis, H. K., Gower-street, London, W.C.

Diseases of the Nervous System. By C. E. Beevor, M.D. Lond., F.R.C.P. Illustrated. 1898. Price 10*s.* 6*d.*

Longmans, Green and Co., Paternoster-row, London.

An Index to the Transactions of the Clinical Society of London. Vol. I. to XXX. 1898.

Macmillan and Co., London.

The Genesis and Dissolution of the Faculty of Speech: A Clinical and Psychological Study of Aphasia. By Jos. Collins, M.D. 1898.

Newnes, Geo., Southampton-street, Strand, London.

The Story of Life in the Seas. By Sydney J. Hickson, D.Sc., F.R.S. Illustrated. 1898. Price 1*s.*

Ogilvie, J. S., Rose-street, New York.

The X Rays: their Production and Application. By Fred. S. Kolle, M.D. 1897.

Queensland Agent-General's Office, Westminster-chambers, Victoria-street, London.

Ethnological Studies among the North-West-Central Queensland Aborigines. By Walter E. Roth, M.R.C.S., L.R.C.P. Lond. Illustrated. 1897.

Sampson Low, Marston, and Co., Fetter-lane, London, E.C.

The Care of the Sick at Home and in the Hospital. By Dr. Th. Billroth. Translated by J. B. Endean. Fifth Edition. Illustrated. Price 2*s.* 6*d.*

Smith, Elder, and Co., Waterloo-place, London.

Gardner's Household Medicine and Sick-room Guide. Thirteenth Edition. By W. H. C. Staveley, F.R.C.S. Eng. Illustrated. 1898. Price 8*s.* 6*d.*

Swan Sonnenschein and Co., Paternoster-square, London.

Recollections of Thirty-nine Years in the Army. By Sir C. A. Gordon, K.C.B. 1898. Price 12*s.*

The Savoy Press, 115, Strand, London.

Stammering, Stuttering, and Other Speech Affections: their Causes and Cures. By W. Abbotts, M.D., M.R.C.S. Ninth Edition. 1898. Price 1*s.*

Williams and Norgate, Henrietta-street, Covent-garden, London.

Zur Bakteriologie der Puerperal-Infektion. Von Dr. K. Strünckmann. 1898. 2*s.* net.

Wright, J., and Co., Bristol.

Doctor and Patient: Hints to Both. By Dr. R. Gersuug. Translated by A. S. Levetus; with a Preface by D. J. Leech, M.D., F.R.C.P. 1898. 2*s.* net.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Aston, R. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Eccleshill Sanitary District.

Barker, **Percy** D., M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon to the Chesterfield and North Derbyshire Hospital and Dispensary.

Barnes, **George**, M.R.C.S., L.R.C.P. Edin., has been re-appointed Medical Officer of Health for Chard.

Beatley, W. C., M.D. Durh., M.R.C.S., has been appointed Honorary Physician Accoucheur to the Newcastle-on-Tyne Lying-in-Hospital.

Bernard, **Claud**, L.R.C.P. Lond., M.R.C.S., has been appointed a Medical Officer to the Hambrook Village Hospital.

Berry, **Frederick Charles**, B.A., M.D., B.Ch. Dubl., has been re-appointed Medical Officer of Health for Burnham, Somerset.

Blacklock, A. W., M.D. Aberd., has been re-appointed an Honorary Physician to the Northern Counties Hospital for Diseases of the Chest, Newcastle-on-Tyne.

Clowes, **Ernest**, F., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed House Physician to the Royal Hants County Hospital, Winchester.

Cole, **George**, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Sixth Sanitary District of the Parish of Nottingham.

Coley, F. C., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Physician to the Northern Counties Hospital for Diseases of the Chest, Newcastle-on-Tyne.

Craik, R., M.D. Glasg., has been appointed Medical Officer to the *employés* of the Cadeby Main Colliery.

Crinion, J. T. D., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the Clarence-street District of the North Union, Dublin.

Darby, H. C., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health by the Lye and Wollescotte Urban District Council.

Dennis, O. A., L.D.S. Irel., has been re-appointed an Honorary Dental Surgeon to the Nottingham General Dispensary.

Dent, H. C., M.R.C.S., has been appointed Medical Officer for the Northrepps Sanitary District of the Erpingham Union.

Geraty, **Thos.**, L.R.C.P. Irel., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Nottingham General Dispensary.

Giddings, R. R., M.B. Edin., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Nottingham General Dispensary.

Gooding, **Matthew Richard**, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Barnstaple Port Sanitary Authority.

Grace, **Alfred**, jun., L.S.A. Lond., has been appointed a Medical Officer to the Hambrook Village Hospital.

Greatbatch, H. W., M.B., C.M. Edin., has been appointed Medical Officer of Health for the Burgh of Montrose, vice S. Lawrence, retired.

Grosvenor, **Wilshaw William**, B.A. Cantab., M.D. Dubl., M.R.C.S., L.R.C.P., has been appointed Surgeon to the Gloucester Union Workhouse, vice R. M. Cole, resigned.

Hamilton, S., M.B., B.Ch. Irel., has been appointed Medical Officer for the St. Mellons Sanitary District of the Newport (Mon.) Union, vice W. H. Richards, resigned.

Jaffrey, **Francis**, F.R.C.S. Eng., has been appointed Surgeon to Out-patients at the Belgrave Hospital for Children, London, S.W.

Jago, **Charles Sprague**, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health by the St. Just (Cornwall) Urban District Council.

Lambert, F. W., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Farsley District Council.

McKelvey, A. N., L.R.C.P., L.R.C.S. Irel., has been appointed an Assistant Medical Officer to the District Lunatic Asylum, Omagh, vice E. F. W. Moon, resigned.

Miles, **Alex**, M.D. Edin., F.R.C.S., has been appointed an Assistant Surgeon to the Edinburgh Royal Infirmary.

Monckton, **William**, M.R.C.S., L.R.C.P. Edin., has been re-appointed Medical Officer of Health for Portishead.

Musgrave, C. B. T., M.D. Lond., L.R.C.P., M.R.C.S., has been re-appointed Medical Officer for the Cromer Sanitary District of the Erpingham Union.

Newbolt, G. P., M.B. Durh., F.R.C.S. Eng., has been appointed an Honorary Surgeon to the Royal Southern Hospital, Liverpool, vice H. G. Rawdon, retired.

Patterson, J. H., M.B., C.M. Edin., has been appointed House Surgeon to the Bradford Children's Hospital.

Pirie, W. R., M.A., M.B., C.M. Aberd., has been appointed Medical Officer to the Aberdeen General Dispensary, vice G. Watt, resigned.

Pryce, T. D., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Nottingham General Dispensary.

Robinson, F. G., M.B. Vict., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Broughton District of the Salford Union.

Shera, J. E. P., L.R.C.S. and P. Irel., has been appointed House Surgeon to the Teignmouth Hospital, South Devon.

Simpson, W. J. R., M.D. Aberd., M.R.C.P. Lond., D.P.H. Camb., has been appointed to the Professorship of Hygiene by the Council of King's College, London.

Smith, F. G., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Workhouse and the Stockton Sanitary District of the Stockton Union.

Watts, A. M., L.R.C.P., Lond., M.R.C.S., has been appointed Medical Officer for the First Sanitary District of the East Ashford Union.

Wear, A. T., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Medical Officer to the Northern Counties Hospital for Diseases of the Chest, Newcastle-on-Tyne.

White, G. B., M.R.C.S., has been re-appointed an Honorary Consulting Surgeon to the Nottingham General Dispensary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Bethlem Hospital.—Two resident Clinical Assistants for six months. Apartments, complete board, and washing provided. Applications to the Treasurer, Bridewell Hospital, New Bridge-street, London, E.C.

Birmingham and Midland Free Hospital for Sick Children, Birmingham.—Resident Medical Officer and a Resident Surgical Officer. Salaries £70 and £50 respectively, with board, washing, and attendance at the institution.

Birkenhead Union.—Assistant Medical Officer for the Infirmary, Workhouse and Schools. Salary £80 per annum, with board, washing, and apartments, but no extra fees. Applications to the Clerk to the Guardians, 45, Hamilton-square, Birkenhead.

Borough Hospital, Birkenhead.—Junior House Surgeon. Salary £[illegible] per annum, with board and lodging, but no wine, spirits, or beer.

Central London Throat, Nose, and Ear Hospital, Gray's-inn-road.—Assistant Registrar, for twelve months.

Darenth Asylum for Adult Imbeciles, near Dartford, Kent—Medical Superintendent. Salary £600 per annum, with the emoluments of unfurnished house, coals, gas, washing, milk and vegetables, subject to statutory deduction. Applications to the Clerk, Norfolk House, Norfolk-street, Strand, London, W.C.

East London Hospital for Children, Glamis-road, Shadwell, E.—Resident Medical Officer for two years. Salary £80 per annum, with board, residence, and laundry.

Fisherton Asylum.—Assistant Medical Officer, unmarried. Salary £100 a year, with board, lodging, and washing. Apply to Dr. Finch, The Asylum, Salisbury.

General Hospital, Birmingham.—Resident Surgical Officer for one year. Salary £100 per annum, with residence, board, and washing.

General Infirmary, Northampton.—House Surgeon, unmarried. Salary £125 per annum, with furnished apartments, board, attendance, and washing.

Gold Coast and Lagos Colonies.—Appointments in the Government Medical Service. Initial salary £350 a year, with free quarters (or allowances in lieu thereof) and free passage. Applications to be addressed to the Assistant Private Secretary, Colonial Office, London.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians.

King's College, London.—The Sambrook Surgical Registrarship (from King's College Students only).

Lincoln Lunatic Hospital.—Assistant Medical Officer.

North London Hospital for Consumption, Mount Vernon, Hampstead, and Fitzroy-square, London, W.—Physician and Assistant Physician. Applications to the Acting Secretary, Offices, 41, Fitzroy-square, W.

Oldham Infirmary.—Junior House Surgeon. Salary £50 per annum, with board and residence.

Poplar Hospital for Accidents, East India-road, Poplar, E.—Assistant House Surgeon. Salary £65 a year, with board and residence.

Royal Cornwall Infirmary, Truro.—House Surgeon, unmarried. Salary, first year, £120, increasing by £10 a year to £150, with furnished apartments, fire, light, and attendance.

Royal Hospital for Diseases of the Chest, City-road, London.—Resident Medical Officer for six months. Salary at the rate of £100 per annum, with furnished apartments, board, and washing. Also House Physician for six months. Salary at the rate of £40 per annum, with board, lodging, and washing.

Royal National Hospital for Consumption, Ventnor, Isle of Wight.—Assistant Resident Medical Officer, unmarried. Salary £80 per annum, with board and lodging in the hospital. Applications to the Board of Management, London Office, 34, Craven-street, Charing-cross.

Royal South London Dispensary, St. George's-cross, S.E.—Honorary Surgeon.

Scarborough Hospital and Dispensary.—Senior House Surgeon for six months. Salary £80 per annum, with board and lodging. Stimulants and washing not provided.

Sheffield Union Workhouse Infirmary.—Junior Assistant Medical Officer for six months at the Workhouse Infirmary, Fir Vale, Sheffield, unmarried. Residence in the infirmary. Furnished apartments, board, and washing provided. Honorarium of £12 will be given. Applications to the Clerk to the Guardians, Union Offices, West Bar, Sheffield.

Stamford, Rutland, and General Infirmary, Stamford.—House Surgeon for two years, unmarried. Salary £100 per annum, with board, lodging, and washing.

St. Bartholomew's Hospital, London, E.C.—Surgeon.

St. Mary's College, Glasgow.—Professorship of Forensic Medicine and the Lectureship on Hygiene in this College.

St. Pancras and Northern Dispensary, 126, Euston-road, London.—Honorary Physician. Applications to the Hon. Secretary, 23, Gordon-street, Gordon-square, W.C.

Stretton House Asylum, Church Stretton, Salop.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, rooms, washing, &c.

Three Counties Asylum, near Hitchin.—Second Assistant Medical Officer, unmarried. Salary commencing at £100 a year, with board, apartments, washing, and attendance.

Victoria Hospital, Folkestone.—House Surgeon. Salary £80 per annum, rising to £100, with board, residence, and washing.

Worcester County and City Lunatic Asylum, Powick, near Worcester.—Third Assistant Medical Officer, unmarried. Salary commencing £100 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

Akers.—On March 15th, at the Limes, Oldfield-park, Bath, the wife of William Dutton Akers, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., of a son.

Delmege.—On March 15th, at Granada-road, Southsea, the wife of Fleet-Surgeon A. G. Delmege, Royal Yacht Osborne, of a son.

Gale.—On March 12th, at Manorgate House, Kingston-hill, Surrey, wife of Arthur Gale, M.R.C.S., L.R.C.P., of a daughter.

Moseley.—On March 9th, at Northgate-street, Ipswich, the wife of Charles Kingdon Moseley, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A. Lond., of a son.

O'Bryen.—On March 10th, at Springfield Lodge, Sydenham, S.E., the wife of J. Wheeler O'Bryen, M.D., L.R.C.P., of a son.

Pincott.—On March 9th, at Culverden Grange, Tunbridge Wells, the wife of James C. Pincott, M.R.C.S.E., L R.C.P., L.M., of a son.

Smith.—On March 12th, at Earl's-court-road, South Kensington, S.W., the wife of Percy Montague Smith, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

Tresilian.—On March 8th, at Redlingtons, Enfield, the wife of Fred Tresilian, M.D., of a daughter.

MARRIAGE.

Durston—Gilbert.—On March 15th, at Christ Church, Streatham-hill, S.W., John C. Durston, Surgeon R.N., eldest son of Sir John Durston, K.C.B., R.N., to Nina Helen, second daughter of Major W. E. Gilbert, late 37th Regiment, Chief Constable Metropolitan Police.

Drake—Shields-Schibild.—On March 9th, at St. John's, Angell Town, Brixton, Ernest H. Drake, M.R.C.S., L.R.C.P., of West Kensington, to Louisa, only daughter of the late Jno. Shields-Schibild and Mrs. Shields-Schibild, of St. James'-road, Brixton.

Innes—Scott.—On Jan. 8th, at Napier, New Zealand, Charles Barclay Innes, M.B. Lond., to Mary, eldest daughter of the late George Scott, of The Willows, Gisborne, N.Z.

Jennings—Steele.—On Feb. 21st, at Deolali, Bombay, W. B. Jennings, Surgeon-Captain, I.M.S., to Margaret Catherine, eldest daughter of William Johnstone Steele, of Annandale Lodge, Blackheath.

Parry—Lawrence.—On March 8th, at St. Mark's, S. Norwood, Leonard Arthur Parry, M.D., B.S. Lond., F.R.C.S. Eng., L.R.C.P., eldest son of W. P. Parry, of Croydon, to Isabel Sythy, daughter of the late W. Lawrence, of Shirley.

DEATHS.

Johnston.—On March 15th, at St. John's-wood-park, N.W., Joseph Johnston, M.D., Brigade-Surgeon (Ret.), aged 66 years.

Knight.—On March 10th, at his residence, Waverley-road, Southsea, Kester Edward Knight, M.R.C.S., in his 85th year.

Lyle.—On March 15th, at 178, Amhurst-road, Hackney, Sarah Mary, the beloved wife of Herbert Willoughby Lyle, M.B. Lond., M.R.C.S., L.R.C.P., interred at Abney-park Cemetery Friday, March 18th, at 3 o'clock. No cards.

Ord.—On March 13th, at Clarendon-road, Lewisham, Christopher Knox Ord, M.D., F.L.S., aged 72.

Quain.—On March 13th, at Harley-street, Sir Richard Quain, Bart., M.D., LL.D., F.R.S., aged 81.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (26th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (22nd).—**Royal Medical and Chirurgical Society** (20, Hanover-square, W.).—8.15 P.M. Dr. Haig will demonstrate some Results to be Obtained by the Chloride of Ammonium Process as suggested by Mr. Barker Smith as a means for the Microscopic Detection of Uric Acid in Blood. 8.30 Paper:—Dr. L. Rogers: On the Epidemic Malarial Fever of Assam, or Kala-azar.

WEDNESDAY (23rd). — **Hunterian Society** (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Papers:—Dr. Appleford: Medical Practice in the West Indies.—Dr. J. F. Woods: Further Observations on the Treatment by Suggestion.

Childhood Society (Parkes Museum, Margaret-street, W.).—8 P.M. Mr. Sydney Stephenson: How Children's Sight may be Lost.

Dermatological Society of Great Britain and Ireland (20, Hanover-square, W.).—4.30 P.M. Council Meeting. 5 P.M. Ordinary Meeting. Cases will be shown by Mr. W. T. Freeman (Reading), Dr. F. R. Walters, Dr. J. H. Stowers, Dr. A. Eddowes, and others.

FRIDAY (25th).—**Clinical Society of London** (20, Hanover-square, W.).—8.30 P.M. Papers:—Mr. G. Barling: Two Cases of Interscapulo-thoracic Amputation for Sarcoma of the Humerus, with statistics showing the results of the operation recorded up to date.—Dr. F. Taylor and Mr. A. D. Fripp: A Case in which a Renal Calculus was Detected by the Roentgen Rays and successfully Removed.—Mr. L. A. Bidwell: Stricture of the Splenic Flexure, Transverse Colotomy, Ileo-symoidostomy.—Dr. Buzzard and Dr. J. R. Russell: Acute Ascending Paralysis with Bacteriological Examination.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (21st).—**Royal College of Surgeons.**—5 P.M. Prof. H. Morris: The Surgery of the Kidney.

London Post-Graduate Course.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Mr. G. C. Wilkin: Anatomy of the Ear, illustrated with lantern.

The Sanitary Institute (Parkes Museum, Margaret-street, W.).—8 P.M. Mr. J. O. Smith: Principles of Calculating Areas, Cubic Space, &c.; Interpretation of Plans and Sections to Scale.

TUESDAY (22nd). — **Royal College of Physicians.**—5 P.M. Dr. J. R. Bradford: Observations on the Pathology of the Kidneys. (Goulstonian Lectures.)

National Hospital for the Paralysed and Epileptic (Bloomsbury).—3.30 P.M. Mr. Gunn: Optic Atrophy.

London Post-Graduate Course.—Bethlem Hospital, 2 P.M., Dr. Craig: General Paralysis.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Erythema.

Royal Institution.—3 P.M. Prof. E. Ray Lankester: The Simplest Living Things.

WEDNESDAY (23rd).—**Royal College of Surgeons.**—5 P.M. Prof. H. Morris: The Surgery of the Kidney.

London Post-Graduate Course.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Air.

Hospital for Consumption and Diseases of the Chest (Brompton).—4 P.M. Mr. Godlee: Surgical Lecture.

Evelina Hospital (Southwark-bridge-road, S.E.).—4.30 P.M. Dr. F. Willcocks: Selected Medical Cases. (Post-Graduate Course.)

West London Post-Graduate Course (West London Hospital, W.).—5 P.M. Mr. S. Edwards: Litholapaxy.

THURSDAY (24th).—**Royal College of Physicians.**—5 P.M. Sir R. Douglas Powell: On the Principles which govern Treatment in Diseases and Disorders of the Heart. (Lumleian Lectures.)

London Temperance Hospital.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Garrod: Demonstration of Selected Cases.

LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. Thin: Clinical Lecture.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—Prof. W. H. Corfield: Water Supply, Drinking Water, Pollution of Water.

ROYAL INSTITUTION.—3 P.M. Prof. J. A. Fleming: Recent Researches in Magnetism and Diamagnetism. (Tyndall Lecture.)

FRIDAY (25th).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. H. Morris: The Surgery of the Kidney.

LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Typhoid Fever and Diphtheria.

ROYAL INSTITUTION.—9 P.M. The Very Rev. the Dean of Canterbury: Canterbury Cathedral.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 17th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 11	30·21	N.E.	...	60	48	35	36	37	Overcast
„ 12	30·02	N.E.	...	62	44	36	38	40	Overcast
„ 13	30·09	S.W.	...	64	49	33	36	38	Overcast
„ 14	29·93	W.	0·02	57	51	37	44	46	Cloudy
„ 15	30·03	WSW	0·01	81	55	36	36	38	Cloudy
„ 16	29·92	W.	...	78	56	38	47	49	Cloudy
„ 17	30·02	W.	...	59	53	46	46	48	Overcast

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

ALCOHOLIC MILK!

IT has long been known that ginger-beer is a favourite drink of teetotallers as being cooling and refreshing, but it is not so generally known that it contains an appreciable quantity of alcohol—about 2 per cent. It has now been discovered by a German chemist, Dr. H. Weller, that milk containing alcohol can be got "straight from the cow." Dr. Weller was employed to examine some milk which had an irritating taste and discovered that it contained alcohol to the amount of 0·96 per cent. The cause was not far to seek, for the herd belonged to a distillery and were fed on the waste, which contained alcohol, which alcohol was excreted in the milk. It will, however, be a comfort to really enthusiastic teetotallers to know that the obnoxious addition was easily driven off by heat. Alcoholic preparations of milk such as Koumiss have, of course, been known from time immemorial, but the fact of alcoholic milk straight from the cow or mare is at first sight startling.

LEEDS INFECTIOUS DISEASES HOSPITAL.

IN the competition recently decided for the best scheme of warming, ventilation, &c., for the New Infectious Diseases Hospital, Leeds, the successful competitors were Messrs. Dargue, Griffiths, and Co., Ltd., of Lord-street, Liverpool.

A WORD TO MANAGERS OF THEATRES.

To the Editors of THE LANCET.

SIRS,—The system of booking now so largely adopted at our theatres for nearly every part of the "house" is never likely to extend to the pit. There are several reasons why this should be so, and amongst others the fact that many business men though anxious to patronise the play are not always certain when they will be able to spare the necessary time. They therefore prefer to take their chance of obtaining a seat along with their wives and daughters among the many who form the long files of persons who are to be seen extending from the pit door along the walls of the theatre building an hour and frequently more before the doors are open. This in itself on a cold and damp night is not conducive to the avoidance of a chill, but I do not exactly see how theatre managers are to help their patrons unless it were found practicable to throw open the pit some hours before the commencement of the performance. But there is one thing they can do and I feel sure that their attention needs only to be directed to the matter to remedy the evil. In some cases people waiting for admission are compelled to stand over iron gratings, and when this standing continues for from an hour to two hours it must be obvious to everyone that the amount of heat conducted from the body through the feet is very considerable. This added to a damp atmosphere makes the risk of catching a chill very great indeed. Some method of covering up these gratings with boards or mats might easily be devised and at least one of the objections to the long waiting from a health point of view would be thus eliminated.

I am, Sirs, yours faithfully,

March 15th, 1893. PITTITE, M.D.

A HINT TO BAKERS.

THE *Journal of the Sanitary Inspectors' Association*, issued quarterly under the cryptic motto, "Heb iechyd, baich yw Bywyd," by the sanitary inspectors of South Wales and Monmouthshire, contains the following suggestive little paragraph among many interesting papers and reports:—

> "The handling of bread by bakers and their assistants is one of those things which people who are particular with regard to what they eat are constantly discussing with a view to getting a change made in the direction of what they regard as cleanliness, but it must be confessed with no success at all. In Berlin, however, the public agitation on the subject has resulted in a solution of the difficulty which precludes the possibility of unclean hands touching the loaf. This consists in using paper bags made to fit the shape of the loaf, but rather longer. As soon as the loaf is taken from the oven it is at once put into the bag, whose ends are twisted, thus preventing the possibility of its contents being defiled either by dirty hands, or by gathering dust in its transit through the streets, or from being allowed to fall on dirty pavements, as so frequently happens with careless lads who deliver the daily loaf at the door. The Germans have recognised the advantage of this and the bakers who use the new system have reaped a corresponding reward. Here is a chance for any enterprising bakers of England to take advantage of their slow-going rivals without any appreciable expense, for the cost of paper bags is infinitesimal."

PRACTICE IN THE UNITED STATES.

To the Editors of THE LANCET.

SIRS,—Will any of the profession give particulars as to the best place for a Scotch practitioner going to the United States to start practice? He has some capital and is strong and healthy and would prefer New York or Brooklyn or Boston or some other big town to begin in. What regulations have to be complied with in order to be registered in the State wherein practice is begun and what are the costs? What is the usual way of beginning there? Is it anything like the way in which practices are conducted in the mother country?

I am, Sirs, yours faithfully,

March 14th, 1898. A COUNTRY PRACTITIONER.

*** Our correspondent will find particulars of the requirements governing practice in the various States of the United States in THE LANCET, Sept. 26th, 1896, pp. 769-771, and Oct. 3rd, 1896, pp. 969-971.—ED. L.

PARASITIC FŒTUS.

TEN years ago a remarkable case of abnormal twin development was on exhibition in London, and an account of the appearances observed by Mr. J. Bland Sutton and Mr. Shattock was published in THE LANCET of Feb. 11th, 1888, p. 276, and Feb. 25th, 1888, p. 371. It is figured in the Transactions of the Pathological Society of London. The person in question has now made a second visit to London, this time as one of the so-called "freaks" at Barnum and Bailey's show at Olympia, and is called "Laloo and Lala" in the official catalogue. The predominant partner in this combination is Laloo, a man apparently about five feet in height, active, well-proportioned, intelligent, and fluent in English. He describes himself as being a native of Lucknow in India and states that none of his relatives have been the subject of any malformation; his age must be about twenty-seven years, but he would easily pass for a year or two less. Beyond his comparatively short stature, swarthy complexion, and sparse black facial hair, all of which characteristics are so frequently combined in certain Indian races, there is nothing unusual in his appearance, except a protuberance in the epigastric region which might pass for a small football concealed beneath his showy costume. This protuberance, which is "Lala," may be described as a case of fusion of a parasitic fœtus whose development and post-natal growth has been almost arrested. In the situation of the lower extremity of Laloo's sternum there is a very short pedicle, rather thicker than can be encircled by an ordinary finger and thumb. This pedicle almost immediately divides into two halves, one of which carries the two upper limbs while the other portion carries the trunk and lower limbs of the parasite. There is no head, and the neck is not represented otherwise than by the pedicle. The trunk and thighs of the parasite were covered with a wrapper, but the arms, hands, and feet, which resembled those of a child somewhat less than a year old, were available for inspection. The parasite was said to pass urine but not fæces; it has a hernia and wears a truss, which could be felt through the covering. The integument of the parasite is, of course, continuous with Laloo's, and any impression made on it is felt by him just as on any part of his own surface; he has no premonition when the parasite is about to micturate; he states that it has gained a little in size in the course of time.

A PROMPT REPUDIATION.

To the Editors of THE LANCET.

SIRS,—A paragraph appeared in *Black and White* of the 12th inst. giving an inaccurate account of certain circumstances that occurred at the National Orthopædic Hospital and mentioning me by name with laudatory comments in the most puffing style. I think it right to state publicly that this has been done without my knowledge or approval, and that it has caused me much annoyance.

Thanking you in advance for inserting this letter,

I remain, Sirs, yours faithfully,

Seymour-street, W., March 16th, 1898. E. MUIRHEAD LITTLE.

*** We have seen the paragraph in question. We have no doubt that it was written with the kindest intent, but it none the less called for immediate repudiation.—ED. L.

TWO QUERIES.

To the Editors of THE LANCET.

SIRS,—1. I should be obliged if any of your readers could tell me which is the best bicycle saddle. I am over fifty years of age, weight 18st., and find the ordinary "Brooks" a little irksome. 2. You spoke favourably some time ago, I think, of Forsyth's "hygienic underwear." Are these garments as good as Jaeger's wares for rheumatic patients, and are they still of *pure* wool? I am, Sirs, yours truly,

March 9th, 1898. M.R.C.S.

A GERM-PROOF FILTER.

MESSRS. SLACK AND BROWNLOW, of Gorton, Manchester, have drawn our attention to the merits of their stoneware filter which they have recently placed upon the market. The filter consists of a hollow cylinder of porous porcelain which may be used in connexion with the tap, or with an ordinary reservoir filter. The filter has recently been subjected to bacteriological experiments by Dr. Woodhead and Dr. Cartwright Wood, the results of whose researches have been published in the *British Medical Journal* (Jan. 2nd, 1898). These experiments refer to the tap filter, and the results would appear to indicate that this filter has the power to prevent the direct passage of water organisms. Further tests showed that on every occasion the filtrate remained absolutely sterile. When a rich emulsion of the cholera bacillus was tried the filtrate yielded results which were entirely negative.

"CHINOSOL."

To the Editors of THE LANCET.

SIRS,—In reply to "X. Y. Z.'s" inquiries about chinosol I may saw that I have for three or four years used it regularly and almost exclusively in operative and general surgery and in midwifery practice. I have always found it a most reliable and efficient antiseptic, with the advantage over carbolic and perchloride that it does not irritate the skin, but with the one drawback that it stains the instrument.

I am, Sirs, yours faithfully,

ALFRED CLARK, L.R.C.S. Edin., &c.

Cerne House, Leicester, March 15th, 1898.

A FRENCH NURSE DECORATED.

AFTER upwards of fifty-six years of continuous service the Cross of the Legion of Honour has been conferred upon Mdlle. Marguerite Bottard, greatly to the satisfaction of the entire *personnel* of the Salpêtrière which has been the scene of her devoted labour throughout her career. It was in January, 1841, that this venerable lady, who was then just nineteen years of age, commenced life as an *infirmière* in the wards of this celebrated institution, and ever since, almost without a break, her time has been devoted to the alleviation of human suffering. An insatiable worker, she seldom quitted the premises, and it is reported of her that during a period of three years she never once crossed the threshold of the hospital. At first for some fifteen or sixteen years Mdlle. Bottard carried on her duties under the successive direction of the elder Trélat, de Falret, and Legrand du Saulle. Then she was promoted as superintendent of the section for nervous affections under Charcot, with whom she remained until the end. He had the highest possible opinion of his faithful assistant and used frequently to say that she richly deserved the distinction which now at length has been accorded to her.

DICTERICH'S STRIPED RUBBER PLASTERS.

MR. M. BUCHNER, of 149, Houndsditch, London, E.C., has sent us several samples of a new form of strapping and plaster. The adhesive substance is laid on the woven material, not in a continuous sheet but in strips of various widths; in some the strips are only one eighth of an inch wide, while in others the width of the strips may be as much as three inches. The advantages claimed for this arrangement are: firstly, that the strapping or plaster can be torn easily to the size required; and, secondly, that the non-adhesive intervals serve as a substitute for the perforations which are commonly used in plaster to permit evaporation. We have fully tested the samples sent to us and consider that the invention is decidedly useful. The material is readily torn as needed, and the absence of perforations permits of greater protection and support being afforded to the part, while not interfering with the passage of exudations. The price appears to us to be reasonable.

A CURIOUS ADVERTISEMENT.

THE following advertisement appeared in the *Times* of March 7th, 1898:—

> WANTED, fully-qualified MEDICAL GENTLEMAN, young, to take charge of the consultation department of a patent medicine business, with supervision of business arrangements. State salary. Reply to Messrs. D. and S., Solicitors, Bishopsgate-street, E.C.

The solicitors in question are, we presume, unaware that any fully-qualified medical gentleman taking charge of the management of a quack business would soon cease to be fully qualified.

◆

Hospital Medical Officer.—No one will deny that drugs vary in effect according as they are given in large or small quantities. For example, half an ounce of vinum ipecacuanhæ will induce vomiting if taken, but, on the other hand, persistent vomiting is often completely checked by the administration of one minim of the same preparation every fifteen minutes. The reason why it is impossible to meet homœopaths in consultation is owing to their ridiculous "principles" and their views on pathology.

Dr. J. B. Emmerson.—We have seen what purports to be, and what we have no reason to doubt is, the original of the testimonial referred to, and the wording of it (including the "prostrate gland") is substantially as printed in the pamphlet enclosed by our correspondent.

Yorkshire.—The ordinary text-books for a higher medical examination For these see the Students' Number of THE LANCET, Aug. 21st, 1897. A fairly complete working knowledge of bacteriology is required and the candidate must be familiar with practical methods.

S. O. (Partick).—Our correspondent does not tell the story in sufficient detail or make the cause of his complaint quite clear. What were the answers given in a "rational manner" by the man when he was found hatless and wet?

Victim.—Such circulars are in deplorable taste, but we do not think that the General Medical Council would be prepared to call their dissemination "infamous conduct in a professional respect."

Ol. Ric.—We recommend the arbitration of a mutual acquaintance being sought. Such a mediator need not be a medical man, for the matters are rather of fact than of ethico-medical opinion.

P. T. (Canonbury).—Many references will be found in Neale's Digest. We have published several such papers and cannot be certain as to which our correspondent refers to.

Business.—We do not know that there is any rule that is recognised or usual. The plan suggested by our correspondent is a very fair one.

Video probably refers to the Rebman Publishing Company, Limited, 11, Adam-street, W.C.

Jockey.—Such a book in handy shape is wanted. The pellets have not been bettered.

Mr. J. B. Pike.—We have received certain communications.

R. L. S.—The wording of the Act is not conclusive.

During the week marked copies of the following newspapers have been received: *Humanitarian, Modern Society, Coventry Herald, Evesham Standard, Brighton Gazette, East Anglian Daily Times, Western Mercury, North British Daily Mail, Times of India, Pioneer Mail, Mark Lane Express, Builder, South Wales Daily News, Huddersfield Chronicle, Dundee Advertiser, Architect, Derby Telegraph, Birmingham Post, Leicester Post, Northern Daily Telegraph, Liverpool Daily Post, Sussex Daily News, Scotsman, Eastern Morning News, Sheffield Evening Telegraph, Leeds Mercury, Western Morning News, Manchester Guardian, Yorkshire Post, Bristol Mercury, Staffordshire Sentinel, Le Temps (Paris), Market Harborough Advertiser, Ripley Advertiser, Folkestone Observer, Nottingham Guardian, New Age, Public Health, Engineer, Morning Post (Delhi), Health, Family Doctor, Bradford Observer, Mining Journal, Banbury Advertiser, City Press, Hertfordshire Mercury, Local Government Chronicle, Reading Mercury, Weekly Free Press and Aberdeen Herald, North-Eastern Daily Gazette, Surrey Advertiser, Berkhamstead Times, Runcorn Guardian, Local Government Journal, Cheltenham Examiner, Northern Echo, Portadown News, Stroud Journal, Yarmouth Independent, West Middlesex Herald, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Dr. R. G. Alexander, Blackwall; Mons. J. Astier, Paris; Mr. R. Y. Aitken, Blackburn; Dr. T. Arnold, Bulawayo; Dr. C. Abbott, Glasgow; *Annales d'Oculistique*, Paris, Editor of; Admiralty, Medical Department of, Director-General of.

B.—Mr. T. Brayton, Hindley; Mr. R. W. Brimacombe, Bristol; Messrs. Bates, Hendy, and Co., Reading; Mr. E. Blass, Lond.; Mr. W. A. Bowie, Lond.; Mr. J. R. de C. Boscawen; Mr. J. R. Bradford, Lond.; Messrs. Bellman, Ivey, and Carter, Lond.; Messrs. Burgoyne, Burbidges, and Co., Lond.; British Orthopædic Society, Lond., Secretary of; Mr. L. A. Bidwell, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Birmingham Children's Hospital, Secretary of.

C.—Mr. C. H. Cummins, Lond.; Mr. R. H. Clegg, Lond.; Mr. J. B. Cameron, Lond.; Mr. G. Clark, Downpatrick; Mr. F. W. Clarke, Manchester; Dr. J. S. Clayton, Accrington; Dr. J. Collins, New York; Messrs. Cassell and Co., Lond.; Cambs, Lond.; Mr. E. Cornish, Walthamstow.

D.—Mr. W. C. McDonnell, Lond.; Messrs. S. Deacon and Co., Lond.; Messrs. Douglas and Mason, Edinburgh; Messrs. Dargue, Griffiths and Co., Liverpool.

E.—Dr. W. A. Evans, Bradford.

F.—Mr. R. A. Flynn, Dublin; Mrs. H. Fawcett, Lond.; Dr. G. Foy, Dublin; Dr. R. T. Finch, Salisbury.

G.—Mr. S. Gahan, Margate; Messrs. Giles, Schacht, and Co., Clifton; Messrs. C. Griffin and Co., Lond.; A. W. Gamage, Ltd., Lond.

H.—Mr. J. J. Hanley, Hoylake; Mr. J. J. Harding, Ballincollig; Howard Association, Lond., Secretary of; Mr. S. Haigh, Matlock Bridge; Mr. A. Haviland, Lond.; Messrs. Hughes and Lancaster, Lond.: Dr. W. S. Hedley, Lond.; Mr. St. J. B. C. Hankin, Lond.; Mr. J. Heywood, Manchester.

I.—Messrs. Ingram and Royle, Lond.

J.—Jaeger Advertising Office, Lond.; Jenner Society, Lond., Secretary of.

K.—Herr S. Karger, Berlin; Mr. A. Kidd, Godalming; K., Bury St. Edmunds; King's College, Lond., Secretary of; Mr. W. H. Kesteven, Hendon.

L.—Mr. H. K. Lewis, Lond.: Dr. J. J. Lynch, Walsall; Mr. J. P. Llewelyn, Lond.; Mr. J. H. Lile, Lond.

M.—Dr. W. Milligan, Manchester; Mr. H. J. Mackay, Devizes; Dr. H. C. Mactier, Wolverhampton; Mountjoy Brewery, Dublin; Mr. Mayhew, Aldborough; Milk Wine Co., Lond.; Messrs. Maythorn and Son, Biggleswade; Dr. A. MacGregor, Lond.; Mr S. Moulton, Glasgow; Mutual Life Insurance Co. of New York, Lond., General Manager of; Mrs S. Mayor, Wolston; Dr. Ross MacMahon, Lond.; Dr. J. MacCormac, Belfast; Mr. H. C. L. Morris, Bognor.

N.—Dr. W. P. Northrup, New York; Messrs. Neyroud and Son, Lond.; National Dental Hospital, Lond., Dean of.

O.—Mr. F. Orchard, Lond.; Messrs. Orridge and Co., Lond.

P.—Mr. F. G. Parsons, Lond.; Dr. J. J. Parsons, Lond.; Prince of Wales Hospital Fund for London, Secretary of; Dr. V. Pechire, Brussels; Dr. J. C. Pearson, Cape Town; Mr. C. B. Paget, Northampton; Mr. J. B. Pike, Loughborough.

R.—Mr. J. A. Raye, Banbury; Mr. H. J. Roper, Leeds; Royal Academy of Medicine in Ireland, Dublin, Secretary of; Royal Cornwall Infirmary, Truro, Secretary of; Messrs. Reynolds and Branson, Leeds; Royal College of Physicians, Lond.; Mr. B. T. Read, Watford; Rover Cycle Co., Coventry; Mr. H. Rundle, Southsea; Royal Medical Benevolent College, Lond., Secretary of; Mr. A. H. Ruston, Chatteris; Royal Meteorological Society, Lond., Secretary of.

S.—Dr. A. E. Sansom, Lond.; St. Mungo's College, Glasgow, Secretary of; Messrs. Street and Co., Lond.; Stamford, &c., Infirmary, Secretary of; School of Medicine of the Royal College of Edinburgh, Edinburgh, Secretary of; Dr. C. Simpson, Wallingford; Dr. E. Smith, Lond.; Mr. J. Stuart, Lond.; Sanitary Institute, Lond., Deputy Registrar of; Dr. J. A. Stewart, Normanton; Mr. R. Sibbitt, Coventry; Messrs. Scott, Newcastle-on-Tyne; Mr. J. R. Swanton, Bantry; Mr. A. E. Sterne, Indianapolis; Mr. J. K. Smith, Liverpool; Dr. J. A. Shaw-Mackenzie, Lond.; Mr. S. Stretton, Kidderminster; Mr. W. P. Stocks, Salford; Mr. W. J. Soulsby, Lond.; Dr. G. E. Shuttleworth, Richmond Hill; Mr. H. S. Shorthouse, Lond.; Dr. J. B. Squire.

T.—Dr. J. S. Tew, Tonbridge; Dr. J. Thomson, Edinburgh; Three Counties Asylum, Hitchin, Clerk of; Messrs. Truelove and Hanson, Lond.; *The Westminster*, Toronto; Thackeray Hotel, Lond., Proprietor of; Dr. Tylecote, Sandon; Mr. L. Tattersall, Accrington.

U.—University College, Bristol, Secretary of; Union Assurance Society, Lond., Secretary of.

V.—Mr. R. Varley, Brighton; Vejos, Ltd., Lond.; Victoria Hospital, Folkestone, Secretary of; Mr. J. W. Vickers, Lond.; Vimbos, Ltd., Lond.

W.—Mr. S. Wand, Leicester; Mr. C. Webb, Margate; Worcester County and City Asylum, Medical Officer of; Dr. A. McC. Weir, East Sheen; Worshipful Company of Plumbers, Lond., Secretary of; Mr. J. Westmorland, Macclesfield; Dr. A. S. Wartow, Redditch: Mr. C. F. Wingate, New York; J. H. Wigham, North Devon, W. H. H., Lond.; Wills, Ltd.; Lond.; *Wiener Klinische Rundschau*, Editor of; Messrs. Willows, Francis, Butler, and Co., Lond.; Mr. E. Weston, Sheffield; Westburn Sugar Refinery, Greenock; Messrs. J. Willing, Lond.; Dr. C. T. Williams, Lond.

Y.—Yorkshire College, Leeds.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. J. F. Armstrong, South Shields; Apotheke, Lond.; Avis, Lond.; Mr. W. D. Akers, Bath; A. B. C., Lond.; Mr. C. B. Atkinson, Long Clawson; A. B., Taunton; Alpha, Lond.; Mrs. A. Anderson, Galway.

B.—Mr. C. Birchall, Liverpool; J. Biggam, Upper Gornal; Mr. J. Barry, New York; Mr. H. H. Ballachey, Chelford; Dr. F. W. Burton-Fanning, Norwich; Mr. H. Butterfield, Northampton; Mr. F. C. Brett, Bridlington; Barker, Lond.; B. G., Lond.; Beta, Lond.; Mr. C. Beesley, Dalton; Bovril, Lond.; Mr. H. Bradburn, Arnside; Dr. E. M. Brockbank, Whithington.

C.—Mr. J. Clarke, Hitchin; Rev. W. H. Cleveland, Selby; City and General Press Agency, Lond.; Mr. E. K. Campbell, Lond.: Mrs. Campkin, Melbourne; Mr. S. Crossley, Blackburn; R. Coffey, Aspull.

D.—Mr. G. E. Douglas, Lond.; Mr. D. K. Draffin, Merthyr Vale; D. T. N., Lond.; Discipulus, Lond.; Mr. A. K. Dresser, Padstow.

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The Lumleian Lectures

ON

THE PRINCIPLES WHICH GOVERN TREATMENT IN DISEASES AND DISORDERS OF THE HEART.

Delivered before the Royal College of Physicians of London,

BY SIR RICHARD DOUGLAS POWELL, BART., M.D. LOND.,

FELLOW OF THE COLLEGE; PHYSICIAN EXTRAORDINARY TO HER MAJESTY THE QUEEN; AND PHYSICIAN TO THE MIDDLESEX HOSPITAL.

LECTURE I.[1]

Delivered on March 24th.

MR. PRESIDENT AND FELLOWS,—In a rash moment on being honoured by the request of the Council of the College that I should this year give the Lumleian Lectures I chose the subject of Heart Disease for my text. It was something of the feeling expressed by the late Dr. W. Stokes that heart diseases tend still to be regarded from too detached a point of view that lead me to this selection. One may, for instance, still read of angina pectoris as a separate and fatal affection of the heart instead of its being regarded as a painful incident of varied significance that may occur in the course of a wide range of functional and organic diseases of the cardio-vascular system. Separate chapters must be devoted to describing the peculiarities of aortic, of mitral, of pericardial, of trophic diseases, of the heart, but the effectual grasp of their practical treatment is weakened unless they be gathered up again for review from more comprehensive standpoints. I have at least no other excuse for again dealing with a subject that has recently and so ably been brought before the College in almost every relation by our distinguished Fellows—Dr. Leech, Dr. Lauder Brunton, Sir W. Broadbent, and Dr. Markham Skerritt—and treated of in several able works which have recently appeared. It is easier to find "books in the running brooks" and "sermons in stones" than to thread the current knowledge of a familiar subject into a discourse suggestive, interesting and helpful to those to whose thoughts in their daily work it must be ever recurring. It is, however, one of the functions of the Lumleian lecturer to attempt this, to review from the side of experience and clinical observation the net results of most recent researches and to endeavour to show how far they should influence us in our daily practice.

There is perhaps no branch of medicine in which, notwithstanding much knowledge, the confidence of the practitioner is so easily shaken and in which he is so apt to relinquish the courage of his opinions as in heart diseases; and there is none in which the public, who treat their hearts with too much respect and their nervous system with too little, require such firm and steadfast guidance at the hands of our profession. In my endeavour to lay down the lines of treatment of heart disorders and diseases I will first speak of such modifications of the cardiac functions as are the result of disturbed or even organically changed innervation of the heart and vessels, the heart itself being sound. Secondly, I must glance at similar disturbances of extrinsic sources as they affect an unsound heart. Thirdly, I will endeavour to group from a therapeutic point of view the intrinsic disablements and diseases of the heart mainly under the headings—(1) of heart failure in acute disease; (2) of cardiac overstrain; (3) of chronic heart failure; (4) of acute inflammatory cardiac affections; (5) of chronic valvular affections of the heart; and (6) of ulcerative diseases of the endocardium.

In order to understand so far as is at present possible functional diseases of the heart and to arrive at a point from which we may safely take further steps in their apprehension we must have clearly traced in our minds the paths of direct and indirect cardiac innervation and the vaso-motor nerve mechanism. I have with the kind help of my friend Dr. Risien Russell illustrated these two systems of nerve mechanism on separate charts which show with precision our anatomical and physiological knowledge which has been brought to its present degree of completion by the labours of Bernard, Roy, Adami, Bradford, and others, but most especially of Gaskell. These diagrams will be quite sufficient without any further description from me to bring afresh to your minds the main points respecting the innervation of heart and vessels with which you are well acquainted and will serve for reference at any time in the course of my remarks. It is impossible to isolate the heart from the vessels when thinking of its functional disturbance; we must look upon the cardio-vascular system as a whole. Originally a mere branched contractile tube, it is now but a highly differentiated tubal apparatus with a nervous mechanism which has grown in complexity *pari passu* with the manifold interests of the circulation in the extended empire to which it has to minister. With considerable accuracy the blood may be said to be held in the grasp of the cardio-vascular tubes; that the blood current is maintained and directed by the rhythmic pumping action of the two ventricles and by the position of the valves. The tendency is for the muscular arterial system to evacuate all the blood into the lax and capacious venous system, but the due proportion of blood distributed to the arteries and veins is secured by the controlling action of the small vessels which regulate the flow through the capillaries. The heart and vessels are, indeed, an intricate mechanism, one part of which reacts upon another, each segment being sensitive to the controlling influences initiated by the needs of the organ or tissue which it serves and the whole coördinated by the central nervous system to the control of which it is in every detail subservient. Whenever any commotion occurs of sufficient intensity beyond the common in any department of the circulation our consciousness becomes aware of it, but it is of disturbances excited in the heart's doings, although they may be but central to a more widely ranging disorder, that our consciousness takes especial note.

There are unquestionably a large number, perhaps an increasing number, of people who are morbidly conscious of their heart's action, indeed of the function of their cardio-vascular system generally or in particular parts. They feel disturbances, flutterings at the heart, throbbings, flushings, pallors of the surface or parts of the surface or of particular organs, noises in the vessels about the head and apart from, and in the intervals of, these more definite sensations they have a sense of their heart beating and appreciate sometimes a disorder, an intermission, or a faintness in its action. This condition, or group of conditions, and the thousand and one variations to which it is subject, are the result of purely nervous disorder. It occurs in people of both sexes, mostly young people between puberty and thirty, of nervous inheritance, or who have exhausted their nervous system in various ways by dissipation, excess of tobacco, alcohol, venery, or over-pressure of brain work. It is amongst the class of so-called "neurotics" that functional disorders of the heart so largely abound and it will be well to try to answer the question, What constitutes a "neurotic person"? The term is constantly and increasingly used; has it any definite meaning? A neurosis is a functional, as apart from an organic, disturbance in a nerve centre and the disturbance is generally manifested as an hyperæsthesia. A neurotic person is a person whose whole nervous system, and especially that portion of it known as the organic nervous system, is hypersensitive and abnormally within his cognisance. "Neurotic" is sometimes used as a term of reproach; it is often confounded with hysteria, which is indeed but one of its lesser manifestations. It is a condition of nervous system, sometimes acquired, but more often hereditary, very widely prevalent even in our cold-blooded race and which is perhaps a national characteristic in some brighter climates. The neurotic element is a factor to be reckoned with in practical medicine, and whilst sometimes found amongst the self-indulgent is quite as often seen in persons with a high degree of self-control, an invincible courage and a restless energy and enterprise. It is especially prevalent amongst the educated classes and is a marked feature in many highly gifted and interesting people. The tendency of the neurotic is to intemperance in thought and action: he will shrink from a little pain but heedlessly rush into great danger; his cerebration is quick, alert, often fantastical, and he excels in crafts requiring intensity rather than quantity of cerebral function. If we physicians are sometimes dazzled by his mental brilliancy, his powers of acquisition, rapidity of thought, brilliancy of conversation, we are more often bewildered by his powers of suffering. Introspective in many ways, he is morbidly so with regard to his own physiology. Just as some persons are gifted with an intensity of hearing which enables them almost painfully to appreciate the overtones which occupy ethereal spaces, dumb and dark to their fellows, or to recognise sounds and impulses that are appreciable only to single specialised faculties of the lower animals, so there are some persons who are in an exaggerated degree sensible to their own organic mechanism, sensitive to the physiological working of that mechanism as distinguished from painful or morbid function. Our sense of life is probably a pleasurable impression of undiscerned physiology. But it is of our cardio-vascular mechanism that of all functions we most readily become conscious and that apart from any actual suffering we most often become unduly conscious, and it is in this department of their physiology that these over-sensitive persons whom we classify as neurotics are most apt to suffer. Although the attentive observer could at sight pick out from a crowd of persons the two or three neurotics present he would be much puzzled to give his reason for so doing. Perhaps an indefinable alertness of the facial muscles, a quickly changing expression, a mobile and slightly contracted pupil, with increased sclerotic exposure, are the characteristic features. These persons have a quick circulation, a somewhat raised and variable arterial tension, their thermic centres are unstable and temperature charts with them have to be discounted. Neuralgic affections are common and amongst them and in their families will be found the other functional nervous complaints, migraine, epilepsy, asthma, hysteria, and the visceral neuroses so well described in this place by our colleague Professor Clifford Allbutt. From the social side they are delightfully portrayed in some of the stories of a Member of our College who writes under the pseudonym "Philip Lafargue." I must apologise for making these digressive remarks on neurotics, but the term has crept into frequent use; I may have often to use it myself in this lecture and I am anxious to give as much definiteness as possible to the idea it should convey.

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[1] Lectures II. and III. will be delivered on March 28th and 31st respectively.

Functional disorders of the heart are sometimes due to a defect in the organ itself, more commonly they are caused by stimuli reflected from distant organs or parts, generally dependent upon morbid states of the blood circulating through the heart or disturbing the centres of its nervous mechanism, an acquired or hereditary instability of the nervous system being often recognisable. In endeavouring to lay down the lines of treatment of functional disturbances of the heart we must hold in comprehensive review the vast tangle of circumstances which thus influence directly or indirectly the now sufficiently well-defined cardiac innervation. I have endeavoured in Table I. to summarise the causes of that want of stability which marks the function of the neurotic heart.

TABLE I.

Cardio-vascular neurosis.—Definition: An increased sensibility and a disordered action of the heart and vessels not dependent upon structural change. Want of stability may be located in the cardio-vascular muscle caused by:—

1. Malnutrition	Anæmia.
2. Defective metabolism	Fatty infiltration; retention of effete materials.
3. Morbid blood stream	Gout; renal or liver inadequacy or surcharge; anæmia.
4. Functional overstrain	Fatigue.

Want of stability may be located in the nervous system and due to:—

1. Toxic influences	Specific pyrexias; nicotine; alcohol; digitalis; uric acid and its allies; excessive absorption from ductless glands; deficient absorption from ductless glands.
2. Reflex excitation or depression ...	Abdominal: gastric, renal, intestinal, hepatic; pelvic; dental.
3. Direct excitation or depression ...	Emotional: anxiety, fear, anger. Brain disease or injury: concussion, compression, meningitis, cerebritis, &c.

There are three stages or degrees—if we may so speak of them for convenience—of cardio-vascular hyperæsthesia. The first degree, consisting of that undue appreciation of the heart's action and the blood circulating through the vessels to which I have alluded, is extremely common in nervous introspective people. The heart's action may be quite normal, but it is liable from slight causes to become paroxysmally excited and accelerated. The pulse tension is variable. The patients are all of the neurotic class, the neurosis being hereditary or acquired through the usual causes. I have described instances of this degree of cardiac disturbance in a brother and sister whose father died insane, their mother from spinal paralysis, their grandmother was on the verge of insanity, and the brother was highly neurotic. But alcoholic, social, and tobacco excesses and mental overwork will produce the same effect. The next degree is that in which the heart's action is really oppressed to a point varying from a mere vague anxiety such as that alluded to by Hamlet when he says, "But thou wouldst not think how ill all's here about my heart," to a positive discomfort and onwards to the third degree, the acute suffering of angina. Increased arterial tension is an essential factor noticeable in the second class of cases. These persons, be it remarked, may not be introspective; their attention is not concentrated upon their circulation, but is compelled thereto by actual discomfort or pain. It is interesting to note that that vague and ill-defined anxiety concentrated about the heart of which so many of these patients complain is closely allied in character and probably in mechanism, but in very mitigated degree, with that cardiac terror so characteristic of angina pectoris. Although slight and difficult to define this discomfort is one of the most common causes of such patients seeking advice "for something wrong about the heart." The usual symptoms of increased arterial tension are present and are to be traced to the usual causes of that affection—viz., mental shock, anxiety, hurry in work, sedentary lives, numerous and overlapping social functions, constipation, the threatening of a gouty storm, &c. There is no cardiac lesion necessarily present, although, as we well know, chronic high arterial pressure will in time lead to, and is often attended by, gradual cardiac changes of a degenerative kind. It is from amongst the first two classes of cases—not distinct but merging into one another—here referred to that the cases of vaso-motor angina come. It is not difficult to see how shock, chill, emotion, dyspeptic distension of nerve-endings, and other causes referred to in Table I. may so increase arterial resistance as to cause cardiac embarrassment and anginal pains. Paroxysmal attacks of palpitation or tumultuous action of the heart are not uncommon incidents in connexion with especially the second degree of cardio-vascular neurosis described, the attacks being attributable to sudden vaso-motor relaxation or to vagus irritation from dyspeptic or gouty causes. Now the first degree of cardiac hyperæsthesia is most common in young adult life in both sexes, but more common amongst males than females; cases are not infrequently met with in females later, about the menopause and even in later life. Those in the second category are far more common amongst males and prevail most from about thirty-five to fifty years of age.

The time at my disposal will not permit me to consider at any length the perverted physiology of neurotic disturbances of the heart and vessels. Its details are well understood—the paths of transmission are anatomically marked out for us; the causes of disturbances of central origin, those originating in irritation of visceral or peripheral nerve-endings, the toxic effects of undue absorption from glands, thyroid, adrenal, ovarian, testicular, as well as those of retained excretory products, from defective elimination or over-production, are all recognised as more or less potent factors in cardio-vascular disturbances; and finally, the effects, immediate or remote, of drugs—digitalis, atropine, tobacco, the whole range of hypnotics and analgesics, cocaine, antipyrin, phenacetin, sometimes prescribed by the medical attendant but sometimes taken without his sanction. It is very difficult precisely to formulate the harm done by amateur drug-taking for pain, sleeplessness, and spasmodic suffering. It seems to me that it may be clinically summarised by saying that the controlling centres of the nervous system suffer chiefly. emotional disturbances are more easily excited, reflex agitation is less controlled, and the cardio-vascular and thermic centres are diminished in tone. No doubt those innocent and attractive little bottles of tabloids which are so freely scattered on the toilet tables of society have much to do with the increase of the neurotic disturbances of the heart and vessels which unquestionably is a medical feature of the present generation. A neuralgia which in former days necessitated the called-for nerve rest is now promptly subdued by a dose of antipyrin or anti-calmin and the patient is enabled thus to take a further step in nervous fatigue without direct suffering. Neurotic persons as a class take too little food, are always hurried over the meals and in the details of life, they eat too fast and have a tendency to exceed in nerve stimulants, tea, tobacco, alcohol and certain drugs, or they find their excitement in social entertainments. Obviously in the younger people—the causes of cardiac disease being excluded—soundness of heart may almost be predicted; in the older cases in both sexes, on the other hand, there is more anxiety on this ground. It is in all cases essential to make a thorough examination of the heart and to come to an absolute diagnosis, for the treatment rests largely on moral grounds and must be supported if possible by an assurance of physical soundness. If on careful examination the position and dimensions of the heart be found normal and the character of the impulse and sounds be such as are not incompatible with textural soundress of the valves, an absolute opinion can be expressed. There is undoubtedly room for anxious consideration and hesitation in regard to the character of the impulse and sounds of the heart in many of these cases, for the impulse is often violently increased and apparently extended by undue locomotion of the organ and the sounds are perhaps disorderly, reduplicated, and not infrequently attended with murmurs. Still a careful investigation, selecting a time when the action is more tranquil, will in most cases suffice to convince the experienced observer as to whether such sounds are significant of organic disease or compatible with mere disorder. Functional murmurs do not strictly accord in position and conduction with those due to valve defects. Any such murmurs present are always systolic or post-systolic, often somewhat frictional in character, never in my experience diastolic or presystolic, and most generally are heard with undue loudness over the neck vessels or sometimes are very apparent over the lung even remote from the heart, and especially so during inspiration. There is no history of rheumatic fever or of previous heart disease. If the patient who suffers from any disturbance of the heart's action, whether it be mere abnormal consciousness of its action or the most severe palpitation or anginoid attacks, can be truthfully assured that there is no organic lesion, that his troubles, however painful or distressing are not mortal, a most important step is taken in the treatment. On the other hand, we have most of us seen patients whose lives have been rendered miserable with the ever-present fear of death owing to a hasty and ill-considered diagnosis of a weak or a dilated heart—a diagnosis that should never be made without the gravest sense of responsibility and requiring in some cases more than one careful examination. It was only very recently that I was consulted by a young married woman, formerly of active, energetic, useful habits, who had been told by a medical man whom she had consulted when away from home that she had a weak heart. She had been taking the utmost care of a healthy organ ever since, resting half the day, never even walking upstairs, until she had become fat, breathless, anæmic, and miserable, and it will be many months before she will be fully weaned back to her former healthy activity, if this ever occurs.

Having come to a diagnosis and reassured the patient with regard to prognosis the next point is to investigate the patient's mode of life with a view to correct physiological errors, if such there be. A sample day's doings noted down and corrected here and there as the case may demand is an elementary measure of treatment. The removal of the morning cup of strong tea or its replacement by a small cup of warm milk diluted with Vichy or other water, the arrangement by rising a little earlier for a leisurely breakfast and time for a proper relief of the bowels before entering upon the day's work, the avoidance of rush at the luncheon hour, and the securing of a quiet hour before dinner will, with a *few* sensible directions with regard to the dietary, do much to render digestion more complete and quiet the nervous system. Many of these people have really but little to do, but they are always in a hurry about it. Another considerable portion who earn their daily bread and support their families by hard and exacting toil are yet impelled by their nervous energies to occupy all their leisure evenings, off afternoons, and Sundays with honorary secretarial duties or teaching or amateur philanthropy,—all duties which with a heavy heart but a determined mind the physician in these particular cases has to prune down in order that they may continue to do that which is essential for themselves and their families.

But there is yet another class of men, chiefly in the forties and fifties, who in earlier years have been physically active, even athletic, but of late, with quadrupled professional, business, domestic and social affairs on hand, have lost leisure for exercise, yet preserve their powers of eating and drinking as regards quantity but enriched in quality. All such tend to venous plethora, retarded circulation in their great organs, heightened blood-pressure, fat-laden and infiltrated heart, and from them a large contingent of functional heart disorders are furnished. These are the cases in which a yearly course of the waters of Harrogate, Homburg, Carlsbad, Marienbad, &c., is so valuable and in which the terrain cure of Oertel is to be advocated, but a little wise overhauling of the dietary by the physician, the resolute acceptance of such by the patient, and the adoption of steady daily exercise dovetailed in with the work will do much to perpetuate cures thus initiated. I shall allude to these cases again and need only now say that their hearts are lazy and hampered, not weak; they require sensible guidance not to have cardiac introspection as an administered neurosis.

Having (1) given an absolute diagnosis, and (2) having investigated and corrected the habits of life in whatever respect they may be faulty, we have (3) to ascertain and remove—or, at least, to treat—the exciting cause of cardiac disturbance. These are for the most part reflex, gastric, intestinal, rectal, and renal. I have seen very striking instances of floating kidney attended with great functional disturbance of the heart and sometimes also pulsation of the abdominal aorta. Exostosis, bad teeth and other sources of distal irritability are frequent causes of disturbed cardiac innervation. The following is a simple case in point. A married woman, aged thirty-six years, seen with Mr. Armstrong of Buxton, had for two years suffered from excessive cardiac irregularity and frequent attacks of spasmodic heart pains. She attributed her illness to much previous mental anxiety. Her symptoms had increased the last few months and the cardiac disturbance became so constant that she could neither go into society nor receive friends. There was no valvular disease of the heart and its dimensions were normal, but the action was most irregular and intermittent. Her teeth were extensively decayed, surrounded with tartar, and the gums were unhealthy. She had declined to have them seen to, however, and she was put through a course of Nauheim baths and resistance exercises and her digestion attended to with only slight relief. After the consultation she consented to have her affected teeth removed under gas and ether, which she took well, and from that time her cardiac symptoms have entirely ceased, although Mr. Armstrong adds: "She has been exposed to even greater nerve-strain than before." In this case there were no marked dyspeptic signs and the cardiac symptoms seemed to be due chiefly to the reflected irritation of the decayed teeth.

Professor Clifford Allbutt in his Goulstonian Lectures alludes to many cases of cardiac attacks of a functional kind, with very slow, quick, or intermittent action and in some with distinct anginal symptoms, which he had observed to occur in connexion with, often in succession to, or alternately with, some form of visceral neuralgia, especially gastralgia, or some uterine disturbance, such as menorrhagia. No doubt in many of these cases the neurosis is really central. Professor Allbutt points out that pulmonary gastric and cardiac neuroses are often concurrent in families and I have seen a striking instance in which they have each been present at different times in the same individual. Here it is clear that we have to do with a central neurosis manifesting itself in different viscera at different times. Professor Allbutt is, moreover, careful to point out that in his cases of cardiac disturbance following gastralgia there was no dyspepsia proper. The causes of high tension other than those mentioned must be looked for and if possible treated. The gouty disposition has to be reckoned with. In this department of inquiry and rectification will come the causes of those conditions of the heart muscle which, rendering the organ especially irritable and inadequate in function, are accountable for breathlessness, palpitations, and spurious anginal seizures. Fatty infiltration of the inter-muscular texture and incomplete removal of waste materials from the cardiac muscle briefly constitute the pathology of these cases and their etiology chiefly consists in indolent, self-indulgent living, including rich and too plentiful food, often alcoholic excess and too little exercise, the other chief cause being the cessation of hæmorrhagic or other fluxes which attend the climacteric period of life. Venous plethora is the marked feature in all these cases, and graduated exercises, restrictions in diet and hepatic depletory medication are the principal measures of treatment. The diet should in these latter cases be carefully looked to. It should be spare, slowly eaten, taken at regular meal times only, and may consist of a good breakfast, a moderate amount of fresh cooked meat without fat for luncheon, and poultry or game for dinner with fish and a little soup. Starchy and root vegetables and bread should be removed, or only very sparingly allowed with the lunch and dinner meals, crisp toast or biscuits being substituted for bread. The amount of fluid taken with the meals should be restricted in decided cases to a claret glass with luncheon and two glasses with dinner. This may consist of one or other of the light wines or diluted spirit in measured quantity. About from an hour to two hours after or from half an hour to an hour before meals a glass of plain hot water should be slowly sipped to supplement the fluids taken. I shall deal further with the question of exercises for these patients later when speaking more specifically of the Oertel and Schott methods of treatment, which are particularly adapted to them.

The great principle that underlies and should govern the whole treatment of functional and neurotic heart affections is a steadfast endeavour to help the subjects of them through with their lives and not to make invalids of them or to allow them to become so. They may require treatment for definite times, and one even meets with some rare neurasthenic cases requiring the Weir Mitchell treatment, they may require restraint in definite ways—perhaps some limit marked out in their work; but the utmost care must be exercised to discourage the introspective habit to which they are particularly and from the very nature of their malady prone. All instrumental treatment or observations of them should be avoided. They should be enjoined to take moderately active open-air exercises with the direction to take the deepest possible inspirations, so as thoroughly to ventilate the lungs and stimulate complete cardiac circulation. Great temperance in alcohol and tobacco and moderation both in tea and coffee must be observed. For those who are delicate, easily fatigued or mentally hard-worked a period of rest before meal times must be insisted upon and particularly before the late dinner. Where social engagements and professional or other work overlap one or other must of course be curtailed. It is at the same time of the utmost importance to secure to these people their interest in their surroundings and not ruthlessly to interfere with such duties and amusements, philanthropic, religious, or social, as may be the salt which savours their doings. We have to adjust, to apportion, not to spoil the daily life. In the more pronounced cases the passive exercise and soothing monotony of a well-planned sea voyage is sometimes very advantageous, only, however, for those who are able to eat and sleep well on board ship. The restful regime of a spa suits others, the particular spa being selected for its chalybeate or its eliminative effects as the case may require. The more formulated treatment by surface stimulation from aerated saline baths, combined with rest and passive resistance exercises, proves very beneficial in some cases, more particularly those in which there is a gouty element, the arterial tension ranging high and nervous introspection not being too marked a feature. A definite course of spa treatment is often useful—indeed, sometimes essential—in serving the purpose of inculcating the habit of self-discipline and starting the patient on a better regulated and more physiological plan of life. Drugs are of course often required in the treatment of functional disturbances of the heart, purgatives or laxatives, and particularly an occasional mercurial to lower arterial tension and to remove irritating materials. Sometimes nerve sedatives of the bromide order are required or hæmatinics, especially arsenic and iron as tonics to the nervous system and blood restorers. Strychnia is often very badly borne by patients of the neurotic class except perhaps for short periods, and where a cardiac tonic is required caffein is more appropriate. In cases of venous plethora a course of salines is sometimes necessary and in gouty cases suitable remedies. It may, however, be said that there is no special drug treatment for cardiac neuroses except in some of the acute and stormy manifestations to be next considered.

It is a fact which is perhaps too often forgotten in clinical medicine, but which I am sure the experience of those present will recognise—viz., that functional disturbance similar in kind to those we have been considering is as frequently observed in association with diseased as in healthy hearts and that many of the troubles and some of the catastrophes of cardiac disease are attributable to functional derangement. Numberless people die from functional disturbance of a diseased heart, few or none die from functional disturbance of a sound heart. Hence the importance of a definite diagnosis in every case as to which category it belongs. In speaking, therefore, of the treatment of angina pectoris in its place amongst cardiac neuroses I shall deal with it in so far as it occurs as a neurosis both in connexion with healthy and unhealthy hearts and I shall reserve the other forms of angina for later consideration. The subject of angina pectoris is a difficult one enough to formulate with regard to etiology and morbid mechanism with a view to prophylactic and remedial treatment. The difficulties diminish when we recognise that there is a continuity in the phenomena presented to us for treatment from the slighter degrees of introspective recognition of the cardio-vascular mechanism, through the more distinct evidence of cardiac anxiety and distress in connexion with the higher and more persistent grades of arterial tension to the paroxysmal attacks of acute breast pang associated with a veritable asthma of the blood-vessels which may supervene in any cases of the series, and this continuity is to be observed between so-called false and true angina, although some writers will only admit the term angina as applicable to the fatal cases of coronary origin.

We have discussed the neurosis, we have briefly alluded to points of treatment for the condition causing the high tension and leading up to the paroxysms, and we must now briefly outline the treatment of the paroxysm itself. In a large proportion of cases angina pectoris is an entirely functional disorder, the main feature of which is sudden increase of blood-pressure and a correspondingly sudden call upon cardiac effort; it may be on the systemic, it may be on the pulmonary side of the circulation that the strain arises. There are many causes which will bring about this arterial spasm and there is the underlying neurosis which favours its occurrence. The causes are almost all within our scope of remedial treatment and the neurosis is subject to considerable modification and control. But it is important to remember that in all these cases whilst it is the heart that suffers the angina, the conditions which originate that suffering are outside the heart, and all our treatment is directed in the first instance to alter these external conditions and in the second to support the heart. There is no essential difference save in degree, and not always in degree, between cases of angina in which the heart is sound and those in which it is unsound, but there is every difference in the gravity of prognosis and the urgency for treatment in the two cases. For whilst on the one hand the man or woman who has angina with a sound heart is in no danger of dying, and the object of treatment is to relieve suffering and avert alarm until the perverted physiology has time to rectify itself, in cases, on the other hand, in which there is unsoundness of heart, whether textural or valvular, the patient is in imminent danger and requires prompt treatment to relieve suffering and to avert death if death can be averted. The cause of distress is in these cases contraction of the peripheral or general visceral or pulmonary vessels, giving rise to muscular strain of one or both cardiac ventricles suddenly induced and of a colic or cramp-like character. The pains thus induced and situated are reflected along the multiple paths of sensation which directly or indirectly converge to the heart. The cardiac pain in vaso-motor angina is difficult satisfactorily to explain; it is distinctly a result of intraventricular pressure and from its character and radiation it must be primarily an affection of the sensory nerves of the heart caused by stretching of its tissues and causing the contraction of the tissues to be attended with pain. The endocardial surface is more sensitive than the pericardial surface of the heart; but comparatively insensitive tissues when stretched become very painful. Dr. Allen Sturge observes that reflected pain is only an ordinary sensation conveyed to a nerve centre in commotion by which it is intensified to a painful sensation. Thus may the reflected pains be accounted for as emanating from the centres disturbed through the cardiac nerves. Contrariwise we have only to conceive a slight degree of hyperæsthesia of the organic nerve centres to account for that undue perception of the cardio-vascular mechanism which is the first grade of neurotic disturbance and which can readily become a painful perception of increased pressure within the heart. The two points requiring consideration in an anginal attack of the kind now under consideration are the pain and the degree of heart failure. The pain, which is to a certain extent the measure of the strain upon the heart, is to be attacked by remedies which relax arterial spasm. Amyl nitrite, nitro-glycerine, and the nitrites generally, but especially nitro-glycerine, 1 min. of the nitro-glycerine 1 per cent. solution may be given at intervals of five minutes for two, three, five, or more doses, and at the same time that the anti-spasmodic is given an appropriate cardiac stimulant is required. In the more purely neurotic cases it is most desirable to avoid alcohol. There is no better stimulant than slowly sipped hot water. Dr. Lauder Brunton has pointed out that sipping is a physiological stimulant to the heart and hot drinks tend to relax arterial spasm. A prescription for a carminative draught, including ammonia, chloric ether, and valerian or cardamoms is valuable to be taken in several sips. Warmth to the surface and especially to the extremities is the further requisite. The second stage of these cardio-vascular attacks is one of reaction and excitement to be followed by fatigue. Often by the time the medical observer arrives the cardiac pressure has already been relieved through the depressor nerve of the heart excited by intra-ventricular pressure bringing about relaxation of arterial spasm, the first violent throbbing or the threatened standstill of the heart has already yielded to quick, perhaps somewhat irregular, beats, the tension of the pulse is no longer apparent and this fact has no doubt, led many observers to question the alleged mechanism of this form of angina. With the help of a few hours' rest in bed the patient may be again fit for the duties of life, although usually a sense of lassitude and fatigue remains for a few days. It is now that the cause of the attacks must be sought out, the conditions of the heart carefully ascertained and the daily life, diet and surroundings and functions of the patient must be investigated and corrected where in error. Thus is outlined the bare treatment of the anginal attack. If there be no heart disease present the patient must be thoroughly reassured on that point. In cases, however, in which there is heart lesion present much more attention must be given to the after-treatment and the prognosis depends upon the nature of the lesion present. It is not my duty here to enter upon this latter point. I would briefly say that the gravest cases are those in which there is enlargement of the heart without or not accounted for by valvular defect. I would mention the fibro-fatty heart, the syphilitic heart, and the renal heart in this category. Aortic stenosis and aortic regurgitation come next, the regurgitant defect being by far the most common. Mitral stenosis is not infrequently attended with anginal seizures, sometimes of a fatal kind, and the attacks would probably be more frequent were it not for the readiness with which pulmonary hæmorrhage occurs. Mitral regurgitation as the primary disease is rarely accompanied with angina, and when it supervenes upon cases due to degenerative hypertrophy and dilatation it tends to preserve the patient from future attacks. Now on all these cardiac conditions anginal attacks may supervene having precisely the same mechanism as the attacks I have already considered as unattended with cardiac disease. It is most important to bear this in mind, for the treatment is precisely on the same lines, only it must be more urgently pursued, for the heart may readily fail under the initial strain and can scarcely escape damage therefrom; moreover, the subsequent fatigue is far more serious. I had recently in my ward a young man admitted with a second attack of rather severe pulmonary hæmorrhage which the physical signs showed to proceed from the base of the left lung. On examining the heart it was found to present the pure funnel form of mitral stenosis with right ventricle, hypertrophy, &c. His pulse was observed to be remarkably tense with well-marked reflux through the palmar arch on compressing the vessel. Under treatment by saline aperients and a little mercury the hæmorrhage ceased, the pulse softened, and he returned to his former state and left the hospital. The heightened peripheral arterial resistance in this case clearly, by embarrassing the left ventricle and throwing back pressure upon the already difficult circulation in the lungs, caused the profuse hæmorrhage, whilst the hæmorrhage in turn probably saved him from anginal heart failure. A few months previously a young man was admitted into the ward with well-marked aortic regurgitant disease with characteristic pulse and throbbing of neck vessels. He had many attacks of vaso-motory angina, a common event in aortic regurgitation, one of which supervened whilst he was under examination. It was curious to note the absolute extinction of all the aortic characters in the pulse which became contracted to a small, hard pulsating thread, whilst as the patient sat forward leaning against a chair in great pain the bed shook with the violence of the cardiac beats and his neck and subclavian vessels could be seen pulsating with responsive violence. A dose of trinitrine quickly brought back the characteristic aortic features of the pulse and dissolved the painful scene. One could not observe the labouring beat of the heart, the strongly pulsating large vessels contrasted with the almost effaced small vessels, without appreciating the power of vaso-motor contraction to cause cramp or paralysis of a weak ventricle, yet there are physicians who still doubt the efficacy of vaso-motor spasm in the mechanism of angina. The initial treatment may be started with nitrite of amyl inhalation and the patient should always have such at hand. But the attack is commonly attended with such acute heart failure that the clinical features of high pressure pulse and labouring heart may be immediately lost. Undoubtedly the subcutaneous injection of pure ether, to which a minim of nitro-glycerine solution may be added if not already otherwise taken, is the best treatment in severe cases if caught at the right moment. The sense of prostration is more great and defined in these cases. Alcoholic stimulants, so much to be avoided in pure vaso-motor cases, are in these imperative. A full dose of brandy should be given in some hot drink. In those cases, and they are many, in which flatulent distension forms a marked feature of the attack, if it be not concerned in producing it, a carminative draught is of much service at the earliest stage. The heart is left in an exhausted or fatigued condition after the attack and there is a decided tendency to a series of several attacks. For this a mixture of strychnine or caffein may be prescribed with digitalis, so that 15 or 20 minims of liquor strychnia and 20 or 30 or 40 of tincture of digitalis are given in twenty-four hours, and the strychnia may be given subcutaneously in, of course, equivalent doses or the caffein in form of salicylate. It is probable that digitalis and strychnine influence the heart muscles before that of the vessels, but if the pulse become tightened, as it may be in exceptional cases, the digitalis must be lessened or its effect on the vessels moderated by the addition of ½ minim or 1 minim doses of nitro-glycerine to the prescription. There is another remedy which is a powerful restorative to the fatigued heart, and that is oxygen inhalation, which may be given for five or ten minutes every hour or two or three hours as may be required. These cases often come to us with a history of a recent attack and we have to consider what form of angina it has been, how to avert fresh seizures, and how to repair (if it may be) the failing heart which renders each attack so dangerous.

The presence or absence of heart disease must be rigorously ascertained—(1) the soundness or otherwise of valve function; and (2) the presence or absence of enlargement, dilatation, or hypertrophy of the organ. It is important not to form too hasty a judgment and it is often impossible to come to a final diagnosis at or immediately after a seizure. In tumultuous action, whether from excitement or violent work, the locomotion of the heart is greatly increased and an inexperienced observer is apt to find great enlargement, displaced apex beat, &c., when none exists. On the other hand, one hears it sometimes maintained at inquests and the like that considerable organic disease of the heart may exist without any recognisable signs. I would venture to say that a careful investigation of the sounds and dimensions of the heart will always establish in such cases a displaced apex beat, an increase in the dimensions, or a recognisable alteration in the sounds of the heart. The converse is, however, frequently true—viz., that much alteration in the heart is conceived to be present when none exists. It requires great precision and diagnostic courage to prove a negative and in the presence of functional disturbance and discomfort and anæmic bruits mistakes in diagnosis are very frequent and easily made. With mitral regurgitation of rheumatic origin high tension pulses do not often supervene, but mitral insufficiency is frequently a sequel to the dilatation of the heart consequent upon chronic high tension and secondary cardiovascular changes, and under these circumstances it is undoubtedly a safeguard against over-distension of the ventricle. I have seen cases in which the establishment of mitral incompetence has produced a cessation of anginal attacks which had previously occurred from time to time. In senile hearts mitral regurgitation is common and is not to be looked upon seriously, but rather as a favourable element in prognosis—a condition normal to the senile heart.

TACHYCARDIA, BRADYCARDIA, EXOPHTHALMIC GOITRE, &c.

I must frankly confess that neither reading nor a considerable experience of cases has enlightened me to anything approaching an exact appreciation of the mechanism of that persistent hurry of the heart's action which is known under the term—a term which responds well to our ignorance—tachycardia. The chief feature of the cases may be briefly enumerated:—1. A persistent hurry of pulse lasting for periods varying from hours to many weeks, during which the pulse is rapid, from 120 to 200 or more, regular, small, of sustained, I should say, rather than of high tension. 2. Intervals of severe palpitation attended with præcordial pain, notable distress, and more tumultuous, irregular action of the heart. 3. Although murmurs may be heard and the cardiac dulness may be broadened during attack in the intervals the dimensions and sounds of the heart may in the earlier stages be perfectly normal. 4. In the earlier stages and in the most typical cases the heart hurry has been observed to begin and to finish quite abruptly. This was so in Dr. R. P. Cotton's case and in Sir T. Watson's, in the latter the pulse suddenly changing from 216 to 72 with subsidence of all symptoms whilst that physician was still in the room. 5. So far as any exciting cause can be stated it has been for the most part mental shock, mental or physical overstrain.

The above characteristics are sufficient to show, were demonstration needed, that the condition is a pure neurosis and that the neurosis must be either of the vagus or sympathetic cardiac centre seems fairly certain. It is inconceivable that a paralytic affection of the pneumogastric centre should be so persistent, should be attended with a regularity of rhythm so generally notable, and should be capable of such abrupt termination as is observed in some cases. The view of sympathetic excitement is perhaps better supported by other phenomena of sympathetic irritation, such as sweatings and flushings of the face. No auto-intoxicant can be recognised in most cases. It is worthy of remark, on the one hand, that many people, especially women, suffer from persistent hurry of heart, coming quite within the range of the lower degree of tachycardia, and on the other that there is nothing to distinguish simple tachycardia from that which is the constant symptom of exophthalmic goitre, the rhythm and quality of pulse being precisely the same. It is also to be remarked that there are cases which might be regarded as of a transitional kind, in which, with no enlargement of the thyroid and with no more than a slight beadiness of the eyes, there are present the characteristic hurry of circulation, cardiac murmurs, &c., and in other cases again these circulatory phenomena precede the thyroid enlargement. In the case of a woman, to which I have elsewhere referred,[2] there was observed, besides moderate but constant tachycardia and slightly prominent eyes, evidence of instability of another portion of the pneumogastric nerve in the occurrence of vomiting as an accessory to any, however slight, mental effort or anxiety, such as starting on a journey or to pay a call. This neurosis was apparently attributable to anxiety during the long illness of her mother. It lasted for two or three years and then the patient got well. That there is vaso-motor paralysis of the thyroid vessels in the pathology of the goitrous form of tachycardia is evident, but it would seem to me to be a local and collateral phenomenon, for there is no general evidence of vaso-motor inhibition, the pulse is generally rather small and hard, as one might expect with such rapid impulses of blood through the vessels calculated to maintain blood-pressure. For the present, then, the exact meaning of tachycardia must remain unsolved and we may associate it with some other clinical facts, such as persistent elevation of temperature and unexplained continued elevation of arterial tension, the morbid physiology of which is not yet apparent.

The theory of exophthalmic goitre maintained by Moebius, Johnston, Greenfield, Murray, and others, that it is due to an excessive formation and absorption of thyroid secretion and its action on the nerve centres in the medulla, is useful if only as a working hypothesis. This hypothesis has been suggestive of certain measures of treatment that have been devised for exophthalmic goitre, still more successfully for its opposite, myxœdema. It would appear to be at least proximately true, although probably some central medullary change precedes the thyroid phenomena and is responsible for them. Some regard the thyroid secretion as modified and having toxic effects. It is based upon certain very definite observations—viz.: 1. That no definite lesion of nerve centres has been found. 2. That the thyroid is the organ more obviously affected than any other. 3. That its structure is altered in the direction of hypertrophy and over-activity of function and possibly there may be some alteration in the quality of the secretion (Moebius, Murray, Jeffrey). 4. The symptoms tachycardia, nervous irritability, insomnia, and vibratile contraction of voluntary muscles are the reverse of the bradycardia, torpidity, and impaired reflexes characteristic of myxœdema, consequent upon atrophy or excision of the thyroid. 5. Whilst moderate doses of thyroid extract will cure or keep in abeyance the phenomena of myxœdema an overdose of the extract will produce symptoms resembling those of exophthalmic goitre. There has as yet been found no direct means of treating simple tachycardia successfully. The digitalis class of drugs are useless in this as in almost all cardiac neuroses except—and the exception is important—in the treatment of the heart fatigue which sooner or later ensues as a consequence of the functional strain upon the organ. Tachycardia in its various grades is, however, often but a symptom, a prominent expression of a neuropathic state which requires to be approached for treatment from many sides.

In exophthalmic goitre, again, having made the diagnosis, the physician has to deliver himself of the somewhat magisterial sentence, "Imprisonment for six months and under surveillance for from two to five years." A careful and resourceful observance of this sentence is the only means of radically dealing with this distressing complaint. It would be astonishing that a sudden shock could produce a functional disorder that required such prolonged care did we not know that in all cases the condition is one long prepared for. In some cases a prolonged anxiety or mental strain will account for the illness, in others there is apparently a perverted physiology such as a premature menopause from removal of the ovaries. In other cases again the cause is inscrutable, but in all cases the fundamental treatment by physical and mental rest is essential. The rest for the first six months should be absolute on bed, sofa, or on a couch in the open air, with the utmost avoidance of all excitement and mental fatigue. The patient can then be promoted to bath-chair exercise, quiet walking and driving, or more scientifically graduated exercises, and in the course of time recovers. The general well-being of the patient can be maintained and the more distressing local and general symptoms relieved or removed by cold applications to the throat, sedatives of the bromide and valerian order, arsenical and sometimes iron tonics; digitalis and the like drugs may be given on the appearance of heart fatigue, indicated by the signs of dilatation and a pulse irregular in time and force. In the treatment of the tachycardia, apart from heart strain, digitalis is of little value. The use of thymus extract is in my experience of some value in diminishing the rapidity of the pulse; the galvanic current has been found useful in some cases. Theoretically the Nauheim brine baths should be useful, but practically I have seen no good from them—at least, in the more acute stages. The treatment of constipation and proper dietetic support are all matters of great importance under the enforced quietude of the patient. Operative treatment by partial extirpation of the thyroid gland has been rather extensively tried as has also section or partial resection of the sympathetic nerve in the neck. It must be remembered that any surgical operation will in a certain proportion of instances, in some manner unknown, modify, perhaps even cure, a pure neurosis. Mr. Treves has recently given some instructive illustrations of the truth of this statement, as regards abdominal neurosis, in a paper recently read before the Medical Society of London.[3] The partial removal of the thyroid gland in the acute stage of the disease is attended with very considerable danger and only very inadequate success. The best cases were those of Mr. Paul of Liverpool, but in six cases recorded by him[4] all except one were of more than two years' standing. Abadie and Faure[5] have had successes from section or ablation of the cervical sympathetic, but of Faure's three cases one was of twelve years' standing and in the others the duration is not stated. Doubtless the section of the sympathetic will slow the heart, but it has not yet been satisfactorily shown to influence the disease, and one would regard with some misgivings the future of a heart deprived of due sympathetic innervation, whilst it is clinically remarkable how well the heart comes out of the long struggle but little damaged when the patient has been carefully steered through by judicious handling. It sometimes happens that a disfiguring enlargement or a more serious distortion of the thyroid remains after the tachycardial symptoms have subsided and in one instance I have seen this condition dealt with very successfully by removal. I can but repeat that in our present knowledge of pathology and therapeutics bearing upon tachycardial conditions, including exophthalmic goitre, all remedial measures, however valuable some of them may be on proper occasions and at proper times, are absolutely futile unless they be subordinated to the essential treatment by graduated rest and isolation from all worry, fatigue, and excitement.

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[2] Discussion on Functional Diseases of the Heart, Bristol, 1894.

Of the opposite more rare form of cardiac neurosis, bradycardia, I need not say much, for the cases require but little treatment. One form is that which sometimes follows upon the rapid heart of exophthalmic goitre. I have recently had a remarkable example of this in my ward at the Middlesex Hospital. The patient was a woman, aged sixty years, who twenty years ago was operated upon by Dr. Galabin at Guy's Hospital for ovarian disease and both ovaries were removed. She almost immediately became the subject of acute Graves's disease. Ten years later she came under the observation of Dr. Pringle as an out-patient at the Middlesex Hospital still presenting all the symptoms of active exophthalmic goitre, proptosis, enlarged and pulsatile thyroid, a pulse of 136, agitations, tremors, sweatings, &c. She could not come into the hospital but continued her attendance, coming periodically from the east side of London for many years, in the course of which, chiefly under small doses of aconite, belladonna, and bromide, her thyroid gradually dwindled to an atrophic state, her pulse slowed to 60, and her manner changed from one of excitement and nervous agitation to a quiescent, almost an apathetic, demeanour. She still preserved her proptosis which she has at the present time, and at no time did Dr. Pringle or Dr. Pasteur, under whom she had more recently been as out-patient, regard her case as presenting the distinct signs of myxœdema. She had no albuminuria, but latterly her legs became somewhat œdematous. Her heart has slowed down to 45 and 30, there has been for some time a basic systolic murmur, and the left ventricle is decidedly hypertrophied and somewhat dilated. The signs are rather those of degenerative roughening, however, than of constriction of the aorta, for the pulse is of fairly full volume and regular, although very slow. After a few weeks' rest in bed and some strychnine tonic she has gone to the convalescent home. This seems to be a case analogous with regard to the myxœdemic state to those cases of tachycardia I have spoken of as not being distinctly associated with Graves's malady and yet approximating to it. Bradycardia is very uncommonly associated with well-marked myxœdema and may continue notwithstanding the disease has been cured or held in check by thyroid treatment. I have seen it in epileptics, in which case the rhythm is not only slow but generally irregular. As a temporary condition bradycardia is not infrequently met with as a sequel to influenza and also in association with the stage of depressed temperature that frequently follows upon other fevers. In the influenzal cases that I have seen it has been associated with a very high density of urine with great surcharge of urea, as though there had been some previous accumulation, the urine becoming solid with crystals on the addition of cold nitric acid. Spurious anginal seizures are sometimes observed under these circumstances. I have never known such to prove fatal, although of course in the presence of any previous heart disease they might readily prove so. Chronic high arterial tension is generally associated with a slow, sometimes a very slow, pulse, whereas in acutely raised tension the heart's action is, as I have pointed out, generally quickened. In chronic bradycardia, a condition that tends to remain permanent and does not necessarily shorten life, an occasional twenty-four hours' rest in bed should be enjoined and for mental work the recumbent posture should be preferred. In cases of a more temporary kind the combination of strychnine with an alkali or iodide of potassium (the two drugs being kept in separate bottles and only mixed at the time of taking) is a very useful one. Caffein is also very useful, especially where the urine is scanty. A five minutes' whiff of oxygen three or four times in the twenty-four hours is a valuable cardiac stimulant. In cases of myxœdema of course thyroid extract will be given, but it is not wise to push it to the production of any excitement of circulation.

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[3] THE LANCET, March 5th, 1898.

[4] Brit. Med. Jour., vol. ii., p. 6, 1897.

[5] Progrès Médical, 1897.

The Goulstonian Lectures:

OBSERVATIONS ON THE PATHOLOGY OF THE KIDNEYS.

Delivered before the Royal College of Physicians of London on March 15th, 17th, and 22nd, 1898,

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(From the Laboratory of the Brown Institution.)

LECTURE II.[1]

Delivered on March 17th.

MR. PRESIDENT AND FELLOWS,—In my last lecture I detailed at some length the results following partial nephrectomies (of varying degrees of severity) both on the composition of the urine and on the general metabolism of the body, and I trust that I showed that whereas all partial nephrectomies increased the flow of urinary water only the more severe ones increased the excretion and production of urea. We will now consider some of the results following complete double nephrectomy.

Experimentally the phenomena following the cessation of the renal functions may be studied by three different methods of procedure: (1) ligature of the renal arteries; (2) complete removal of the kidneys; and (3) the ligature of the ureters. The first method is on the whole unsuitable, since there is always a certain amount of doubt as to the extent of the collateral blood supply, and therefore in all my observations either both kidneys were removed or both ureters ligatured. When the kidneys were removed this was done in two operations in order to minimise the effect of shock, &c., and this was more especially done in order that an accurate comparison might be made between the effects of double nephrectomy on the one hand, and the effect of double ligature of the ureters on the other. The ligature of both ureters from an operative point of view is a trivial procedure, especially if they are both ligatured through an incision near the pubes. On the other hand, the removal of both kidneys at once, whether through one incision or by two lumbar incisions, is a very severe operation and thus it is misleading to compare the immediate effects of the two proceedings. The removal of one kidney in the dog is an operation which does not cause much shock and with due care hæmorrhage may be avoided. Even when the second nephrectomy is performed and the only kidney present is removed it is astonishing to see the small amount of shock that is produced. The animal is in no way collapsed and immediately after recovery from the anæsthetic may run about and behave very much like a normal animal, so that, provided the kidneys be removed like this, in two stages, there is no objection to contrasting texture and incomplete removal of waste materials from the cardiac muscle briefly constitute the pathology of these cases and their etiology chiefly consists in indolent, self-indulgent living, including rich and too plentiful food, often alcoholic excess and too little exercise, the other chief cause being the cessation of hæmorrhagic or other fluxes which attend the climacteric period of life. Venous plethora is the marked feature in all these cases, and graduated exercises, restrictions in diet and hepatic depletory medication are the principal measures of treatment. The diet should in these latter cases be carefully looked to. It should be spare, slowly eaten, taken at regular meal times only, and may consist of a good breakfast, a moderate amount of fresh cooked meat without fat for luncheon, and poultry or game for dinner with fish and a little soup. Starchy and root vegetables and bread should be removed, or only very sparingly allowed with the lunch and dinner meals, crisp toast or biscuits being substituted for bread. The amount of fluid taken with the meals should be restricted in decided cases to a claret glass with luncheon and two glasses with dinner. This may consist of one or other of the light wines or diluted spirit in measured quantity. About from an hour to two hours after or from half an hour to an hour before meals a glass of plain hot water should be slowly sipped to supplement the fluids taken. I shall deal further with the question of exercises for these patients later when speaking more specifically of the Oertel and Schott methods of treatment, which are particularly adapted to them.

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[1] Lecture I. was published in THE LANCET of March 19th, 1898.

The great principle that underlies and should govern the whole treatment of functional and neurotic heart affections is a steadfast endeavour to help the subjects of them through with their lives and not to make invalids of them or to allow them to become so. They may require treatment for definite times, and one even meets with some rare neurasthenic cases requiring the Weir Mitchell treatment, they may require restraint in definite ways—perhaps some limit marked out in their work; but the utmost care must be exercised to discourage the introspective habit to which they are particularly and from the very nature of their malady prone. All instrumental treatment or observations of them should be avoided. They should be enjoined to take moderately active open-air exercises with the direction to take the deepest possible inspirations, so as thoroughly to ventilate the lungs and stimulate complete cardiac circulation. Great temperance in alcohol and tobacco and moderation both in tea and coffee must be observed. For those who are delicate, easily fatigued or mentally hard-worked a period of rest before meal times must be insisted upon and particularly before the late dinner. Where social engagements and professional or other work overlap one or other must of course be curtailed. It is at the same time of the utmost importance to secure to these people their interest in their surroundings and not ruthlessly to interfere with such duties and amusements, philanthropic, religious, or social, as may be the salt which savours their doings. We have to adjust, to apportion, not to spoil the daily life. In the more pronounced cases the passive exercise and soothing monotony of a well-planned sea voyage is sometimes very advantageous, only, however, for those who are able to eat and sleep well on board ship. The restful regime of a spa suits others, the particular spa being selected for its chalybeate or its eliminative effects as the case may require. The more formulated treatment by surface stimulation from aerated saline baths, combined with rest and passive resistance exercises, proves very beneficial in some cases, more particularly those in which there is a gouty element, the arterial tension ranging high and nervous introspection not being too marked a feature. A definite course of spa treatment is often useful—indeed, sometimes essential—in serving the purpose of inculcating the habit of self-discipline and starting the patient on a better regulated and more physiological plan of life. Drugs are of course often required in the treatment of functional disturbances of the heart, purgatives or laxatives, and particularly an occasional mercurial to lower arterial tension and to remove irritating materials. Sometimes nerve sedatives of the bromide order are required or hæmatinics, especially arsenic and iron as tonics to the nervous system and blood restorers. Strychnia is often very badly borne by patients of the neurotic class except perhaps for short periods, and where a cardiac tonic is required caffein is more appropriate. In cases of venous plethora a course of salines is sometimes necessary and in gouty cases suitable remedies. It may, however, be said that there is no special drug treatment for cardiac neuroses except in some of the acute and stormy manifestations to be next considered.

It is a fact which is perhaps too often forgotten in clinical medicine, but which I am sure the experience of those present will recognise—viz., that functional disturbance similar in kind to those we have been considering is as frequently observed in association with diseased as in healthy hearts and that many of the troubles and some of the catastrophes of cardiac disease are attributable to functional derangement. Numberless people die from functional disturbance of a diseased heart, few or none die from functional disturbance of a sound heart. Hence the importance of a definite diagnosis in every case as to which category it belongs. In speaking, therefore, of the treatment of angina pectoris in its place amongst cardiac neuroses I shall deal with it in so far as it occurs as a neurosis both in connexion with healthy and unhealthy hearts and I shall reserve the other forms of angina for later consideration. The subject of angina pectoris is a difficult one enough to formulate with regard to etiology and morbid mechanism with a view to prophylactic and remedial treatment. The difficulties diminish when we recognise that there is a continuity in the phenomena presented to us for treatment from the slighter degrees of introspective recognition of the cardio-vascular mechanism, through the more distinct evidence of cardiac anxiety and distress in connexion with the higher and more persistent grades of arterial tension to the paroxysmal attacks of acute breast pang associated with a veritable asthma of the blood-vessels which may supervene in any cases of the series, and this continuity is to be observed between so-called false and true angina, although some writers will only admit the term angina as applicable to the fatal cases of coronary origin.

We have discussed the neurosis, we have briefly alluded to points of treatment for the condition causing the high tension and leading up to the paroxysms, and we must now briefly outline the treatment of the paroxysm itself. In a large proportion of cases angina pectoris is an entirely functional disorder, the main feature of which is sudden increase of blood-pressure and a correspondingly sudden call upon cardiac effort; it may be on the systemic, it may be on the pulmonary side of the circulation that the strain arises. There are many causes which will bring about this arterial spasm and there is the underlying neurosis which favours its occurrence. The causes are almost all within our scope of remedial treatment and the neurosis is subject to considerable modification and control. But it is important to remember that in all these cases whilst it is the heart that suffers the angina, the conditions which originate that suffering are outside the heart, and all our treatment is directed in the first instance to alter these external conditions and in the second to support the heart. There is no essential difference save in degree, and not always in degree, between cases of angina in which the heart is sound and those in which it is unsound, but there is every difference in the gravity of prognosis and the urgency for treatment in the two cases. For whilst on the one hand the man or woman who has angina with a sound heart is in no danger of dying, and the object of treatment is to relieve suffering and avert alarm until the perverted physiology has time to rectify itself, in cases, on the other hand, in which there is unsoundness of heart, whether textural or valvular, the patient is in imminent danger and requires prompt treatment to relieve suffering and to avert death if death can be averted. The cause of distress is in these cases contraction of the peripheral or general visceral or pulmonary vessels, giving rise to muscular strain of one or both cardiac ventricles suddenly induced and of a colic or cramp-like character. The pains thus induced and situated are reflected along the multiple paths of sensation which directly or indirectly converge to the heart. The cardiac pain in vaso-motor angina is difficult satisfactorily to explain; it is distinctly a result of intra-ventricular pressure and from its character and radiation it must be primarily an affection of the sensory nerves of the heart caused by stretching of its tissues and causing the contraction of the tissues to be attended with pain. The endocardial surface is more sensitive than the pericardial surface of the heart; but comparatively insensitive tissues when stretched become very painful. Dr. Allen Sturge observes that reflected pain is only an ordinary sensation conveyed to a nerve centre in commotion by which it is intensified to a painful sensation. Thus may the reflected pains be accounted for as emanating from the centres disturbed through the cardiac nerves. Contrariwise we have only to conceive a slight degree of hyperæsthesia of the organic nerve centres to account for that undue perception of the cardio-vascular mechanism which is the first grade of neurotic disturbance and which can readily become a painful perception of increased pressure within the heart. The two points requiring consideration in an anginal attack of the kind now under consideration are the pain and the degree of heart failure. The pain, which is to a certain extent the measure of the strain upon the heart, is to be attacked by remedies which relax arterial spasm. Amyl nitrite, nitro-glycerine, and the nitrites generally, but especially nitro-glycerine, 1 min. of the nitro-glycerine 1 per cent. solution may be given at intervals of five minutes for two, three, five, or more doses, and at the same time that the anti-spasmodic is given an appropriate cardiac stimulant is required. In the more purely neurotic cases it is most desirable to avoid alcohol. There is no better stimulant than slowly sipped hot water. Dr. Lauder Brunton has pointed out that sipping is a physiological stimulant to the heart and hot drinks tend to relax arterial spasm. A prescription for a carminative draught, including ammonia, chloric ether, and valerian or cardamoms is valuable to be taken in several sips. Warmth to the surface and especially to the extremities is the further requisite. The second stage of these cardio-vascular attacks is one of reaction and excitement to be followed by fatigue. Often by the time the medical observer arrives the cardiac pressure has already been relieved through the depressor nerve of the heart excited by intra-ventricular pressure bringing about relaxation of arterial spasm, the first violent throbbing or the threatened standstill of the heart has already yielded to quick, perhaps somewhat irregular, beats, the tension of the pulse is no longer apparent and this fact has no doubt led many observers to question the alleged mechanism of this form of angina. With the help of a few hours' rest in bed the patient may be again fit for the duties of life, although usually a sense of lassitude and fatigue remains for a few days. It is now that the cause of the attacks must be sought out, the conditions of the heart carefully ascertained and the daily life, diet and surroundings and functions of the patient must be investigated and corrected where in error. Thus is outlined the bare treatment of the anginal attack. If there be no heart disease present the patient must be thoroughly reassured on that point. In cases, however, in which there is heart lesion present much more attention must be given to the after-treatment and the prognosis depends upon the nature of the lesion present. It is not my duty here to enter upon this latter point. I would briefly say that the gravest cases are those in which there is enlargement of the heart without or not accounted for by valvular defect. I would mention the fibro-fatty heart, the syphilitic heart, and the renal heart in this category. Aortic stenosis and aortic regurgitation come next, the regurgitant defect being by far the most common. Mitral stenosis is not infrequently attended with anginal seizures, sometimes of a fatal kind, and the attacks would probably be more frequent were it not for the readiness with which pulmonary hæmorrhage occurs. Mitral regurgitation as the primary disease is rarely accompanied with angina, and when it supervenes upon cases due to degenerative hypertrophy and dilatation it tends to preserve the patient from future attacks. Now on all these cardiac conditions anginal attacks may supervene having precisely the same mechanism as the attacks I have already considered as unattended with cardiac disease. It is most important to bear this in mind, for the treatment is precisely on the same lines, only it must be more urgently pursued, for the heart may readily fail under the initial strain and can scarcely escape damage therefrom; moreover, the subsequent fatigue is far more serious. I had recently in my ward a young man admitted with a second attack of rather severe pulmonary hæmorrhage which the physical signs showed to proceed from the base of the left lung. On examining the heart it was found to present the pure funnel form of mitral stenosis with right ventricle, hypertrophy, &c. His pulse was observed to be remarkably tense with well-marked reflux through the palmar arch on compressing the vessel. Under treatment by saline aperients and a little mercury the hæmorrhage ceased, the pulse softened, and he returned to his former state and left the hospital. The heightened peripheral arterial resistance in this case clearly, by embarrassing the left ventricle and throwing back pressure upon the already difficult circulation in the lungs, caused the profuse hæmorrhage, whilst the hæmorrhage in turn probably saved him from anginal heart failure. A few months previously a young man was admitted into the ward with well-marked aortic regurgitant disease with characteristic pulse and throbbing of neck vessels. He had many attacks of vaso-motory angina, a common event in aortic regurgitation, one of which supervened whilst he was under examination. It was curious to note the absolute extinction of all the aortic characters in the pulse which became contracted to a small, hard pulsating thread, whilst as the patient sat forward leaning against a chair in great pain the bed shook with the violence of the cardiac beats and his neck and subclavian vessels could be seen pulsating with responsive violence. A dose of trinitrine quickly brought back the characteristic aortic features of the pulse and dissolved the painful scene. One could not observe the labouring beat of the heart, the strongly pulsating large vessels contrasted with the almost effaced small vessels, without appreciating the power of vaso-motor contraction to cause cramp or paralysis of a weak ventricle, yet there are physicians who still doubt the efficacy of vaso-motor spasm in the mechanism of angina. The initial treatment may be started with nitrite of amyl inhalation and the patient should always have such at hand. But the attack is commonly attended with such acute heart failure that the clinical features of high pressure pulse and labouring heart may be immediately lost. Undoubtedly the subcutaneous injection of pure ether, to which a minim of nitro-glycerine solution may be added if not already otherwise taken, is the best treatment in severe cases if caught at the right moment. The sense of prostration is more great and defined in these cases. Alcoholic stimulants, so much to be avoided in pure vaso-motor cases, are in these imperative. A full dose of brandy should be given in some hot drink. In those cases, and they are many, in which flatulent distension forms a marked feature of the attack, if it be not concerned in producing it, a carminative draught is of much service at the earliest stage. The heart is left in an exhausted or fatigued condition after the attack and there is a decided tendency to a series of several attacks. For this a mixture of strychnine or caffein may be prescribed with digitalis, so that 15 or 20 minims of liquor strychnia and 20 or 30 or 40 of tincture of digitalis are given in twenty-four hours, and the strychnia may be given subcutaneously in, of course, equivalent doses or the caffein in form of salicylate. It is probable that digitalis and strychnine influence the heart muscles before that of the vessels, but if the pulse become tightened, as it may be in exceptional cases, the digitalis must be lessened or its effect on the vessels moderated by the addition of ½ minim or 1 minim doses of nitro-glycerine to the prescription. There is another remedy which is a powerful restorative to the fatigued heart, and that is oxygen inhalation, which may be given for five or ten minutes every hour or two or three hours as may be required. These cases often come to us with a history of a recent attack and we have to consider what form of angina it has been, how to avert fresh seizures, and how to repair (if it may be) the failing heart which renders each attack so dangerous.

The presence or absence of heart disease must be rigorously ascertained—(1) the soundness or otherwise of valve function; and (2) the presence or absence of enlargement, dilatation, or hypertrophy of the organ. It is important not to form too hasty a judgment and it is often impossible to come to a final diagnosis at or immediately after a seizure. In tumultuous action, whether from excitement or violent work, the locomotion of the heart is greatly increased and an inexperienced observer is apt to find great enlargement, displaced apex beat, &c., when none exists. On the other hand, one hears it sometimes maintained at inquests and the like that considerable organic disease of the heart may exist without any recognisable signs. I would venture to say that a careful investigation of the sounds and dimensions of the heart will always establish in such cases a displaced apex beat, an increase in the dimensions, or a recognisable alteration in the sounds of the heart. The converse is, however, frequently true—viz., that much alteration in the heart is conceived to be present when none exists. It requires great precision and diagnostic courage to prove a negative and in the presence of functional disturbance and discomfort and anæmic bruits mistakes in diagnosis are very frequent and easily made. With mitral regurgitation of rheumatic origin high tension pulses do not often supervene, but mitral insufficiency is frequently a sequel to the dilatation of the heart consequent upon chronic high tension and secondary cardiovascular changes, and under these circumstances it is undoubtedly a safeguard against over-distension of the ventricle. I have seen cases in which the establishment of mitral incompetence has produced a cessation of anginal attacks which had previously occurred from time to time. In senile hearts mitral regurgitation is common and is not to be looked upon seriously, but rather as a favourable element in prognosis—a condition normal to the senile heart.

TACHYCARDIA, BRADYCARDIA, EXOPHTHALMIC GOITRE, &c.

I must frankly confess that neither reading nor a considerable experience of cases has enlightened me to anything approaching an exact appreciation of the mechanism of that persistent hurry of the heart's action which is known under the term—a term which responds well to our ignorance—tachycardia. The chief feature of the cases may be briefly enumerated :—1. A persistent hurry of pulse lasting for periods varying from hours to many weeks, during which the pulse is rapid, from 120 to 200 or more, regular, small, of sustained, I should say, rather than of high tension. 2. Intervals of severe palpitation attended with præcordial pain, notable distress, and more tumultuous, irregular action of the heart. 3. Although murmurs may be heard and the cardiac dulness may be broadened during attack in the intervals the dimensions and sounds of the heart may in the earlier stages be perfectly normal. 4. In the earlier stages and in the most typical cases the heart hurry has been observed to begin and to finish quite abruptly. This was so in Dr. R. P. Cotton's case and in Sir T. Watson's, in the latter the pulse suddenly changing from 216 to 72 with subsidence of all symptoms whilst that physician was still in the room. 5. So far as any exciting cause can be stated it has been for the most part mental shock, mental or physical overstrain.

The above characteristics are sufficient to show, were demonstration needed, that the condition is a pure neurosis and that the neurosis must be either of the vagus or sympathetic cardiac centre seems fairly certain. It is inconceivable that a paralytic affection of the pneumogastric centre should be so persistent, should be attended with a regularity of rhythm so generally notable, and should be capable of such abrupt termination as is observed in some cases. The view of sympathetic excitement is perhaps better supported by other phenomena of sympathetic irritation, such as sweatings and flushings of the face. No auto-intoxicant can be recognised in most cases. It is worthy of remark, on the one hand, that many people, especially women, suffer from persistent hurry of heart, coming quite within the range of the lower degree of tachycardia, and on the other that there is nothing to distinguish simple tachycardia from that which is the constant symptom of exophthalmic goitre, the rhythm and quality of pulse being precisely the same. It is also to be remarked that there are cases which might be regarded as of a transitional kind, in which, with no enlargement of the thyroid and with no more than a slight beadiness of the eyes, there are present the characteristic hurry of circulation, cardiac murmurs, &c., and in other cases again these circulatory phenomena precede the thyroid enlargement. In the case of a woman, to which I have elsewhere referred,[2] there was observed, besides moderate but constant tachycardia and slightly prominent eyes, evidence of instability of another portion of the pneumogastric nerve in the occurrence of vomiting as an accessory to any, however slight, mental effort or anxiety, such as starting on a journey or to pay a call. This neurosis was apparently attributable to anxiety during the long illness of her mother. It lasted for two or three years and then the patient got well. That there is vasomotor paralysis of the thyroid vessels in the pathology of the goitrous form of tachycardia is evident, but it would seem to me to be a local and collateral phenomenon, for there is no general evidence of vaso-motor inhibition, the pulse is generally rather small and hard, as one might expect with such rapid impulses of blood through the vessels calculated to maintain blood-pressure. For the present, then, the exact meaning of tachycardia must remain unsolved and we may associate it with some other clinical facts, such as persistent elevation of temperature and unexplained continued elevation of arterial tension, the morbid physiology of which is not yet apparent.

The theory of exophthalmic goitre maintained by Moebius, Johnston, Greenfield, Murray, and others, that it is due to an excessive formation and absorption of thyroid secretion and its action on the nerve centres in the medulla, is useful if only as a working hypothesis. This hypothesis has been suggestive of certain measures of treatment that have been devised for exophthalmic goitre, still more successfully for its opposite, myxœdema. It would appear to be at least proximately true, although probably some central medullary change precedes the thyroid phenomena and is responsible for them. Some regard the thyroid secretion as modified and having toxic effects. It is based upon certain very definite observations—viz. : 1. That no definite lesion of nerve centres has been found. 2. That the thyroid is the organ more obviously affected than any other. 3. That its structure is altered in the direction of hypertrophy and over-activity of function and possibly there may be some alteration in the quality of the secretion (Moebius, Murray, Jeffrey). 4. The symptoms tachycardia, nervous irritability, insomnia, and vibratile contraction of voluntary muscles are the reverse of the bradycardia, torpidity, and impaired reflexes characteristic of myxœdema, consequent upon atrophy or excision of the thyroid. 5. Whilst moderate doses of thyroid extract will cure or keep in abeyance the phenomena of myxœdema an overdose of the extract will produce symptoms resembling those of exophthalmic goitre. There has as yet been found no direct means of treating simple tachycardia successfully. The digitalis class of drugs are useless in this as in almost all cardiac neuroses except—and the exception is important—in the treatment of the heart fatigue which sooner or later ensues as a consequence of the functional strain upon the organ. Tachycardia in its various grades is, however, often but a symptom, a prominent expression of a neuropathic state which requires to be approached for treatment from many sides.

In exophthalmic goitre, again, having made the diagnosis, the physician has to deliver himself of the somewhat magisterial sentence, "Imprisonment for six months and under surveillance for from two to five years." A careful and resourceful observance of this sentence is the only means of radically dealing with this distressing complaint. It would be astonishing that a sudden shock could produce a functional disorder that required such prolonged care did we not know that in all cases the condition is one long prepared for. In some cases a prolonged anxiety or mental strain will account for the illness, in others there is apparently a perverted physiology such as a premature menopause from removal of the ovaries. In other cases again the cause is inscrutable, but in all cases the fundamental treatment by physical and mental rest is essential. The rest for the first six months should be absolute on bed, sofa, or on a couch in the open air, with the utmost avoidance of all excitement and mental fatigue. The patient can then be promoted to bath-chair exercise, quiet walking and driving, or more scientifically graduated exercises, and in the course of time recovers. The general well-being of the patient can be maintained and the more distressing local and general symptoms relieved or removed by cold applications to the throat, sedatives of the bromide and valerian order, arsenical and sometimes iron tonics ; digitalis and the like drugs may be given on the appearance of heart fatigue, indicated by the signs of dilatation and a pulse irregular in time and force. In the treatment of the tachycardia, apart from heart strain, digitalis is of little value. The use of thymus extract is in my experience of some value in diminishing the rapidity of the pulse ; the galvanic current has been found useful in some cases. Theoretically the Nauheim brine baths should be useful, but practically I have seen no good from them—at least, in the more acute stages. The treatment of constipation and proper dietetic support are all matters of great importance under the enforced quietude of the patient. Operative treatment by partial extirpation of the thyroid gland has been rather extensively tried as has also section or partial resection of the sympathetic nerve in the neck. It must be remembered that any surgical operation will in a certain proportion of instances, in some manner unknown, modify, perhaps even cure, a pure neurosis. Mr. Treves has recently given some instructive illustrations of the truth of this statement, as regards abdominal neurosis, in a paper recently read before the Medical Society of London.[3] The partial removal of the thyroid gland in the acute stage of the disease is attended with very considerable danger and only very inadequate success. The best cases were those of Mr. Paul of Liverpool, but in six cases recorded by him[4] all except one were of more than two years' standing. Abadie and Faure[5] have had successes from section or ablation of the cervical sympathetic, but of Faure's three cases one was of twelve years' standing and in the others the duration is not stated. Doubtless the section of the sympathetic will slow the heart, but it has not yet been satisfactorily shown to influence the disease, and one would regard with some misgivings the future of a heart deprived of due sympathetic innervation, whilst it is clinically remarkable how well the heart comes out of the long struggle but little damaged when the patient has been carefully steered through by judicious handling. It sometimes happens that a disfiguring enlargement or a more serious distortion of the thyroid remains after the tachycardial symptoms have subsided and in one instance I have seen this condition dealt with very successfully by removal. I can but repeat that in our present knowledge of pathology and therapeutics bearing upon tachycardial conditions, including exophthalmic goitre, all remedial measures, however valuable some of them may be on proper occasions and at proper times, are absolutely futile unless they be subordinated to the essential treatment by graduated rest and isolation from all worry, fatigue, and excitement.

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[2] Discussion on Functional Diseases of the Heart, Bristol, 1894.

Of the opposite more rare form of cardiac neurosis, bradycardia, I need not say much, for the cases require but little treatment. One form is that which sometimes follows upon the rapid heart of exophthalmic goitre. I have recently had a remarkable example of this in my ward at the Middlesex Hospital. The patient was a woman, aged sixty years, who twenty years ago was operated upon by Dr. Galabin at Guy's Hospital for ovarian disease and both ovaries were removed. She almost immediately became the subject of acute Graves's disease. Ten years later she came under the observation of Dr. Pringle as an out-patient at the Middlesex Hospital still presenting all the symptoms of active exophthalmic goitre, proptosis, enlarged and pulsatile thyroid, a pulse of 136, agitations, tremors, sweatings, &c. She could not come into the hospital but continued her attendance, coming periodically from the east side of London for many years, in the course of which, chiefly under small doses of aconite, belladonna, and bromide, her thyroid gradually dwindled to an atrophic state, her pulse slowed to 60, and her manner changed from one of excitement and nervous agitation to a quiescent, almost an apathetic, demeanour. She still preserved her proptosis which she has at the present time, and at no time did Dr. Pringle or Dr. Pasteur, under whom she had more recently been as out-patient, regard her case as presenting the distinct signs of myxœdema. She had no albuminuria, but latterly her legs became somewhat œdematous. Her heart has slowed down to 45 and 30, there has been for some time a basic systolic murmur, and the left ventricle is decidedly hypertrophied and somewhat dilated. The signs are rather those of degenerative roughening, however, than of constriction of the aorta, for the pulse is of fairly full volume and regular, although very slow. After a few weeks' rest in bed and some strychnine tonic she has gone to the convalescent home. This seems to be a case analogous with regard to the myxœdemic state to those cases of tachycardia I have spoken of as not being distinctly associated with Graves's malady and yet approximating to it. Bradycardia is very uncommonly associated with well-marked myxœdema and may continue notwithstanding the disease has been cured or held in check by thyroid treatment. I have seen it in epileptics, in which case the rhythm is not only slow but generally irregular. As a temporary condition bradycardia is not infrequently met with as a sequel to influenza and also in association with the stage of depressed temperature that frequently follows upon other fevers. In the influenzal cases that I have seen it has been associated with a very high density of urine with great surcharge of urea, as though there had been some previous accumulation, the urine becoming solid with crystals on the addition of cold nitric acid. Spurious anginal seizures are sometimes observed under these circumstances. I have never known such to prove fatal, although of course in the presence of any previous heart disease they might readily prove so. Chronic high arterial tension is generally associated with a slow, sometimes a very slow, pulse, whereas in acutely raised tension the heart's action is, as I have pointed out, generally quickened. In chronic bradycardia, a condition that tends to remain permanent and does not necessarily shorten life, an occasional twenty-four hours' rest in bed should be enjoined and for mental work the recumbent posture should be preferred. In cases of a more temporary kind the combination of strychnine with an alkali or iodide of potassium (the two drugs being kept in separate bottles and only mixed at the time of taking) is a very useful one. Caffein is also very useful, especially where the urine is scanty. A five minutes' whiff of oxygen three or four times in the twenty-four hours is a valuable cardiac stimulant. In cases of myxœdema of course thyroid extract will be given, but it is not wise to push it to the production of any excitement of circulation.

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[3] THE LANCET, March 5th, 1898.

[4] Brit. Med. Jour., vol. ii., p. 6, 1897.

[5] Progrès Médical, 1897.

The Goulstonian Lectures:

OBSERVATIONS ON THE PATHOLOGY OF THE KIDNEYS.

Delivered before the Royal College of Physicians of London on March 15th, 17th, and 22nd, 1898,

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(From the Laboratory of the Brown Institution.)

LECTURE II.[1]

Delivered on March 17th.

MR. PRESIDENT AND FELLOWS,—In my last lecture I detailed at some length the results following partial nephrectomies (of varying degrees of severity) both on the composition of the urine and on the general metabolism of the body, and I trust that I showed that whereas all partial nephrectomies increased the flow of urinary water only the more severe ones increased the excretion and production of urea. We will now consider some of the results following complete double nephrectomy.

Experimentally the phenomena following the cessation of the renal functions may be studied by three different methods of procedure: (1) ligature of the renal arteries; (2) complete removal of the kidneys; and (3) the ligature of the ureters. The first method is on the whole unsuitable, since there is always a certain amount of doubt as to the extent of the collateral blood supply, and therefore in all my observations either both kidneys were removed or both ureters ligatured. When the kidneys were removed this was done in two operations in order to minimise the effect of shock, &c., and this was more especially done in order that an accurate comparison might be made between the effects of double nephrectomy on the one hand, and the effect of double ligature of the ureters on the other. The ligature of both ureters from an operative point of view is a trivial procedure, especially if they are both ligatured through an incision near the pubes. On the other hand, the removal of both kidneys at once, whether through one incision or by two lumbar incisions, is a very severe operation and thus it is misleading to compare the immediate effects of the two proceedings. The removal of one kidney in the dog is an operation which does not cause much shock and with due care hæmorrhage may be avoided. Even when the second nephrectomy is performed and the only kidney present is removed it is astonishing to see the small amount of shock that is produced. The animal is in no way collapsed and immediately after recovery from the anæsthetic may run about and behave very much like a normal animal, so that, provided the kidneys be removed like this, in two stages, there is no objection to contrasting

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[1] Lecture I. was published in THE LANCET of March 19th, 1898.

Whereas in both the quantity of kidney is diminished in the experimental case what renal tissue remains is healthy, whereas this is not so in most diseased conditions even when the incidence of the disease is not absolutely uniform. In cystic disease of the kidneys, however, for a time at any rate, the remaining kidney tissue is practically normal, and there is, I think, a fairly close parallel here between the results of disease and the phenomena of the laboratory. In both a dilute urine is excreted, in both the renal tissue is greatly diminished, and in neither do cardio-vascular changes necessarily ensue. If the amount of water excreted can be correlated to the amount of kidney tissue left and so the experimental facts and the clinical facts be brought into harmony this cannot be done with regard to the urea excretion. Although it is a very familiar fact that patients with renal disease, and more especially perhaps patients with the more insidious and chronic forms of renal disease, such as contracted white kidney, granular kidney, &c., suffer from great weakness and wasting and the body temperature is low, yet the one striking difference between the two sets of results clinically and experimentally lies undoubtedly in the fact that whereas the urea excretion is increased in the latter it is apparently not in the former. I believe this discrepancy is due to the fact that in renal diseases the epithelium of the tubules is diseased and unable to excrete urea freely and in this respect it resembles the kind of epithelium described above as produced by ligature of the ureter. It will be remembered that the atrophied kidney that has been produced by ligature of the ureter is quite unable to excrete urea and that the epithelium of the tubules of such a kidney is glass-like and devoid of all the granules and striations that are so characteristic of renal epithelium. The other most striking difference between the effects of disease and the results of experiment is that whereas complete suppression is quite a common clinical occurrence as a result of obstruction of an ureter, yet it is not possible to produce this condition in the laboratory.

Extractives in the blood and tissues in renal diseases.—I have examined the blood and tissues in a considerable number of cases of chronic renal disease fatal from uræmia and in addition to this I have made a few analyses of the blood and of the dropsical exudations in cases that were not uræmic at the time the analysis was made. In a few instances subsequent analyses were made in the same cases when death had occurred from uræmia. In addition there is a series of analyses in cases where complete and fatal suppression resulted from a variety of causes. In all cases the blood was received into an excess of absolute alcohol, this was evaporated, the residue dissolved in absolute alcohol, again evaporated, and extracted with water. The filtered watery extract was divided into two portions; in the one the amount of nitrogen liberated by the Dupré process (hypobromide of soda) was measured and in the other half the total nitrogen present was determined by the Kjeldhal process. In this way a control on the Dupré estimate was obtained. The blood was obtained usually within twelve hours of death; in some cases where venesection had been employed in the treatment of uræmia the blood was received fresh.

Five cases of complete suppression were examined. In three of these the suppression arose as the result of calculous obstruction. The first case was a remarkable one of double calculous anuria; in the other two the ureter of the only efficient kidney was blocked by a stone. The other two cases were patients in whom suppression resulted, in the one case apparently reflexly as the result of latent peritonitis set up by the perforation of a duodenal ulcer, and the fifth case was a very remarkable if not an unique one where endarteritis and thrombosis of all the small arteries of the kidney led to complete necrosis of the cortex of both kidneys and caused complete suppression of urine.[3]

All these patients presented clinically the phenomena described by Sir William Roberts as characteristic of calculous suppression—that is to say, that until shortly before death there were none of the most typical and characteristic phenomena of uræmia, such as coma, convulsions, dyspnœa, &c. The following conclusions can be drawn from these cases. There is an enormous increase in the amount of urea in the blood and far greater than is usually supposed: thus 0·015 per cent. may probably be taken as a fair average for the amount of urea normally present. In Case 5, living nine days, there is approximately thirty times the normal amount present. Secondly, the increase is fairly proportionate to the duration of life; thirdly, patients at the time of death have very different amounts of urea in the blood, thus confirming the old views that in all probability death cannot be attributed to the mere excess of urea, although when the percentage in the blood and tissues reaches the higher amounts mentioned above there may be as much as eight or ten ounces of urea in the body.

Table showing some Results observed in Five Cases of Complete Suppression of Urine.

No.	Percentage of urea in the blood.	Duration of life.	Cause of anuria.
1	0·15	Two days	Reflex from perforative peritonitis.
2	0 277	Five days	Calculous suppression.
3	0·324	Six days	Calculous suppression.
4	0·36	Seven days	Endarteritis and thrombosis of renal arteries.
5	0·44	Nine days	Calculous suppression.

I have only one analysis of a fatal case of acute Bright's disease with suppression and without dropsy and there the percentage of urea in the blood was 0·35, which is comparable in amount with the quantities seen in complete suppression. In another case of Bright's disease fatal from pneumonia and where uræmic fits were present there was 0·12 per cent. of urea. In another case acute Bright's disease was seen as a complication of diabetes mellitus and this is rather remarkable and a few details will be necessary. This was a case of a diabetic of some duration and acute Bright's disease supervened. The urine was loaded with albumin and blood and deposited that peculiar grumous sediment so characteristic of acute Bright's disease. Although the urine presented all these characteristics of acute Bright's disease and also in addition abundant casts, yet the quantity passed was considerable—e.g., 100 oz. I think this case peculiar and interesting in the fact that notwithstanding the very acute and fatal nephritis the presence of diabetes caused the excretion of a copious urine. The blood in this case contained 0·072 per cent. of urea—that is to say, a comparatively small increase; there was no dropsy. The amount is comparable to that found in another case of diabetes fatal from coma and where the kidneys were not seriously diseased and where some 0·096 per cent. of urea was present. In a third case of diabetes also fatal from coma the amount of urea in the blood was 0·06 per cent.

In chronic Bright's disease the amounts of urea found in the blood vary within wide limits even at the time of death and more especially according as to whether the dropsy was present or not and whether death resulted from uræmia or from some other complication. The blood, however, may contain an excess of urea at the time when the patient is apparently in good health. Thus a certain patient presented a mitral systolic murmur and a trace of albumin in the urine. The general health was quite good and she was up and about and attending to household duties. Fatal syncope occurred suddenly whilst at a meal and post mortem it was found that the cardiac lesion was secondary to unsuspected renal disease and the blood of this patient contained 0·08 per cent. of urea.

The amount of urea in ascitic and pleuritic fluids will also give a fair indication of the amount present in the blood. It is not exact, as for that purpose a comparison should be made between the ascitic and pleuritic fluids on the one hand and the blood plasma on the other. But for all practical purposes the analysis of the dropsical effusion of renal disease gives an approximate indication of the amount of urea in the blood, erring on the side of making the amount greater than it really is.

In a case of chronic Bright's disease fatal with general dropsy the ascitic fluid contained 0·039 per cent. of urea one month before death and 0·046 per cent. three weeks before death; at death the blood contained 0·1 per cent. In another case six weeks before death the pleuritic fluid contained 0·15 per cent. at the time when the patient was excreting 20 grammes of urea per diem on a diet of 2000 c.c.

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[3] Published in detail in the forthcoming number of the Journal of Pathology.

of milk. This patient, however, died from uræmia and the percentage in the blood at death was 0·44 per cent. Two other cases of chronic Bright's disease, fatal and accompanied with general dropsy, showed that the blood at the time of death contained 0·16 per cent. and 0·07 per cent. of urea respectively. All these observations and others that I need not quote show that with chronic Bright's disease, with and without general dropsy, there is an increase of urea in the blood even when the patient is fairly well and that this increases at death, as would be expected, but the increase is not so great as that seen in suppression unless uræmia occurs.

It is, however, in uræmia that the greatest increase is found and the following statements are based on the analysis of the blood in twenty-five cases of fatal uræmia unaccompanied with dropsy. The highest percentage of urea in the blood was 0·5 per cent. This was observed twice. In one case the amount was 0·46 per cent., in nine other cases the amounts varied between 0·3 per cent. and 0·4 per cent., so that in half the cases investigated the percentage of urea in the blood was between 0·3 and 0·5. In all the other cases the quantity varied between 0·2 per cent. and 0·3 per cent. and in no case of chronic Bright's disease, fatal from uræmia and unaccompanied by dropsy or some inflammatory complication, did the percentage sink below 0·2 and, in fact, this smaller amount was only seen in two cases. The quantities of urea found in the cases of Bright's disease, fatal from uræmia, are comparable with the quantities found in the cases of complete suppression that lived approximately one week from the time of the onset of the suppression. There are, however, at least two points of difference between the two series of cases. In the suppression series there was always complete suppression of urine and this in my experience is uncommon in the acute anæmia complicating chronic renal disease unassociated with dropsy. In the second place, the duration of life after complete suppression was at least six days when the percentage of urea reached 0·3, whereas in acute uræmia life was not prolonged for more than from two to three days from the onset of acute symptoms in most cases. One case was exceptional and presented acute uræmic symptoms for more than a week and it is of sufficient interest to quote in detail. The patient was bled with great relief on account of the onset of uræmic symptoms on Feb. 25th and the average of three determinations of the amount of urea in the blood yielded 0·13 per cent. The venesection was followed by considerable improvement, but the next day the patient again became comatose and a second venesection was performed with very beneficial results. This second specimen of blood yielded 0·24 per cent. of urea. During these two days the urine was passed unconsciously and could not be collected. From Feb. 28th to March 3rd it could be collected in part and the daily average for these days was at least twelve grammes and certainly much more was passed as the patient passed a considerable quantity unconsciously and also some with the stools. The benefit of the venesection was temporary, the uræmic symptoms returned, and the patient died on March 3rd, and the blood contained 0·3 per cent. of urea. This case illustrates several points, and more especially shows the onset of uræmic symptoms when the percentage of urea in the blood was still low, and the further point that a very great increase in the amount of the extractives in the blood may take place whilst there is still a considerable excretion of urea, since it must be borne in mind that, in the first place, all the urea was not recovered, and, in the second place, that little or no food was taken, and hence it will be seen that the urea excretion in this case was by no means so small as it appears to be at first sight. This case was investigated more thoroughly than any other, but in another case where there was 0·38 per cent. of urea in the blood some 8 grammes of urea were recovered from the urine in the preceding twenty-four hours notwithstanding the loss of some urine and the presence of severe diarrhœa and persistent vomiting.

All these observations tend to the same conclusion, that in uræmia there is a very great excess of urea in the blood, even greater than in most cases of complete suppression, and there is not only not necessarily complete suppression of urine, but quantities of urea may be passed in the urine that are not very inadequate considering the condition of the patient.

We have as yet only considered the presence of extractives in the blood, but there is a similar, and in fact a greater, increase in the tissues, and, as in the experimental cases, this increase is especially marked in the muscles. In the muscles there is not only an increase of urea approximately equal in percentage amount to that seen in the blood, but in addition there is a corresponding or even greater increase in the other extractives belonging to what may be called the creatin group. These are not present to any great extent in the blood even in uræmia, but the excess in the muscles is very notable. I have been able to examine the blood in two cases of eclampsia and here the percentage of urea in one case was 0·06 per cent. and in the other 0·036 per cent., confirming former observations that in this malady there is a striking difference between the state of the blood and that found in uræmia. In one of the fatal cases of eclampsia it is of some interest that the urine was highly albuminous and contained considerable quantities of blood; in point of fact there was nephritis, but notwithstanding this the percentage of urea was but 0·036. Thus the greatest excess seen in eclampsia was only four times the normal.

The conclusions drawn from the examination of the blood and tissues in renal disease may be shortly summarised as follows: (1) in suppression there is a great increase in the nitrogenous extractives in the blood and tissues; (2) in acute uræmia without dropsy there may a be still greater increase; (3) in chronic renal disease fatal from other causes there is some increase, but not comparable with the above; (4) in renal disease even in apparent good health there is a certain small excess; and (5) in eclampsia the excess is trivial in amount.

ABSTRACT OF

A Clinical Lecture

ON

CASES ILLUSTRATING THE INFECTIVE ORIGIN OF INFANTILE PARALYSIS.

Delivered at the National Hospital for the Paralysed and Epileptic, Queen-square, on Feb. 8th, 1898,

BY THOMAS BUZZARD, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE HOSPITAL.

GENTLEMEN,—The two patients exhibited to-day are typical examples of acute anterior poliomyelitis. Their cases are both of comparatively recent date, the first having been attacked eleven weeks and the second nine months ago. In each the principal incidence of the disorder has been upon the lower extremities.

The patient first shown is a boy, aged fourteen years, who was admitted under my care a month ago suffering from paralysis of both lower extremities. From notes taken by Dr. Collier, resident medical officer, it appears that the boy's ordinary health had been good with the exception of three attacks of influenza, the last of which immediately preceded the paralysis. Seven weeks before admission (i.e., about eleven weeks ago) the patient was said to have had influenza. He felt sick, had headache and a stiff neck, with fever lasting three days. The highest temperature was 102° F., which declined next day to 101°. He got about again and went to school, but thinks he got a chill and the next day he stayed in bed feeling only slightly ill, but with some headache. Two days later, in the morning, he found he could not use the right leg and at the same time there was retention of urine and incontinence of fæces. There was no pain anywhere. After a week the trouble with the sphincters passed off. He thinks the legs were at their worst four days after power had begun to be lost, and after that they slightly improved. At the commencement of the illness he had some little aching in the arms. On examination it was found that the power of extending the elbow-joint was decidedly weak on both sides, and the erector spinæ and abdominal muscles were also wanting in strength, but no localised weakness could be picked out in them. Both lower limbs were much wasted; the feet were cold and somewhat cyanosed. He could not raise the right leg or extend or flex the right knee, and failed to resist passive flexion and extension of the knee. He can now do all this. Abduction and adduction of the right

We know how unequal in severity may be the incidence of the disorder on various parts of the cerebro-spinal axis and it does not therefore appear unlikely that the cerebral cortex, the internal capsule, or the pons might be even exclusively affected. Experience, indeed, tends to show that the opinion expressed by Strümpell in 1884 is probably correct, and that the strong contrast which we used formerly to draw between the case of a child suffering from flaccid paralysis of one arm with that of another affected with infantile hemiplegia (non-traumatic) with contracture of the arm and heightened reflex is not always warranted, so far, at least, as the etiology of the affection is concerned. The principal or exclusive incidence of the disease upon an intracranial centre (instead of upon the anterior horn of the cord) causing polioencephalitis instead of poliomyelitis would account for the difference in the symptoms. In the former the descending degeneration in the crossed pyramidal tract is associated with contracture and increased reflex; in the latter the destruction of the large ganglionic cells in the anterior horn gives rise to flaccid paralysis and loss of reflex. The actual cause would appear to be the same; it is the part of the nervous system which happens to be attacked which occasions the difference in the symptoms. The facial paralysis which occurs in the cerebral cases may be due to lesion of the corresponding intracranial centre, and can be differentiated from that dependent upon lesion of the nucleus of the portio dura in the bulb by the result of electrical examination.

It is not necessary to dwell further now upon this subject and I have only referred to it from a wish to show that the occasional occurrence of anomalous examples in these two epidemics must not be thought to militate against the view that the disease in question was essentially that known to us as infantile paralysis (acute atrophic paralysis; acute anterior poliomyelitis).

It is important to remember that if we are right in thinking that this disease is due to a source of infection it may not unfrequently happen that more than one member of a family may be coincidentally affected although in so widely differing a degree of severity that the association escapes recognition. My experience would bear this out. In 1895 I saw a little boy affected with infantile paralysis whose attack had commenced with feverishness, headache, and drowsiness, followed by characteristic loss of power in the left arm, which continued when he was brought to me two months later. Two days before he had fallen ill his little sister suffered from feverishness, headache, and drowsiness, sleeping almost constantly for two days. She then recovered without paralytic symptoms showing themselves.

Only a few days ago a little girl was sent to me from a large provincial town affected with infantile paralysis limited to one lower limb. She was three and a half years old—the eldest of three children—the next being two years old, and the youngest nine months old. Her illness began on Aug. 9th, 1897, with headache, vomiting, and a smart feverish attack. This was on a Monday evening. The medical attendant thought she was going to have measles (it was in the next house), but no rash appeared. She had been out in the sun a good deal. She complained much, her medical attendant informed me, of general pain. Ultimately this settled into the left hip and leg. She screamed when these were touched. The hip and knee were strongly flexed. When the acute symptoms subsided the quadriceps extensor in the thigh and the extensor group in the leg were found to be paralysed. Her mother said that on the Tuesday she was much the same as on the Monday—vomiting, lolling about, complaining of headache all that day and night, very ill, crying out, restless, very hot, and delirious. On the Wednesday she was tender all over and lay like a log. Her left leg was drawn up, flexed at the hip and knee, and she always kept it like that. When her mother lifted her she had to support that leg. She could not bear it to be touched. For many days she could not be got to straighten it. She was in bed for a fortnight and then when lifted out she had always to be supported. No other limb so far as her mother could see had anything wrong with it at any time. I found the left leg greatly wasted, flaccid, and cold. There was no response in the muscles to induced currents. The knee-jerk was absent. The right leg was firm and well-developed, but in this also there was no knee-jerk. This child was taken ill on a Monday. The day previously the second child had been so poorly that her mother had sent for the medical attendant. She could not hold up her head, felt sick, was feverish, and could eat nothing; in fact, was affected with the same symptoms as the patient first described, though not so severely. Next day she appeared to have quite recovered and she did not suffer again. The third child was not ill at all. The mother, a very intelligent woman, said that a fortnight before this patient was taken ill a child of the same age living in an adjoining street had been attacked in precisely the same way and was paralysed in both legs. She also volunteered the statement that her nurse informed her at the time that there had been an epidemic of infantile paralysis "going about."

It will be conceded that the circumstances described afford a very strong presumption that infantile paralysis must be classed amongst infective diseases. But we are at present only on the threshold of the inquiry and need first of all to ascertain whether epidemics of the disease are more common than has been supposed and especially whether cases of primary fever, such as those I have described as occurring in my own experience, are at all frequently to be met with alongside of typical examples of the disease. The two cases of this kind mentioned by Dr. Pasteur (to which I have referred) have an interesting bearing on mine. I am in the habit of instructing my clinical clerks when a case of the kind comes into hospital to inquire of the friends whether there had been any illness in the house at the same time. But owing to the length of time that has frequently elapsed since the attack and also to the want of intelligence amongst those to whom the inquiry is addressed it is difficult to obtain satisfactory information. Febrile attacks of ephemeral character are constantly set down to "stomach" or "teething." It is to the family practitioner that we must look for giving us the most valuable aid as regards determining this point which lies at the base of the investigation.

Infantile paralysis is a peculiarly cruel disease. It rarely has the mercy to kill the patient, but usually condemns the victim to a prolonged existence embittered by more or less helplessness and deformity. Our present means of dealing with this disease are so trifling as scarcely to deserve serious mention. One cannot help indulging the hope that should its infective nature be established the day may not be very far distant when science will be able to introduce some effective method of combating the toxic agent which leads to such appalling results.

ON THE TREATMENT OF AFFECTIONS OF THE HEART AND THE CIRCULATION BY BATHS, EXERCISES, AND CLIMATE.[1]

BY A. ERNEST SANSOM, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE LONDON HOSPITAL; PRESIDENT OF THE MEDICAL SOCIETY OF LONDON.

I HAVE read with great interest and much instruction the report of the discussion which took place at the meeting of the British Balneological and Climatological Society on Jan. 20th. The subject was introduced in a truly scientific spirit by Dr. S. Hyde and subsequent speakers contributed much to the elucidation of the various problems. It is right and indeed inevitable that any measures and combinations of measures advocated for the treatment of a large and important class of diseases should be subjected to rigid scrutiny and the conditions of their employment defined with as much accuracy as possible. The questions submitted are not those concerning the therapeutical indications of a given health resort or the prescribed plan denoted by the name of a certain physician, however valuable the plan may be and however great our obligations to one who has with zeal, energy, and success promulgated his views. Our scope is wider. We recognise that not all our patients whose cases are just suitable for the treatment indicated are able to undertake a journey to a far-distant health resort, not all can obtain the services of skilled attendants; and yet it may be possible to put the principles of the treatment into action in their cases. Moreover, it may be that the methods themselves may be improved, for there is no finality in therapeutics.

My purpose is to place before you in a brief manner the views which I have been led to adopt from a review of the evidence which I have been able to obtain and of the cases which have come under my care. I shall consider the therapeutic agencies mentioned in the title *seriatim*, trying as far as possible to eliminate sources of error so that we may arrive at a just appreciation of their value.

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[1] A paper introducing an adjourned discussion at the British Balneological and Climatological Society on March 2nd, 1898.

BATHS.

I have employed cool and cold baths in the treatment of cases of anæmia, including chlorosis, from my earliest days of practice. In many I have prescribed warm and cool spongings in sequence and often douches in addition. I have found—I dare say the observation will be considered a trite one—that the earliest effect of a hot bath or of free sponging with hot water is a quickening of the action of the heart, the pulse becoming soft and relaxed. The cardiac pulsations are, at any rate for a time, reduced in force. The patient bleeds into his own subcutaneous tissues. The enervating effect of a hot bath or a succession of hot baths is well known and needs no discussion. If after this preliminary warm bath or warm sponging a cool or cold effusion or sponging is practised a reversed picture is presented. The subcutaneous arterioles contract, the ventricular systoles are more complete and energetic, though the rate of pulsation is somewhat slowed. Moreover, the inciting of a respiratory reflex causes enhanced movement of blood through the cardiac chambers. A large number of cases, the great majority, of anæmia and chlorosis are accompanied by disorders of the circulation and even by molecular change in the muscular fibrillæ of the heart. Under the bath treatment I have mentioned it is my experience, as I am sure it is of many others, that great improvement has resulted. In some cases the cold bath is used without the preliminary warm, but it is needless to say that in some the shock then is too great.

In the treatment of like circulatory disorders special baths have been in use for a very long time. In Germany Schwalbach (Langenschwalbach) has been in repute for ages. Sir Francis Head in his "Bubbles from the Brünnens" described it about the year 1831. The water at a temperature of 50° F. is effervescent with carbonic acid. It is true that the mild ferruginous water swallowed is an integral part of the system, but a bath is prescribed about two hours after breakfast, its use being omitted every third or fourth day. At Schlangenbad in the neighbourhood (six miles from Wiesbaden) the springs are mildly alkaline, of a higher temperature (from 77° to 90°), containing two cubic inches of carbonic acid gas to the pint. They are known to calm the perturbations of a nervous heart and a rhapsodist says of them: "Vous sortez des eaux de Schlangenbad rajeuni comme un Phœnix—la jeunesse y devient plus belle, plus brillante, et l'âge y trouve une nouvelle vigueur." Beneke in 1859 and 1861 and Groedel in 1878 adduced evidence to show that the baths of Nauheim, near Frankfort, were beneficial by increasing the force of the heart and restoring compensation in cases of valvular disease. The late August Schott in 1880 and his brother Theodor Schott in 1887 subsequently extended the records of experience. Dr. Theodor Schott added a system of definite muscular exercises to the bath treatment and so initiated the combined system which we shall presently consider. In France Dr. Coulomb, of Bagnols-les-Bains, published some well-studied observations of cases of heart disease treated by the baths previously to the years 1883 and 1885, and in 1887 my friend Dr. L. Blanc produced an excellent memoir, translated into English, on Cardiac Affections of Rheumatic Origin Treated at the Thermal Baths of Aix-les-Bains (Savoy). The system of the douche-massage as practised at Aix-les-Bains, the water being of a temperature of from 90° to 95°, is well known and has been adopted at many of the bathing places in our own country. The cases recorded by Dr. Blanc included 73 of diseases of the mitral valve, 25 of those of the aortic valves, and 6 of pericarditis. The chemical constitution of the water at Aix-les-Bains has probably but little to do with its therapeutic effect as used externally in these cases. Its chief value lies in its soft, unctuous quality due for the most part to the presence of organic matter (barégine), which at the agreeably warm temperature at which it is used adapts it so admirably for the douche-massage.

The water of Nauheim is effervescent from the presence of carbonic acid gas. The gaseous character of the water is moderated according to the will of the physician from a mere slight effervescence to the foaming Strombad which is charged with the gas in large proportion. I cannot doubt that the effervescent character of the water employed has some therapeutic effect. It probably agreeably stimulates the sensory nerve-terminals of the skin, so it causes a cool water to feel more pleasantly warm. One seems to have an experience illustrating this point when one takes a bath in the sea at a time when the wind causes a foaming of the surf; the water seems to be warmer than it really is. Whether there is any really favourable reflex stimulation of the heart itself is an undetermined point. Though carbonic acid gas has some anæsthetic qualities it is probable that it is the mere air bubbles that do the work. Perhaps the pumping into the bath of a stream of ordinary air would serve all good purposes. Whether the effervescent waters as at Nauheim or the thermal soft waters as at Aix-les-Bains are to be preferred is also a matter of doubt. The skin stimulation in the former case is effected by the natural gas; in the latter by the massage-manipulation of the bath attendant, the movements of whose hand accompany the flow of water over the surface.

EXERCISES.

It is perhaps not generally known in what words our own great clinician Stokes first in 1854 called attention to the value of muscular exercise in the treatment of heart disease. Dr. Stokes, in his work on "Diseases of the Heart and the Aorta," published in Dublin in 1854, thus wrote: "The symptoms of debility of the heart are often removable by a regulated course of gymnastics or by pedestrian exercise, even in mountainous countries such as Switzerland or the highlands of Scotland or Ireland. We may often observe in such persons the occurrence of what is commonly known as 'getting the second wind'—that is to say, during the first period of the day the patient suffers from dyspnœa and palpitation to an extreme degree, but by persevering without over-exertion or after a short rest he can finish his day's work and even ascend high mountains with facility" (p. 357). This expression sounds the keynote of reaction against the plan adopted as a routine practice for a long series of years of keeping a patient who presented any sign of heart disease in conditions of the most complete muscular repose attainable. Supposing that active disease is not present and not progressing in the cardiac tissues a coddling policy whereby the heart muscle is kept at a minimum exercise of function is contrary to sound physiology and good practice. Ling, of Sweden, in the early part of the present century established his system of movement cure without, however, any special adaptation to cardiac patients. Saeterburg, of Stockholm, and Zander used gymnastics in the treatment of diseases of the heart and described their experiences, which appeared to be very favourable, in the period between 1862 and 1872. The only specially adapted machine in Zander's *répertoire* seems to have been the chest-expander whereby the trunk was extended and the capacity of the chest increased, the shoulders being drawn upwards and backwards. By its use it is said the walls of the chest recovered their elasticity, the patient was made to inspire deeply and so obtain full inflation of the lungs, and the effect in developing the chest of young persons was very remarkable. Oertel[2] adopted and extended the doctrine and practice already promulgated by Stokes. In August, 1885, August Schott, in the *Zeitschrift für Therapie*, wrote on the value of gymnastics for the diagnosis, prognosis, and treatment of heart diseases and subsequently Theodor Schott incorporated the treatment by muscular exercise with that of the baths of Nauheim as a system adopted and recommended by himself in cardiac therapeutics.[3] The plan of systematised muscular exercises adopted by Schott was precisely that initiated by Ling—viz., active use by the patient of his voluntary muscles, whilst an instructed attendant makes a certain resistance to each movement.

In my opinion there is no room for doubt that systematised muscular exercise is an agency of great value in the treatment of disorders of the circulatory mechanism. The mode in which each muscular movement effects its good purpose is no doubt very complex and there is room for much difference of opinion in the interpretation of the various observations. In my own opinion the effect of exercise of the voluntary muscles is an accumulation of blood in the vessels of supply of such muscles and a corresponding relief of congested areas. There is thus in some degree a deviation from the engorged veins and the right chambers of the heart.

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[2] See Ziemssen's Cyclopædia, 1884.

[3] See THE LANCET, May 23rd, 1891, pp. 1143, et seq.

Dr. Lauder Brunton has said "the vessels which supply the muscles of the body are capable of such extension that when fully dilated they will allow the arterial blood to pour through them alone nearly as quickly as it usually does through the vessels of the skin, intestines, and muscles together."[4] Moreover, in the systematic muscular movements there are alternate contractions and relaxations, the former compressing the blood-vessels, the latter freeing their channels. Concurrently there are increased activities of the absorbents and reflex nerve-stimulations. In the movements of the trunk upon the lower extremities another set of factors comes into play. The alternate compression and relaxation of the abdominal wall must have a powerful effect upon the blood-supply to the abdominal viscera. The tendency must be in the main to cause the vessels of the splanchnic area to become dilated and so to coöperate with those of the voluntary muscles in relieving any turgescence of the right chambers of the heart. The latest doctrines derived from experimentation were placed by Dr. George Oliver before the British Balneological and Climatological Society at the previous meeting on Jan. 28th and I can only add the tribute of my thanks for his valuable observations. My own view accords with his that during muscular exercise there is a rapid fluid transfer through the capillary walls into the lymphatic and interstitial spaces. It seems to me—forgive me if I adopt the tone of a censor—that there is too much disposition in questions of cardiac pathology to ignore the great lymphatic circulation. One is apt to endeavour to explain morbid affections of the circulatory mechanism by mechanical deviations from the normal of the apparatus of the general circulation. Those who deal with baths and massage know how important the lymph circulation is and must be. If I read the facts aright it is a disturbance of the correlation between the general circulation and the lymph circulation that brings about dropsy. On the whole, I think, the tendency to danger of muscular exercises, even of overstrain, has been exaggerated. In regard to the healthy heart I know that Dr. Clifford Allbutt is of this opinion. He holds that the importance of physical effort as a factor in heart disease has been unduly pressed, the effects of physical stress upon the organ being promptly counteracted by equilibrating machinery. I believe that by gradual training the heart in many morbid conditions can be made to react even as a healthy heart. It is not mere physical strain that constitutes much of a danger, but the concurrence of physical with nervous overstrain. A patient with an enfeebled heart may take pleasurable exercise with advantage, but if he take such exercise at a time of mental anxiety or distress—if he hurry to catch a train, for example—then there may be serious and lasting consequences.

COMBINED EXERCISES AND BATHS.

I think it will best serve a useful purpose if I take a concrete case and suggest a simple plan of treatment in the first instance. Supposing that we have before us a patient convalescing from rheumatic fever and there are fears of some change produced by rheumatic endocarditis about the mitral orifice. The patient has convalesced sufficiently to move about his room. Ought we to put in force the combined treatment at once? I think so. Here is a simple method I have long adopted. In the morning, after a slight first breakfast of a rusk and cup of milk, a well-warmed dry Turkish towel is brought and the patient is instructed to rub the soles of his feet, his calves, and his thighs therewith, himself sitting by the side of the bed. Such friction may, of course, be aided by nurse or attendant. If tired the patient may rest in bed again. Next, whilst in the sitting position, he is instructed to rub with the towel his upper extremities, his chest and back. Then—and the plan can be carried out progressively from day to day—he is told to make certain movements with the arms, using the towel only or a light cane. The patient sitting or standing, the spine maintained straight, the towel is held taut in each hand, equidistant from the spine, transversely across the shoulders, the head in front; the arms are slowly elevated to their fullest extent and then brought back to the original position. So the upper thoracic muscles are brought into work. These movements are repeated several times but always short of the production of any dyspnœa or distress. Then, the hands holding the towel or stick symmetrically, the arms are moved slowly and deliberately to and fro. Later, the trunk muscles are exercised, the patient stooping as far as the knees and then elevating the arms. At a still later period the stooping may be as far as the ground with afterwards the erect position with arms extended. Here it may be objected that the danger of detachment of a vegetation to become an embolus presents itself. Such is a possible danger; but I think there is a greater peril of passive thrombi forming, on account of slowing of the circulation in the cardiac chambers, when a patient is kept with a torpid heart. To continue the exposition of this simple plan of treatment:—after an interval of repose spongings with warm water are practised or the patient is allowed for a few minutes to have a warm bath. Note that the feet should always be maintained warm. Lastly, there must be a sponging with cool water—at any rate, with water below the temperature of that of the warm bath. The addition of a little pine oil or sanitas to this is of advantage, causing as it does a slight stimulation of the surface and an agreeable glow. And now only follows the drying with warm towel and the envelopment in the bath gown.

The plan thus sketched out renders the services of a skilled attendant unnecessary and is applicable to patients of slender means. No one should stand between medical man and patient—not an attendant or gymnastic professor, however skilled. But by direction of the medical man the patient himself can perform the needful movements and carry out the plan as an habitual hygienic measure every day of his life. Of course, it does not exclude the adoption by those who can afford it of the more completely systematic plan for limited periods at a bath resort. When a patient does go to such a resort he should be placed under the care of a medical man of repute accustomed to the direction of the bath-system and the movement-treatment at the special locality. I emphatically endorse the words of Dr. Hyde condemning the administration of such treatment by persons who claim to be qualified but who are destitute of qualifications legal and moral.

ESTIMATION OF THERAPEUTIC EFFECTS.

We now come to a difficult part of the subject and I ask you to remember that I express merely my own personal views. The cases which are presented for treatment come for the most part under the following categories: (*a*) failing compensation in structural disease of the heart valves; (*b*) dilatation of the heart and failing myocardium, including fatty infiltration, without evidence of valvular disease; (*c*) cardio-arterial disease, especially associated with morbid conditions of the kidney; and (*d*) disorders of the heart of nervous origin.

CRITERIA AND FALLACIES.

I propose to consider these under the separate headings denoted by the evidence presented during the clinical examination of a patient.

I.—Subjective Symptoms and Signs External to the Heart Itself.

Criteria.—Dyspnœa, especially on exertion, the cardiac form. Œdema, from pretibial pitting to the most extensive œdemas of the dependent parts. Auscultatory evidence and signs of œdema of the basic portions of the lungs. These are signs which indicate the need of treatment, the failure of preceding methods of treatment; their amelioration or disappearance, the favourable influence of treatment; their persistence or intensification, the failure or inadequacy of treatment. Probably they are the most trustworthy of all the signs we have to deal with.

Fallacies.—It is to be remembered that all adverse signs may pass away without the adoption of the bath-plus-exercise treatment. It is common knowledge that all the symptoms of cardiac failure in valvular disease have in many cases passed away and the individual has been restored to fair health, estimated by himself as complete, when no treatment such as we are discussing has been put in force. The question then becomes a comparative one between this and other forms of treatment. Nervous complications may aggravate and even induce, without organic changes, all the signs and symptoms. Nervous complications are frequent; the complete induction from causes affecting the nervous system primarily of all the signs is rare, but such occurs in some cases of Graves's disease and allied affections.[5]

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[4] Cf. Harveian Oration, The Lancet, Oct. 20th, 1894, p. 895.

[5] Cf. Transactions of the Medical Society of London, vol. xiii., 1890, p. 481.

II. Physical Signs of Valvular Incompetence.

Criteria.—A murmur, systolic in time, is heard over the apex of the heart. I shall exclude on this occasion murmurs at the base, only observing that a systolic murmur over the aorta and its branches rarely indicates organic disease of the aortic valve unless a diastolic murmur accompanies it. A systolic murmur at the apex is generally held to indicate incompetence of the mitral valve; its appearance and continuance is frequently regarded as an unfavourable sign, its disappearance, though with some reservations, as a sign indicating that the issue of treatment has been favourable.

Fallacies.—A systolic murmur observed at or near the apex of the heart may be, and often is, of little or no morbid significance. If such murmur be localised in the near neighbourhood of the apex and not at the apex itself, if it vary with the process of respiration, if it become greatly modified according to the position of the patient at the time of auscultation—in some positions and at some phases of respiration disappearing altogether—it is probably one of Potain's cardio-pulmonary murmurs due to the movement of the heart upon the adjoining lung and is devoid of any hurtful significance. But the murmur may be strictly localised at the apex, may indicate to the most accurate observer mitral incompetence, and yet be independent of structural disease. This has been proved by the close observation of many cases. In such, according to my opinion, there is a persisting disturbance of the normal correlation between the muscle of the wall of the left ventricle and the papillary muscles whereby a slight but insignificant regurgitant stream is occasioned. The means of differentiating such a harmless murmur from one of serious organic defect is afforded by the observation of the second sound. If the second sound over the commencement of the aorta and at the apex of the heart is found to be well marked and that over the pulmonary artery (in the second and third left intercostal spaces close to the sternum) duly pronounced but not accentuated it may be inferred that any regurgitation through the mitral orifice is insignificant.

III.—Physical Evidence of Enlargement of the Heart.

Criteria.—It is known to all who have read the literature of the subject that the evidence deduced from records of the supposed outline of the heart before and after treatment has been regarded as testifying in a very important degree to the value of the Nauheim plan of treatment. The diminution of the area occupied by the heart, the supposed shrinkage of the organ, has been held to denote a favourable change towards the normal from a morbid dilatation. In some cases when subjective signs of amendment concur with a return to the normal of the position, size, and shape of the heart there can be no doubt of the correctness of the inference and the causal relation of treatment and favourable result is in the highest degree probable.

Fallacies, however, are numerous. *First fallacy.*—Whatever the mode of physical examination employed (inspection, palpation, percussion in various modes) the personal equation of the observer has to be taken into account. I thought that my own method of obtaining an outline by percussion afforded precise results. I have confirmed these again and again. My own house physicians and clinical clerks generally arrive at conclusions little differing from my own, but yet I have found that some very competent observers have in a given case produced outlines indicating the size and shape of the heart differing very widely from my own. I have been unable to detect any abnormality in a heart which has been described as greatly dilated. I have become almost distrustful of myself and I am forced to the conclusion that the unconscious cerebration of the observer may have something to do with the production of graphic records which are said to indicate with accuracy the outline of the heart. I must go further and state my opinion for just what it is worth—it is derived from the examination of a considerable number of outlines purporting to be those of the heart before and after the Nauheim treatment — that many are the results of a fallacious plan of physical examination and cannot be held to represent with any degree of accuracy the size and position of the heart. On this point my views are in accord with those of Dr. G. V. Poore, Sir William Broadbent, Dr. Herschell, and others. *Second fallacy.*—The heart varies in volume under so many different conditions that the inference that its diminution is the effect of any given plan of treatment is not strictly justifiable. Many observers have recorded their conclusions to the effect that the bulk of the heart in a given subject may greatly change under varying conditions within very brief periods of time. Many circumstances may induce such variations. The content and consequent bulk of the right auricle and ventricle must vary with the varying turgescence of the liver. Dr. Lauder Brunton has vividly shown what an elastic organ the liver is and how variable is the rate of flow of the blood through it.[6] A dilatation of the blood-vessels within the abdomen—i.e., in the splanchnic area—also may reduce the content and consequent bulk of the right auricle and ventricle when there is no obvious change in the volume of the liver. Another cause of reduction of the observed size of the right cavities is expansion of the lungs. There may be an apparent reduction of bulk owing to the increased resonance over the inflated air cells bordering on the heart and a real reduction as the content of the right chambers is reduced by so much as is due to the augmented volume of blood in the pulmonary tissue. Sir William Broadbent has said that "in a heart dilated from over-exertion the apex beat may often be felt to come in for half-an-inch towards the normal situation when the patient is simply made to walk two or three times across a room." Heitler has made observations from which he concludes that there are rhythmic diurnal variations in the volume of the heart, the pulse remaining unaffected by these.

In conditions of disease the apparent bulk of the heart as determined by the means of physical diagnosis may be temporarily increased by the congestion of the vessels of the pericardium as well as those of the coronary blood-supply and there may be fluid exudation into the spaces of the surrounding tissues. In cases of rheumatic valvular disease or rheumatic carditis (Sturges) when the patient has been at rest and when no special therapeutic means could be cited as disposing causes I have observed evidence of extraordinary variation of the bulk of the heart in the space of twenty-four hours.[7] Cases which I have observed have convinced me that from causes affecting the nervous system alone there may be extreme dilatation of the heart. I have recorded a case of a man, aged forty years, who manifested extreme dilatation of the heart, the pulse-rate being 200 per minute and the signs those which seemed to me to indicate neuritis of the vagus. The outline of the left ventricle on the ninth day of observation had receded to almost the normal and to the normal on the thirteenth day; the pulse-rate dropped from 200 to 58 and the respiration-rate from 50 to 34.[8] In a case of Graves's disease I observed dilatation of the right ventricle supervene with signs of tricuspid reflux. In other cases of Graves's disease I have traced dilatation of the left ventricle or of the whole heart when there has been no rheumatic antecedent or other evidence of disease affecting the heart. I am of opinion that disorders of the vagus and of the nerve-mechanism of the heart have been too much overlooked as causes of dilatation of the heart-chambers.

But supposing that in a case of structural disease of the heart—say, of mitral valve disease—a recession of dulness has been after a given treatment satisfactorily proved, must this be unhesitatingly regarded as a favourable sign? I think not. In a well-compensated mitral insufficiency a certain dilatation of the left ventricle accompanying hypertrophy is a necessity, for to adequately supply the aorta the ventricle content must be the normal *plus* so much as regurgitates at each systole into the auricle. This condition for perfect compensation was well pointed out by the late Dr. Herbert Davies and is enforced by Dr. Arthur Templer Davies. In how many cases of well-compensated valvular disease have I observed evidences of hypertrophy and dilatation and yet the patient without any special treatment has been in the enjoyment of his usual powers for very many years. One of my old friends reminded me of a woman under observation for more than thirty years who had such well-compensated mitral insufficiency. She died when over ninety years of age, but not from heart disease. These considerations are sufficient to show that the outlines of the heart purporting to demonstrate the curative effects of the Nauheim plan of treatment must not be accepted as conclusive evidence.

IV.—Sphygmographic Evidence.

I must say that personally I consider sphygmographic evidence of very little value in demonstrating the success of any treatment such as we have been discussing. The tracings may show a greater regularity of the pulsations and be *pro tanto* of some usefulness as records. As evidences of intra-arterial pressure I think they are untrustworthy. Indeed, in some cases of sphygmograms which have been published as affording evidence of the favourable results of the Nauheim treatment my own interpretations would be the precise opposite of those brought forward. In some cases it has been shown that sphygmograms supposed to demonstrate the favourable effects of such treatment have been taken by a nurse. Dr. C. W. Chapman has very properly condemned such proceedings and any inference from them.[9] I have been credibly informed that patients under treatment converse glibly as to the variations in size of their hearts, how that these have contracted two inches all round the area, or one inch or a finger's breadth, that they exhibit charts and diagrams supposed (vainly, I am sure) to indicate such recessions, and that they pore over and descant upon numbers of slips of sphygmograms signifying nothing in particular. If this be so it is time that those who have the real progress of scientific medicine at heart protest against such a travesty.

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[6] Cf. Lettsomian Lectures on Disorders of Digestion, their Consequences and Treatment. London: Macmillan and Co. 1886. P. 94.

[7] International Clinics, vol. i., 1894, p. 12.

[8] Medical Press and Circular, June 3rd, 1895, p. 571.

CLIMATE.

It is no small gain, no inconsiderable therapeutic advantage, for a patient to be removed from irksome surroundings or from the sickroom with its suggestions of suffering to a locality where blue sky, fresh air, and pleasant prospects combine with the necessary appliances for definite and satisfactory medical treatment. Whether a patient be sent to one of the health resorts of Great Britain, to Aix-les-Bains, or to Nauheim is a "question *de milieu*." I need not dwell on this subject, for it has received adequate recognition from Dr. Hyde and others. I need only record my opinion that climatic treatment combined with the judicious employment of the means under discussion may turn the scale towards recovery in many cases where home treatment, however conscientiously carried out, fails. But wherever such treatment be conducted let the mind as well as the body be directed in proper courses. Let no aberrations of the system adopted give rise to morbid introspection on the part of the patient. Let all the surroundings be those of hope and cheerfulness, but let none of them be such as shall make of the patient that most miserable of mortals—a cardiac hypochondriac.

Harley-street, W.

THE OPEN-AIR TREATMENT OF PHTHISIS IN ENGLAND.

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(Concluded from p. 716.)

MY object has been rather to study the effects of the treatment and to satisfy myself of its practicability in England than to secure a remarkable record. To achieve the latter purpose I should have chosen only the most promising cases and should have retained them for longer periods under treatment. I am satisfied that my results would be certainly improved on by continuing the treatment for an adequate time—a year or more if necessary. This, however, is only practicable in a sanatorium intended for the exclusive reception of phthisical patients. As they are I find that my results are distinctly better than those I have obtained by any other plan of treatment, but such a small number does not warrant an attempt at an exact comparison. It will be acknowledged that the satisfactory progress of my patients during three winters proves that the weather of even the colder months offers no bar to the successful carrying out of the treatment in England. In one case no sputum was obtainable for examination, but in the twenty-three other patients tubercle bacilli were found to be present, investigations being made at frequent intervals. I have not found any constant relationship to exist between the number of bacilli present and the phase of the disease. As some of the cases progressed they had less and less expectoration, and it was obvious to me that the tubercle bacilli increased in a specimen as the amount expectorated lessened. In other cases, however, the number of bacilli corresponded roughly with the patient's improvement. In two cases that at one time had numerous tubercle bacilli in the sputum their disappearance has been ascertained by repeated examinations. I am now trying to find out if the presence or absence of streptococci and staphylococci in the sputum can be connected with the action of the open-air treatment, especially with its effect on fever.

Before commenting on these results I would explain that though these patients faithfully observed directions as to constant rest in the open air they were manifestly at a disadvantage as compared with the inmates of a specially appointed sanatorium. The home being intended for general convalescents I could not, in spite of the indulgence of my colleagues and of the committee, keep most of the phthisical patients under treatment for a sufficiently long time. I should have liked a specially adapted diet for my patients, but this would have been resented by the other patients. A resident physician is considered essential for the satisfactory working of a sanatorium, but in the intervals of my visits, which were paid every one or two weeks, I relied on the coöperation of the matron, to whom I gladly take this opportunity of expressing my indebtedness for the painstaking manner in which she supervised the treatment and recorded the patients' temperatures, weights, &c. The efficacy of this treatment is in my opinion more firmly established by the improvement that took place in *all* the patients than by the cure that was effected in a *few*. I take its effect on the fever to be the most crucial test of the efficacy of this plan of treating phthisis. In all the febrile cases except one the adoption of the open-air life was followed by decline of fever. In one case 244 days elapsed before it fell permanently, in another 128 days, while in the remainder from 21 to 68 days were passed before a normal evening temperature was maintained. In more severe cases, when the general gravity of the patient's condition precluded the adoption of the open-air treatment in its entirety, I have had them placed on a balcony for a certain number of hours every fine day and have obtained a reduction of one or two degrees of their fever for a longer or shorter time, with corresponding amelioration of other symptoms. It will be seen that the time taken by the open-air treatment to produce defervescence varied greatly in the several cases, and it is hard to determine on what this variation exactly depends. The stage of the pulmonary lesion has little to do with it, for Case 6 with a large cavity lost his fever in thirty-one days, while in Case 1, who had no discoverable signs of disease, fever persisted for 128 days. Nor does the length of the illness necessarily affect the behaviour of the fever to treatment. In fact, the prognosis as regards the fever is that of the disease itself. It is refractory in proportion to its height and to the general debility of the patient. My twenty-four cases were all characterised by fever limited to the afternoon and evening, their morning temperatures being normal or subnormal. Those patients whose temperatures do not fall below about 99·6° F. in the mornings are not suited to strict open-air treatment. The former type of fever obtains in the great majority of cases and depends probably on intoxication of the system with the products of microbes, whereas the latter type is probably also significant of some associated inflammatory affection such as pneumonia, pleurisy, or bronchitis. Until the morning temperature has fallen these patients should be confined to bed in a well-ventilated room, but afterwards they often do exceedingly well under the strict open-air *régime*. In some of my cases gain in weight and general improvement preceded any decline of the fever and I would say that if encouraged by any general improvement it is right to persevere for many months in the treatment in spite of obstinate evening fever. My cases also indicate that at least a month may elapse before cases that eventually do well manifest the slightest improvement in any particular. Reference to the temperature charts will distinctly show that more improvement was effected in the cooler months than in the summer. It was quite remarkable to notice in 1896 how all the cases then under treatment simultaneously manifested decline of fever when the hot month of August was passed. This is in harmony with the experience of the continental sanatoria whose winter results are always the best. For some years I have made a point of asking all my phthisical patients whether summer or winter suited them best and I find that the majority of them prefer cold weather. These facts emphasise the point that our aim in treating phthisis should be to invigorate the patient, not to coddle him. The most marked gain in weight took place in recent cases; those who had lost it rapidly regained it rapidly, while less severe cases, but of longer duration, gained but little of the flesh that prolonged spoiling of their organs and tissues had robbed them of. As I have already said, in one-third of my cases gain in weight was observed to precede any decline of the fever, but in the remainder it corresponded closely with lessened evening temperature. Within the first few days of commencing the outdoor life it was fairly constantly noted that the appetite had increased, and many of my patients who had manifested obstinate anorexia gradually developed the power of eating and digesting well without the prescription of anything but open air. Such a result is what one would naturally expect. Night sweats were soon diminished, often before there was any drop in the evening temperature. As a rule my patients slept better after a week or more of this treatment, but in one case belonging to the erethitic type of phthisis insomnia was a marked result of Cromer air. Cough was often increased for the first few weeks or less of their new life, but gradually lessened again as general improvement occurred. The first effect noted by the patient himself is a sense of comparative well-being and an improvement of spirits. The phthisical patient remarks that his weakness and languor are lessened and that he is made less conscious of his illness.

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[9] Brit. Med. Jour., Aug. 14th, 1897, p. 433.

I was particularly curious to ascertain the effects of the open-air treatment on two patients suffering from phthisis who had developed their disease while following a wholly out-of-doors employment. They were both most favourably affected thereby. Otherwise one would expect that the fact of the malady arising from confinement in a close atmosphere would be a special indication for this method of treatment. Eighteen out of my twenty-four cases had followed indoor occupations and thirteen of this number considered that the air in which they had worked was bad. In no fewer than five of these cases the statement was made that one or more fellow workers were also phthisical. I will not speculate as to whether these were instances of contagion or of exposure to similar conditions producing similar disease. In no case could I find evidence of house infection, but ten patients had a family history of the disease.

Two cases (Cases 1 and 6) developed ischio-rectal abscess and fistula after their pulmonary disease had subsided, but both made good recoveries from this complication. Sir R. Douglas-Powell[1] states that the frequency of fistula in phthisis is 5 per cent. My large proportion serves to somewhat corroborate the observation that tuberculous disease driven from one spot is likely to break out in another. Two patients whose phthisis had become quite arrested developed albuminuria and other manifestations of lardaceous disease of the kidneys. This is one of the more frequent causes of death in phthisical patients whose pulmonary lesions have undergone arrest and fibrosis.

The *rationale* of the open-air treatment of phthisis lies chiefly in the fact that it is directed against the most powerful cause of the disease. No factor in the etiology of phthisis is better ascertained than its relationship to overcrowding or, in other words, vitiation of the air. Speaking of the increased mortality from phthisis in towns Wilson Fox says[2]: "The only common factor is a vitiated atmosphere." The Registrar-General's report gives the deaths from phthisis in both sexes per 1000 of population as 4·6 in twenty-five towns and 3·7 in seven country districts. The relationship of over-population to phthisis is equally recognised by continental writers. Bertillon has shown that the number of deaths from this disease in the several districts of Paris varies very nearly with the density of the population. The most recent exposition of this fact is Dr. Chalmers's[3] inquiry into the relationship between room-density and the distribution of phthisis mortality in Glasgow. "The room-density of the whole city fell from 2·040 in 1881 to 2·033 in 1891, or a decrease of seven persons per 1000 rooms, and its phthisis rate from 268 to 230 per 100,000 living. All districts save one having a phthisis death-rate above the mean have a room-density also above the mean." That this prevalence of phthisis in crowded communities is not dependent on poverty or its accompaniments is proved by the fact that its mortality is similarly excessive amongst our soldiers who are congregated in barracks and among prisoners,[4] while soldiers under canvas suffer much less from the disease. Animals also are more affected with tuberculosis when housed than when allowed to be at large. This has been noted over and over again in the case of cows, horses, monkeys, and other beasts. Moreover, Trudeau[5] adduces experimental confirmation: he inoculated a number of rabbits with tuberculous virus and confined some in a dark, damp place, while the others were allowed to run wild. The former animals rapidly succumbed to tuberculosis, while the latter either recovered or showed only slight lesions.

Miquel's well-known experiments furnish an important clue to the reason of the unhealthiness of the air of crowded localities. He ascertained that air taken 2000 to 4000 metres above the sea contained no bacteria per cubic metre; air taken in the park at Mont Souris contained 760 bacteria per cubic metre; taken in the Rue de Rivoli 5500; and in a hospital ward 11,100.

It is impossible to say how much the prevalence of phthisis in crowded areas depends on the direct infection of the healthy by the sick. Theoretically one would accept this as the chief mode in which phthisis is conveyed, but there are certain practical objections such as the frequently noted rarity of phthisis among those residing in hospitals for phthisical patients.

We know that under ordinary circumstances the bacillus of tubercle cannot continue to exist for long outside the living body, but Dr. Ransome[6] found its virulence was retained for from two to three months in an insanitary cottage, while in a well-ventilated house tuberculous sputum quickly lost its virulence. This perpetuation of the virus in the absence of fresh air and sunlight offers an explanation of the excess of phthisis in over-populated localities. But something must also be allowed for the lessened resistance of the individuals living under insanitary conditions.

Lastly, Dr. Niven suggests that "the tubercle bacillus may take on increased virulence by sojourn in polluted air or ground." Two points are achieved by the open-air treatment: (1) the patient respires air which contains relatively few microbes; and (2) the patient's powers of resisting the disease are increased by improvement of the general health.

1. As regards the tubercle bacillus itself the experiments of Ransome and Delépine[7] prove that its virulence is arrested by exposure to fresh air and sunlight. "Mere exposure to light in otherwise bad sanitary conditions does not destroy the virus." Even in the dark, although its action is retarded, fresh air has still some disinfecting influence.

Sir R. Douglas-Powell,[8] in his account of the septic ulceration that is met with in pulmonary cavities, says that this process is "known to have been endemic in overcrowded wards and to have ceased when a bed was removed." Speaking again of pulmonary excavation he writes: "Such patients have internal wounds or sores which are accessible to the contamination of foul air and that erysipelatous processes may be readily set up in them." The well-known advantages of placing the wounded in time of war in open tents instead of inside confined buildings have an exact parallel in the benefits received by phthisical patients from pure air. In both cases the absence of pathogenic organisms is sought for. Miquel's observations indicate the localities where this requisite absence or scarcity of microbes are to be met with—as far away as possible from human habitations. Dr. Ransome[9] describes the open-air treatment as "hyper-aeration," and says that it means purer air than is to be obtained in the cleanest house, and in another place he quotes Carnelly's[10] observations on the effects of cleanliness on the number of micro-organisms in the air of a house. Of all requirements for the cure of phthisis "none is so essential as the purity of the atmosphere."[11]

The part played by micro-organisms—other than the tubercle bacillus—in the production of the various manifestations of phthisis is now recognised as one of extreme importance. In a most valuable paper[12] Dr. Prudden gives an account of some experiments he carried out to ascertain the *rôle* of the streptococcus in phthisis. In the first set of rabbits he introduced the tubercle bacillus through the larynx and obtained various forms of pulmonary tuberculosis in which the occurrence of excavation, however, was quite exceptional. In a second series only streptococci were injected and were found to produce a broncho-pneumonia which was usually slight and of short duration. But when in the third series streptococci were injected into lungs already the seat of tuberculosis from the previous introduction of the tubercle bacillus a remarkable formation of cavities was observed. One must remember that the rabbit is peculiarly susceptible to the tubercle bacillus and insusceptible to the streptococcus; it cannot, therefore, be concluded that streptococci are the essential cause of excavation in man. "The inference seems justifiable, however," that the presence of streptococci or of small quantities of their products may contribute to the necrosis and disintegration through which cavities in man are formed or increase in size.

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[1] Diseases of the Lungs and Pleuræ.

[2] Diseases of the Lungs, p. 515.

[3] THE LANCET, May 29th, 1897, p. 1482.

[4] Quoted by Wilson Fox.

[5] Quoted by Osler: System of Medicine.

[6] Milroy Lectures, THE LANCET, March 8th, 15th, 22nd, and 29th, 1890.

[7] Proceedings of the Royal Society, vol. lvi.

[8] Diseases of the Lungs.

[9] Treatment of Phthisis.

[10] Milroy Lectures, 1890.

[11] Dr. Weber: Croonian Lectures, 1885.

[12] New York Medical Journal, July 7th, 1894.

This "mixed" or "secondary infection" in phthisis has also been studied by means of the sputum, the blood, and of the lungs themselves after death. The method advocated by Kitasato[13] is to choose a more solid piece of sputum, wash it thoroughly in distilled water, and take cultures from its centre. In this way Cornet[14] investigated twenty cases of pulmonary tuberculosis and found the streptococcus predominated in twelve cases, in two cases a non-mobile bacillus and in two cases the bacillus pyocyaneus. In most cases staphylococcus pyogenes aureus was present and in some it was the most abundant organism. In two cases streptococcus was noted to be present during an attack of fever and disappeared as the temperature declined. In an examination of twenty cases post mortem and during life Babes[15] found the streptococcus in twelve cases in such predominance that he considers their share in the production of the lesions cannot be doubted. Both streptococci and staphylococci have also been found in the blood of phthisical patients affected with hectic.[16] The part played by streptococcus and perhaps other organisms in tuberculosis is evidently a subject of immense importance, but it is in need of considerable further elucidation. Whether secondary infection is to be held accountable for the formation of the cavity chiefly or for the hectic of phthisis we are not at present able to decide. The bearing of "secondary infection" on the action of the open-air treatment of phthisis is obvious and during the last six months Dr. E. Verdon has kindly undertaken to examine bacteriologically the sputum of any patients before, and during, their stay at Cromer. The number of investigations yet made do not permit any definite conclusion to be arrived at, but I may say that the occurrence of typical streptococcus chains has been noted in cases that were not characterised by hectic; and, again, in some cases with hectic no streptococci have been found. On the other hand, these organisms have been found abundantly in more than one case characterised by rapid excavation.

2. That life in the open air conduces to a general invigoration of the constitution is so obvious that no support is needed for the statement; the relative health enjoyed by outdoor and indoor workers is a matter of common knowledge. It will also be admitted that the patient's means of conquering phthisis depend upon the condition of his general health. The *rôle* played by constant medical supervision and discipline must also be taken into account. I was not able in a home for convalescents to test the value of methodical douching and massage. I cannot think that they play a very large part in the "cure" and Dr. Weber[17] when speaking of the hygienic treatment of phthisis says: "Several patients who did well had neither any remedies nor any douches." The two main objects of the treatment then are restitution of the general powers and the production of comparative asepsis as regards the pulmonary lesions. It is not likely that the above means for procuring these ends will ever be altogether superseded. If some efficient tuberculin or other specific remedy is introduced it is probable that the open-air treatment will but be rendered of greater and more permanent benefit than at present. The value of this treatment appears to depend on its double action, by which it is distinguished on the one hand from methods which aim solely at increasing the patient's strength and on the other hand from those which only seek to destroy the virus by antiseptics or special antidotes. Neither of these plans alone have so far yielded satisfactory results. Dr. Heron and others have kept phthisical patients for long periods in an atmosphere impregnated with carbolic acid, Dr. Ransome has caused them to respire air so heated that it was sterilised, while most of us have tried the effects of administering antiseptics by the mouth. Of these agents the most popular at the present time are creasote and its derivatives. With regard to these remedies Dr. Whittaker's[18] conclusions appear to me to be very true. He states that creasote has no direct action on the tubercle bacillus or on the streptococcus of secondary infection and it does not affect hectic. It has the power, however, of destroying the lower organisms, especially those of fermentation—"hence the undeniable virtue of creasote is chiefly nutritional."

The value of guaiacol is probably fairly accurately represented by Dr. Ransome's[19] comparison of 100 consecutive cases of phthisis treated by this remedy with another 100 cases in which it was not given. In the former group 80 gained and in the latter 72. The average increase of weight among those taking guaiacol was 4·5 lb. and among those not taking it 3·7 lb. At the same time 5 patients among the latter gained over a stone, against only 4 amongst those treated with guaiacol. The drug, therefore, cannot be regarded as an agent of great power against phthisis. The only remedy that can claim to be at all specific in its action is tuberculin. Though a few physicians have continued to use this since its introduction the bulk of the profession have declared themselves against it, and though the new tuberculin is only now on its trial yet the reports that have so far been published are anything but convincing as to its utility. As far as one class of remedies goes the advantage belongs, I think, to that of tonic and nutritive agents. Speaking of cod-liver oil Dr. Wilson Fox said:[20] "Its use has probably done more than any other remedy to mitigate the evils of phthisis and to increase the duration of life in this disease."

While, therefore, the treatment of phthisis by drugs has been disappointing the greatest reliance has been placed on those which strengthen and nourish the patient. These are the aims of the sanatorium treatment, but it is claimed for its active principle, fresh air, not only that it represents the best tonic for the phthisical patient, but also that it offers the best conditions for lessening the number of microbes invading the lungs. At present it can scarcely be gainsaid that hygiene affords the most efficient means which we possess of combating phthisis. I will not say that for those whose circumstances permit it the treatment cannot be more advantageously carried out during the winter abroad than in England. The smaller amount of moisture in the atmosphere, the lessened rainfall, the greater amount of sunshine, and especially the remarkably exhilarating effects of the air in some of the foreign winter resorts must, in my opinion, be in their favour. These advantages may be more than outweighed, however, by the objections to leaving home, the separation from friends, the inferior food, and many other considerations. Anyhow, for the larger proportion of sufferers there is no choice—the treatment must be available in their own country or nowhere. In the summer there is, perhaps, no climate more suitable to the ordinary case than that offered by England. I am very glad to know that two private sanatoria have recently been opened at Bournemouth and that Dr. F. R. Walters contemplates starting a third in the southern counties. The chief object that I have in view is to awaken public feeling to the necessity of providing the poor phthisical patient with the means of obtaining adequate treatment for his malady. The erection and maintenance of sanatoria in England where the humbler phthisical patient might receive this treatment and for a sufficiently long time would be one of the best uses money could be put to.

This paper seeks to establish the desirability and practicability of availing ourselves at once of the sanatorium treatment in this country. It does not seek to contend that Norfolk is pre-eminently adapted for the purpose beyond other parts of England; at the same time I must admit a personal bias in its favour. The mortality from phthisis for the whole county during the last seven years averages,

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[13] Zeitschrift für Hygiene, vol. xi.

[14] Congress für innere Medicin, 1892.

[15] Congrès pour l'étude de la Tuberculose.

[16] Petruschky and Jakowski.

[17] Transactions of the Medical and Chirurgical Society, vol. lxix.

[18] American Text-book of Therapeutics.

[19] Treatment of Phthisis.

[20] Diseases of the Lungs.

I find, 1·1 per 1000 living. Many parts of Norfolk have an unusually low rainfall, the average of the last five years at Cromer being twenty-four inches. The air is keen and bracing and with the exception of occasional mists from the sea fogs are unknown. There is a great deal of sunshine, but the summer heat is usually moderated by a cool breeze. The early part of the winter is considered the best time of the year by the inhabitants, as bright and dry weather is usually experienced then. The soil of Cromer and many other parts of the county is of sand and gravel.[21] The following passages also bear on the suitability of the district for the treatment of phthisis. Dr. Weber and Dr. Foster[22] give the first place to east coast resorts, Hunstanton, Cromer, &c., as summer residences for more vigorous patients.

Dr. Thorowgood[23] speaks highly of Yorkshire and Norfolk and says that these parts are not so hazardous even in the winter as might be thought by some. He saw a patient in the second stage with both lungs affected in whom the disease became arrested in the most extraordinary way by the patient fearlessly encountering the east winds of spring on the Norfolk coast. He had "seldom seen pulmonary symptoms so promptly and decidedly checked by any remedy as they were in this case by a strong and bracing air." I was much impressed by the case of a man, who was given a pension by his employers under the idea that he could only survive his advanced phthisis a few months. Believing himself doomed the patient decided to enjoy his last few months of life in the exercise of his favourite pastime. He came to Norfolk and spent all his time in river fishing. He completely recovered and for the last twelve years has continued to enjoy his pension, his fishing, and his *health*. He is out in his boat in all weathers all the year round.

Dr. C. T. Williams's[24] classical statistics on the effects of home stations on phthisis have an indirect bearing on the suitability of Norfolk for its treatment. Basing his inquiry on 243 patients, who wintered at Torquay, Bournemouth, Ventnor, or Hastings, he finds that the proportion "improved" varies directly with the easterliness of the station. "The more westerly the station the greater the number of 'worse.'" Returning to the consideration of the selection of cases for the open-air treatment there is not so much discrimination needed as in the treatment by climate. While most patients do better in a bracing air there are some—including of course the erethitic phthisical patient—who will be more suited by a sedative climate. Otherwise the sanatorium treatment is applicable in all cases that on general principles appear susceptible of improvement. And it is only in the more exceptional cases of acute phthisis that at some time in their course a more favourable period will not occur, when it will be possible to step in with determined treatment and secure more or less benefit. No treatment would be hopefully undertaken in cases which give evidence of running a rapid course which present the combination of a persistently high evening temperature (102° or more), with a weak, rapid pulse. Those in whom the disease has extended to other organs and cases of markedly catarrhal phthisis would require some modifications of the treatment.

Patients who for various reasons cannot leave their own homes should be treated there on the same lines. Messrs. Boulton and Paul have constructed for me a simple shelter which can be turned to afford shelter from any wind. Some form of blind is necessary in the summer or the heat of the sun makes the shelter too hot. In spite of weather the treatment can be confidently undertaken in suitable cases and so long as the patient is sheltered from the wind and properly clothed no apprehension need be felt as to his taking harm from exposure. From a study of a large number of cases Dr. Ingals[25] concludes that nasal catarrh is less frequent in tuberculous patients than in healthy people. Under this life they certainly become less prone to every form of catarrh. Bedroom windows must be kept constantly open and no room whose air is at all confined must be entered on any account. I am convinced that practitioners have only to make more systematic use of the open air to realise that in it they have always at hand an active remedy for phthisis. Our country has always been foremost in its care for the welfare of her sick and an effort must be made to secure sanatoria for the English phthisical patients where the most efficient treatment as yet known to us can be carried out. The public must be impressed with the curability of this dreaded disease and with the virtue of pure air. As Dr. Henry MacCormac says: "If, indeed, pure air were a thing of price, of factitious price, I mean, for otherwise it is priceless, if people had to dive for it into the sea depths or grovel for it in the mine they would only value and appreciate it."

Norwich.

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[21] For much of the above information I am indebted to Dr. Musgrave, who is now keeping scientific records at Cromer.

[22] Allbutt's System: Article, "Climate."

[23] Climatic Treatment of Consumption.

[24] Influence of Climate on Pulmonary Consumption.

[25] Brit. Med. Jour., Nov. 13th, 1897.

A CASE OF HEMIPLEGIA WITH CONVULSIONS.

By JOHN McG. MacCORMAC, M.D. Durh.,
HONORARY PHYSICIAN TO THE VICTORIA HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, BELFAST.

THE patient, a boy, aged seven years, was brought to hospital on March 28th, 1897, for convulsions and for wasting and weakness of the right arm and leg. His family history was good on both sides; there was no history of syphilis or tuberculosis. The patient was the eldest of a family of two boys and two girls, all healthy. With regard to the history of the present illness, the patient was healthy and well-developed till the age of three months, when he was vaccinated. The mother states that "on the eighth day from the date of inoculation the left arm was greatly swollen almost to the wrist and as red as fire"; that the child slept badly on the previous night and was very feverish and restless, and this continued during the day. About the middle of the following night the child was seized with convulsions which continued for two hours; he then slept for three hours and for about five hours lay in a state of stupor and this continued to a lesser degree for fourteen days. Then he had a series of convulsions with intervals of about half-an-hour of partial consciousness. These convulsions involved chiefly the right limbs, the left side of the body being only slightly affected. During the intervals of partial consciousness the child moved the left limbs but never the right. Convulsions continued up to three months after admission to hospital at intervals varying from three days to two months. The loss of power in the right limbs followed by wasting of the muscles, which commenced at the age of three months, has continued unaltered up to the date of admission. The lower part of the face was at first affected but resumed its natural appearance one month after the date of seizure. On admission there was marked wasting of both the arm and the leg of the right side. There was almost entire loss of voluntary power in the right arm. The arm was adducted, the forearm was flexed, the hand was adducted, and the fingers were flexed. With regard to the right leg, the heel was raised and the foot was inverted and on walking the patient dragged his foot and rested on the toes. The muscles of the arm and the leg reacted to both faradaic and galvanic currents, but less readily than those of the left side; a mixed reaction of degeneration was present, the anodal closure contraction being equal to the kathodal closure contraction. Sensation was normal. Speech was unaffected. In February, 1898, during the past ten months there had been great improvement and at the present time the atrophy of the muscles has almost entirely disappeared. The voluntary power over the arm is almost of normal extent and the patient walks fairly well except for a slight limping of the right leg. He has not had a convulsion during the past nine months.

The following points in this case appear to me to be interesting: (1) the nature of the onset and (2) the region of the brain primarily affected. It seems to me that the vaccination was the primary cause in this case. We have a history of much local inflammation and irritative fever and we know that the blood changes produced during fevers are sufficient to induce both convulsions and paralysis. The immediate cause may have been the formation of a thrombus in an artery and possibly in a vein. That the lesion was situated in the cortex is, I think, evident from the fact that recurring convulsions specially manifested locally are practically only seen in cortical lesions, and it appears to me possible that the occlusion by a thrombus of the second branch of the middle cerebral artery by affecting the middle part of the ascending frontal convolution of the left side might cause the conditions above described. This case shows the possibility of obtaining great improvement even after epileptoid convulsions, paralysis, wasting, and contraction of the muscles have continued unaltered for the long period of six years and ten months.

Belfast.

PENETRATING WOUND OF THE ABDOMEN: AN INTERESTING CASE.

By J. P. ZUM BUSCH, M.D. FREIBURG, M.R.C.S. ENG.,
HONORARY ASSISTANT SURGEON TO THE GERMAN HOSPITAL.

A STRONGLY built man, forty-three years of age, was riding on a bicycle behind his brother late on the night of Sunday, March 13th, when the machine of the latter capsized. As a collision could not be avoided the second rider ran into his brother's bicycle and was thrown to the ground, breaking his own handle-bar in falling. Both brothers seemed not much hurt at the time and were able to walk home, a distance of about three miles. The one whose machine had capsized complained about his knee and his brother and another relative took him to the German Hospital, where the house surgeon on duty, Dr. Krieg, diagnosed a slight contusion and allowed the patient to go home again. When leaving the room the elder brother, who up to that time had not complained about being injured, turned suddenly pale. On being asked whether he felt any pain he pointed to a slight abrasion on the chin and said that he thought his abdomen might also be slightly grazed. Dr. Krieg, however, insisted on examining him and found a penetrating wound of the abdomen with prolapse of the omentum. He at once had the patient undressed and he most carefully cleansed and disinfected the abdomen, finally covering the injured parts with hot sterile gauze compresses. In the meantime I had been sent for and arrived about an hour later. The patient, who was quite conscious and but slightly collapsed, consented to a thorough examination and was put under chloroform by Dr. Krieg. It was then found that the broken handle-bar had struck the ensiform process, but having been deflected by that bone had entered the abdominal cavity between it and the umbilicus. The wound was enlarged as far as the skin was undermined and the protruding omentum was ligatured close to the colon transversum and removed. It was now seen that the recti and their sheaths were severely lacerated and parts of these structures were missing. In the peritoneum there was a large irregular defect. The adjacent parts of the abdominal cavity and its contents were now carefully examined for further injuries or fragments of cloth, &c., but nothing was found except a few débris of fat and some coagula, which were, of course, removed and the parts cleansed with sterile gauze. As I felt pretty sure that the gut was not cut I closed the peritoneum with a continuous silk suture and then united as carefully as possible the torn recti and their fasciæ by separate rows of sutures. After paring the edges of the superficial wound and removing a large part of the much bruised and besmeared subcutaneous fat I closed the wound, only leaving the lowest part open, where a small strip of iodoform gauze was inserted as it was feared that some more of the fat might become necrotic. The patient bore the operation very well and was only sick once after it. The temperature was quite normal till the fourth night, when it suddenly rose to 102° F., the patient feeling, however, quite well. The dressing was then changed for the first time and on removing the gauze some bloodstained fluid escaped. From that time up to the 24th the temperature has been quite normal and the patient is progressing very favourably, his appetite and other functions being excellent.

The interesting points in this case are, in my opinion, the severe lacerations of the abdominal wall and the lucky escape of the gut and the very small constitutional effects these considerable injuries produced. I have, however, during the last nine months seen three other similar cases which all ended in recovery. All these patients walked to the hospital not knowing that they were so badly injured. One, a little boy, suffered from a penetrating wound with prolapse of the omentum caused by falling on some broken glass. The second, a lad aged twenty years, had been stabbed and came to the hospital on foot; he also had a large penetrating wound with prolapse of omentum and a considerable part of the small intestine. The third patient, a woman, had been stabbed by her husband and she came to the hospital with a small puncture in the abdomen. I enlarged the opening and intended to follow the wound to the peritoneum to see whether the latter structure was penetrated or not. There was a small rent in the peritoneum and a part of the omentum was tightly gripped by it. On opening the abdomen further the penknife was found to have penetrated the small intestine and to have made a rather large incision into it. This was closed by Lembert's sutures and part of the omentum was removed. All these patients on admission to the hospital had little idea that they were dangerously ill and in no case was the collapse severe.

As regards treatment the lines to be followed were quite clear in the first three cases, as there was no doubt that the abdominal cavity was really opened. Resection of the protruding omentum and replacing of the stump and intestines were always followed by careful inspection of the adjacent parts. In the fourth case there was no evidence of the wound being a penetrating one. In such cases I think it the duty of the surgeon to enlarge the wound and follow the canal down to the peritoneum. In this way, much better and more safely than by probing, can a diagnosis be made. Should the surgeon be forced to wait owing to some unforeseen conditions then I would advise him not to use opium in any form, as it will probably do no good whatever but will often by masking the symptoms of a commencing peritonitis deceive the patient and his medical attendant.

Finsbury-square, E.C.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF ETHER-PNEUMONIA.

By C. TANFIELD VACHELL, M.D. LOND.,
SENIOR PHYSICIAN TO THE CARDIFF INFIRMARY.

THE following notes of a case of ether-pneumonia may be of interest as illustrating a point in Dr. Frederic Hewitt's lectures on the administration of anæsthetics.[1]

A man, aged twenty-five years, was admitted into the Cardiff Private Patients' Hospital on Feb. 23rd, 1898, suffering from varicosity of the left internal saphenous vein. At 11 A.M. on the 24th the vein was ligatured and divided in four places by Mr. J. Lynn Thomas, anæsthesia being produced by ether administered by myself by means of a Clover's apparatus. Very considerable cough was occasioned by inhaling the ether and there was much delay consequently in procuring insensibility, but it was remarked that the quantity of ether required to maintain full anæsthesia was less than usual. The patient was under the ether from first to last about half an hour. There had been some little cough on the day preceding the operation and during the night after the patient's admission to the hospital he awoke with a cough at 2 A.M. and did not sleep again, but this was attributed to nervous apprehension. He vomited repeatedly after the operation and at 9 P.M. his temperature was 102·5° F. At 2 A.M. he began to expectorate frothy mucous freely and he had very little sleep. On the following morning (Feb. 25th) there was some dulness at the base of the left lung. Expectoration was free and muco-purulent, with no rusty tinge. The temperature was 99°, rising again at night to 104·4°. The pulse was 120 and the respirations were 32. The expectoration was now slightly tinged with red. On the 26th the temperature had fallen to 100° and remained about this point until March 6th, when it fell to 99° and then speedily to normal. The muco-purulent expectoration continued for several days and the dulness cleared away about March 8th. The patient was discharged with very little cough on the 10th.

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[1] THE LANCET, Feb. 19th, p. 483; March 5th, p. 623; and March 19th, p. 772.

Cardiff.

A CASE OF SCIRRHUS MAMMÆ BEGINNING IN THE AXILLA.

By C. E. M. KELLY, M.D., B.S. LOND., F.R.C.S. ENG.

IN connexion with the case reported by Dr. Herbert Snow in THE LANCET of March 12th, p. 717, the following may be of interest. The patient, who is still under observation, is a feeble old woman nearly eighty years of age. When she first sought advice it was found that there was a tumour as large as a pigeon's egg, of stony hardness, in the mid-axillary line on a level with the fourth rib. It was quite fixed, was adherent to the chest-wall, and had ulcerated through the skin; at this time it appeared to be quite unconnected with the breast itself. The age and general condition of the patient rendered operation inadvisable, so that the course of the growth has been watched. It extended during the following months along the lower border of the pectoralis major into the breast which became extensively involved. Retraction of the nipple took place and œdema of the skin, showing blocking of the lymphatics, and now the case has the appearance of a typical slow-growing scirrhus with the addition of the process extending into the axilla and the ulcer where the growth commenced. There is no glandular enlargement to be felt as yet. In this case the tumour apparently extends by continuity into the breast and does not start in an outlying and free nodule of glandular tissue.

Highbury, N.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

METROPOLITAN HOSPITAL.

A CASE OF RENAL CALCULUS; REMOVAL BY NEPHROTOMY; RECOVERY.

(Under the care of Dr. ARTHUR DAVIES and Mr. STEPHEN PAGET.)

AS Dr. Davies points out in his remarks the pain felt in the loin radiating round the abdomen in cases of renal calculus is often attributed to attempts made by the stone to pass into the ureter; but it is explicable rather as due to irritation of some of the nerves with which the kidney is so fully supplied. The pain of ureteral colic is different in character and different in its position for it passes definitely downwards towards the testis and thigh. The case illustrates the ease with which a stone can sometimes be found in a kidney by needling; yet numerous cases have been recorded in which stones quite as large as that found by Mr. Paget have entirely escaped discovery even after the very thorough use of an exploring needle.

A man, aged twenty-three years, was admitted into the Metropolitan Hospital on March 30th, 1896, complaining of great pain of a lancinating character in the left side. The first attack occurred two years previously and lasted for two hours; a year afterwards he experienced a similar attack which was of short duration only; and a month before admission to the hospital he had another attack which lasted for some hours. He described the attacks as coming on quite suddenly. The pain was intense, radiating round the loin to the middle line of the abdomen and not descending down the thigh or to the testis. The pain ceased as suddenly as it came on. The patient had not noticed any alteration in the colour of his urine during or after an attack. As regards the previous history of the case he had an attack of left pleurisy in 1887. He said that taking beer always increased the tendency to pain in the left side. His father passed a stone two years previously. When the patient was admitted he was doubled up with pain which caused vomiting. There was less expansion on the left side of the chest than on the right and the note was impaired. No pain was felt over the left kidney on deep palpation. The urine was of specific gravity 1018 and contained a cloud of albumin. When the urine was examined under the microscope blood corpuscles, granular casts with oxalate of lime crystals, and pus cells were seen to be present in great number. As the symptoms continued Dr. Davies requested his surgical colleague, Mr. Stephen Paget, to explore the left kidney with a view to ascertain whether there was a calculus. This he did on April 16th. The kidney was exposed by a suitable incision and was found to be uniform in shape with no bulging. A harelip needle was passed into it and on the first occasion grated against some hard substance. An incision was made into the kidney following the course of the needle with a tenotome and on a finger being introduced it came immediately upon a calculus which was found lying in the pelvis of the kidney and was removed by a scoop. The calculus was composed of oxalate of lime and uric acid and weighed forty-nine grains. It was an irregular triangle in shape and was about an inch in its longest diameter. The patient made a perfect recovery.

Remarks by DR. DAVIES.—It is noted in the above case that no pain was present on deep palpation. This is a point strongly emphasised by Sir Henry Thompson, who also insisted upon the fact that the majority of the cases of nephralgia are not calculous in origin. There was no pain radiating down to the inner side of the thigh or to the testicle. There seems to be no doubt but that the attacks of pain were due to the calculus irritating the renal pelvis and not to the passage of the stone into the ureter, though these attacks were formerly considered as a proof of such an occurrence. Similar attacks of pain are seen in cases of hepatic colic where the gallstones never leave the gall-bladder.

NORTH-EASTERN HOSPITAL FOR CHILDREN.

A CASE OF ENLARGEMENT OF THE THORACIC GLANDS AND BRONCHIECTASIS ACCOMPANIED BY A PECULIAR SPASMODIC COUGH; NECROPSY.

(Under the care of Dr. J. P. PARKINSON.)

IN the following case the much greater degree to which the left side of the chest was affected pointed to pressure on the left bronchus as the cause of the spasmodic cough, even though the spasms so closely resembled whooping-cough. The case is one of great interest.

A female child, aged six years, was admitted into the North-Eastern Hospital for Children under the care of Dr. J. P. Parkinson on Jan. 6th, 1898. The child had been healthy till she had an attack of whooping-cough when she was two years old, but had since suffered from a chronic cough. Fourteen days before admission shortness of breath came on, together with pains between the shoulders; a week later there occurred spasmodic attacks of coughing followed by vomiting, with occasionally slight traces of blood in the sputum. On admission the child was pale and thin and had clubbed fingers and toes; she was short of breath, breathing 40 to the minute. There were infrequent attacks of coughing resembling whooping-cough, with a definite whoop and causing much blueness and distress. The left side of the chest was smaller than the right and its movement was limited, the percussion note was dull both in front and at the back, and the breathing generally was obscured by numerous moist sounds, except about the lower angle of the scapula, where the breathing was cavernous in character. On the right side there was much impairment to percussion over the posterior base and there was also slight impairment at the apex and in the axilla. The breathing was harsh and numerous moist râles were heard all over. The pulse was 120 to the minute and compressible. The heart's apex beat was visible in the fifth space in the nipple line; the heart sounds were normal. The abdominal organs appeared to be normal and there was no albumin in the urine. The mucoid sputum was examined for tubercle bacilli but no bacilli were found. The temperature varied between 99° and 103° F. and the child got more dyspnœic and died on Jan. 12th.

Necropsy.—At the post-mortem examination the right lung was found crossing the mid-line to beyond the left edge of the sternum and the left lung was markedly retracted. In the right lung there were a few patches of broncho-pneumonia in the upper and middle lobes, but no signs of tubercle were noted. The left lung was uniformly collapsed and the bronchi were uniformly dilated. This lung sank in water and the tubes were filled with a muco-purulent fluid. Behind and above the root of the left lung the lymphatic glands were enlarged (some to the size of a walnut) and massed together; the left bronchus was smaller than the right, but was not entirely occluded by the tumour. Microscopically these glands showed a hyperplasia of the normal lymphatic tissue. The heart was somewhat enlarged on the right side, but otherwise it was normal. The liver showed the appearances commonly known as "nutmeg liver." The kidneys were fairly normal.

Remarks by Dr. PARKINSON.—This case seems to be of some interest on account of the peculiar spasmodic cough accompanied by whooping and lividity and occasionally even by vomiting. These are usually due to a specific pertussis, but as the child had previously suffered from this disease and secondary attacks of it are rare I ventured to suggest during life that possibly some intra-thoracic pressure might be the cause, such cases being well recognised though lately they have received but little notice. I believe this to be fairly frequent, as during the past twelve months I have seen at least two others in which this condition has been verified post mortem. The cause of the peculiar cough is no doubt an irritation of the vagus or its lung branches by the growth, and a fact supporting this pathology is the occurrence sometimes of a similar whooping-cough in cases of locomotor ataxy (laryngeal crises). I have thought it worth while to record this case as I think that no similar ones have been recently published and the condition is sufficiently infrequent to warrant it. I wish to thank Mr. Hair, the junior house physician, for his careful notes and necropsy of this case.

BRADFORD ROYAL INFIRMARY.

A CASE OF ACUTE DORSO-LUMBAR MYELITIS; COMPLETE RECOVERY.

(Under the care of Dr. REGINALD G. ALEXANDER.)

THE completeness of the recovery in the following case of myelitis is worthy of remark, especially when the severity of the attack is considered. It is a little curious that the bedsores were all on the left side of the body, although the loss of sensation seems to have been equal on the two sides.

On Dec. 7th, 1891, Dr. R. G. Alexander was requested to visit a patient, aged twenty-three years, who had been for about ten days under the care of Dr. Whalley. The patient's family history was negative, but for years she had suffered from dysmetrorrhagia and leucorrhœa and she had worked in a hot, draughty place. On Nov. 25th she was at home suffering from menorrhagia, having been also excessively unwell the week before. She noticed aching of the legs and stiffness and experienced some difficulty in walking. On the 29th, in attempting to get up to dress, she fell, and since that time had been unable to move her legs even in the slightest degree. She had never had any previous illness or accident. The patient was a fair-complexioned, tall, well-formed woman, her mental faculties were clear, bright, and intelligent. There were sordes on the lips and teeth. She was absolutely paralysed from the waist downwards. The bowels had not been moved for four days and the urine had been drawn off by catheter in consequence of complete retention. There were large, deep, acute trophic bedsores on the left buttock, trochanter, and ankle. The tongue was furred and dry. The heart and lungs were quite healthy. The knee-jerks could not be obtained on either side. There was no ankle clonus and plantar reflex could not be obtained. Superficial abdominal and epigastric reflexes could not be obtained. Sensation was diminished to midway between the umbilicus and the ensiform cartilage. There was no zone of hyperæsthesia or anæsthesia; the arms were unaffected. Although the patient had a comfortable home the case was so serious and one which required so much nursing that both Dr. Whalley and Dr. Alexander decided to send her to the Bradford Infirmary. She was accordingly admitted under Dr. Alexander's care on the day he first saw her (Dec. 7th). During her residence in the hospital his colleague, Dr. Major, also saw her. On Dec. 10th the rectum was loaded with scybala, which were removed by the finger, and she was ordered a gravitation oil enema and to be placed upon a water bed. On the 13th the bowels were moved for the first time for ten days; an enormous quantity of fæces was passed. She was ordered five grains of iodide of strontium and an iodide of iron pill twice a day. On the 16th there was an involuntary evacuation of the bladder and rectum; the urine was very offensive, containing blood. There were constant dribbling of the urine and fæces, cystitis, and a large fresh bedsore on the sacrum. On the 21st she was ordered twenty grains of boracic acid powder in water three times a day. On the 23rd the urine was less offensive; there was still incontinence. On the 28th the urine had much improved and was not so offensive. Chicken and fish diet was ordered. The patient could now move the left leg very slightly. On Jan. 12th, 1892, the urine had much improved and could be retained for two hours. The bedsores were healing. She was ordered massage to the legs, &c., daily. On Feb. 18th the patient moved for the first time. She was ordered cod-liver oil and malt. The legs had been spasmodically drawn up at night and had become rigid. On March 6th the legs, semi-flexed, were very rigid; the knee-jerks had increased, there was ankle clonus both sides, and plantar reflexes were present. Her health was much improved, the bedsores had healed, and the patient was up daily. On the 29th the legs were rigid; there was passive extension daily and weight and extension pulleys were applied. On April 10th the patient was ordered a meat diet. She had power to flex and extend the feet. On the 27th she walked for the first time with assistance. On June 28th she had marvellously improved. The legs and thighs were now well developed and the muscles were firm and of good tone. There was no cystitis and she had control over the rectum. She had menstruated twice. The temperature had been very variable, ranging from 98° to 101° F. during the first month and during the second from 98° to 100°. She was discharged recovered after seven months' residence in the hospital.

Remarks by Dr. ALEXANDER.—As complete recovery is rare from this severe disease I have purposely delayed publishing this interesting case in order to watch from time to time the progress of the patient. She returned to her usual duties and has been able to stand and walk all day long and to dance nearly all the dances at an evening party. The patient is, in fact, quite well and has been married many months and is now advanced in pregnancy.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Microscopic Detection of Uric Acid in the Blood.—Epidemic Malarial Fever of Assam.

A MEETING of this society was held on March 22nd, the President, Mr. BRYANT, being in the chair.

The PRESIDENT referred to the death of Sir Richard Quain and to that of Dr. Charles West. Both were widely known as men of science, of industry, and of great professional reputation. It would be remembered that the paper by Sir Richard Quain on Fatty Degeneration of the Heart, which was now a classic, was read before the Royal Medical and Chirurgical Society.

Dr. ALEXANDER HAIG gave a demonstration of some Results obtained by the Chloride of Ammonium Process, as suggested by Mr. Barker-Smith,[1] for the Microscopic Detection of Uric Acid in the Blood. The process was as follows. A minute drop of blood was placed on a microscope slide and mixed with a similar quantity of a 10 per cent. solution of carbonate of sodium and then with a similar quantity of a 20 per cent. solution of chloride of ammonium and put on a cover-glass. It was allowed to stand for thirty minutes, evaporation being prevented. The slide was then examined under $\frac{1}{6}$ in. or $\frac{1}{8}$ in. objective. Pale granules, generally spherical and about from the one-sixth to the one-third size of a red blood-cell, were seen all over the field. Dr. Haig suggested that by counting all the granules in a field and then all the red cells in the same field a quantitative relation was obtained which might be of some value. The number of these granules in blood thus treated appeared to correspond in a remarkable way with the amount of uric acid passing in the urine. It corresponded also with the physiological fluctuations in excretion and the effects of drugs upon these. It also corresponded with what was known about uric acid in the blood of disease, the granules being very numerous in Bright's disease (especially large pale kidney) and chronic gout, and very scanty in early and acute fever. Under the microscope was shown a specimen of normal blood and one of blood from a case of Bright's disease for contrast. Dr. Haig believed that Mr. Barker-Smith's process thus modified would provide a reliable guide to the quantity of uric acid in the blood and urine and in that case its many advantages over processes at present in use would be obvious.—Dr. LUFF remarked that with reference to the method for the so-called microscopic detection of uric acid in the blood demonstrated by Dr. Haig no proof was adduced that the granules consisted of uric acid or urates. Uric acid had never been demonstrated in the blood by the one infallible test—the murexide test. It had been shown by von Jaksch, Klemperer, and himself that human blood in large quantities contained no uric acid. This was also true even of the blood of birds who eliminated their nitrogen in the form of uric acid. But in birds Sir A. Garrod and he found urea in the blood, although none was found in the urinary excrement. He believed that urea was converted into uric acid in the kidneys. Dr. Haig maintained that there was not enough uric acid in the normal human blood to give the murexide test. But if it were present in the amount stated by Dr. Haig 1·5 c.c. of blood would contain one hundred times the amount of uric acid which was recognisable by the murexide test. He (Dr. Luff) had operated with 1000 c.c. of bird's blood at a time without finding the least trace of uric acid. He did not believe that Mr. Barker-Smith's method was reliable for the detection of uric acid in the blood for the following reasons: (1) the blood of a goose, which he had shown to be free from uric acid, gave with this process an abundant crop of granules; and (2) cheese (which Dr. Haig admitted to be free from uric acid) when dissolved in caustic potash, filtered and treated by Mr. Barker-Smith's method also yielded abundant granules. No process should claim to detect uric acid unless the body demonstrated could be proved to be uric acid. He felt bound to enter a protest as he considered the profession was being misled on the existence of so-called "uricacidæmia."—Dr. HAIG, in reply, said that he only undertook to give some results obtained by the method and not to prove that the bodies were uric acid. But he maintained that whatever they were—uric acid, xanthin, or other substances—the numbers of granules which could be counted corresponded exactly with the amount of uric acid which could be shown by chemical analysis to be excreted by the kidney at the same time. This was strikingly shown by the effect of administering a drug such as salicylate of soda which had the effect of increasing the elimination of uric acid. The granules which were normally present in the proportion of 1 in 8 of the red blood corpuscles rose almost at once to 1 in 2. He was quite prepared to believe that other bodies would give the reaction, as was shown by Dr. Luff to be the case with the blood of the goose and with a solution of cheese, but as a practical point the test was of value since the number of the granules corresponded with the amount of uric acid present in the urine. He challenged Dr. Luff to a trial of the method. He would examine the blood every half hour and Dr. Luff should estimate the amount of uric acid in the urine at the same periods and he had no doubt that the results would tally. He still held firmly to his belief that uric acid was present in the blood.

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[1] Medical Times and Hospital Gazette, September, 1896

Surgeon-Captain LEONARD ROGERS, I.M.S., read a paper on the Epidemic Malarial Fever of Assam or Kala-azar. A brief account was given of an investigation of the epidemic disease known locally by the name kala-azar or black fever, which has slowly spread up the Assam valley during the last fifteen years, carrying off at least one-fifth of the inhabitants of the affected districts and depopulating whole tracts of country. It was first thought to be malarial, until its steady spread threw doubt on this view, and in 1889 a special investigation was carried out with the result that it was reported to be ankylostomiasis. It was, however, subsequently proved that these worms were as common in healthy people as in those affected with kala-azar; and in April, 1896, Surgeon-Captain Rogers was deputed to reinvestigate the subject and his official report was published recently. He found, in the first place, that the anæmia of the so-called kala-azar differed so widely in its type from that produced by ankylostomiasis as to enable the two diseases to be completely differentiated by a full examination of the blood, the details of which were given in the paper. Further, he found the disease to be from first to last a chronic relapsing form of malarial fever of an intermittent or irregularly remittent type, very resistant to ordinary doses of quinine, and producing progressive anæmia, great wasting, and in some cases dropsy, with great enlargement of the spleen and liver, and terminating in a very large percentage of the cases in death from fever, asthenia, diarrhœa, or lung complications. It attacked large numbers of a family and spread from one district to another in a wave of increased fever mortality, lasting from six to eight years in any one place. The ordinary quotidian malarial organism was constantly to be found in the disease but did not differ in its form from that of the ordinary malarial fever in Assam and Bengal. Evidence was also given to prove that the disease travelled along lines of communication and was checked by any stretch of uninhabited country, and it had been found that it was carried from village to village through a sufferer in an infected district going to live in an uninfected village. The first cases appeared in his own household and it then spread to the rest of the village; but the disease decreased markedly during the cold weather months, when the ground was dried up, only to break out again as soon as it once more became moist and warm in the ensuing spring, showing that the infection passed through the soil, while it was also very localised in its distribution. The epidemic was further found to have originated in an intensification of the ordinary malarial fever in a very malarious district by an extraordinary succession of unhealthy years due to very deficient rainfall, until it attained to the power of spreading, and its subsequent course year by year has been traced. The epidemic was therefore regarded as one of a very intense and communicable form of malarial fever, which had so far been limited in its incidence to an alluvial soil.—Dr. NORMAN MOORE (honorary secretary) read a communication from Sir WILLIAM KYNSEY (Ceylon) who was unable to be present. He agreed with Surgeon-Captain Rogers that kala-azar was not ankylostomiasis, but was a malignant form of malarial fever. Nevertheless he thought that sufficient importance had not been given to ankylostomiasis as a factor. Its effects in producing grave symptoms had been shown among the workmen engaged on the construction of the St. Gothard tunnel and among the natives of Egypt. These effects depended on the number of the parasites present and the state of the patient. As a rule the patients were plump though anæmic, with tongues which looked as if they had been whitewashed, and there was therefore little difficulty in distinguishing them from the cases of severe malaria in which the patients were thin and markedly cachectic, often with dark pigmented tongues. He thought that the doctrine that malaria could be infectious would require the demonstration of a specific parasite different from the ordinary malaria parasite and he was disinclined to accept it. It was often held that malaria broke out through the soil being dug up. He thought that an outbreak in such cases was not due to poison escaping from the freshly exposed soil, but to this damp soil forming an excellent breeding-ground for the parasites when introduced from without.—Dr. P. MANSON said that Surgeon-Captain Rogers assumed that there was no increase of iron in the liver in ankylostomiasis, but observers were not agreed on that point, and Dr. Daniels, of Demerara, had held that there was iron present and that substances were formed in the intestine which had a hæmolytic action similar to that of the malarial parasite. The crescent form had not been met with by Surgeon-Captain Rogers, although in Dr. Manson's experience it could always be demonstrated in cases of malaria. The absence of crescents showed that either the observations were incomplete or the parasite was different from the ordinary malarial parasite. He thought that the doctrine that malaria could be regarded as "infectious" was untenable and as unreasonable as to speak of hydatid disease as infectious, since in both cases the parasite must pass through another intra-corporeal condition before infecting man. He thought that the doctrine of intensification of an animal organism was novel. He believed that there were "strains," some of which were particularly active, producing different manifestations, such as hæmoglobinuric fever in West Africa. He referred to the experiments of Dr. McCallum[2] on an intra-corpuscular parasite in birds. He found that the parasite occurred in two forms—one hyaline and the other granular. If the hyaline form were watched it developed flagella after a time. These became detached, penetrated the granular forms, and appeared to fertilise them. After fertilisation the granular bodies escaped from the corpuscles and became locomotive. Dr. McCallum had found the granular parasite free in the intestine and suggested that it was in this way that the malarial parasite entered in a man. But even if the flagellation were the first stage in a sexual process it could hardly be the cause of propagation in the human body as the flagellated form could never be seen in fresh blood but did not develop till after it had been drawn for fifteen minutes.—Dr. Thin thought that the paper went a long way to remove the reproach that the Indian authorities did little to investigate the cause of malarial epidemics in that country. He thought that it had been clearly proved by the paper that kala-azar was malarial, both from the demonstration of the parasite and from the post-mortem changes found in the liver and spleen. He did not agree with Dr. Manson that the crescent form was always to be found in cases of malaria. In several cases in which there were abundance of small parasites he had searched repeatedly but in vain for crescents. Filetti and Grassi, working under favourable conditions and with abundant material, also held that there were cases in which crescent formation did not occur. With regard to the intensification of the poison, whatever was the explanation, he thought that it often occurred. It had been shown, for instance, by Dr. Marshall that the tertian parasite in the south of Spain was weaker in spring than in August. The effect of the soil was often striking. In the town of Catania one side of the town was built on porous soil formed from the disintegrated lava from Mount Etna and malaria was almost unknown, whereas on the other side there was low-lying damp soil and the district was uninhabitable owing to the prevalence of malaria. He did not think that the evidence was as conclusive as Dr. Manson assumed it to be that the malarial parasite must necessarily pass through another animal.—Surgeon-Captain Rogers, in reply, thought that the general opinion among those who were working at the subject in India was that the crescent form of the malarial parasite was by no means invariably met with. They were particularly numerous in virulent and relapsing cases. With regard to the infectiousness of malaria, it was of course impossible to prove anything until they could cultivate the parasite, but he thought that it was clearly proved clinically that the disease was communicable, either directly or through the soil, or after passing through some other animal.

OPHTHALMOLOGICAL SOCIETY.

The Aseptic Treatment of Wounds in Ophthalmic Surgery.—Ophthalmic Evidence of General Arterial Disease.—Exhibition of Living and Card Specimens.

An ordinary meeting of this society was held on March 10th, Mr. H. R Swanzy, the President, being in the chair.

Dr. A. McGillivray read a paper on the Aseptic Treatment of Wounds in Ophthalmic Surgery. After referring to the changes in the treatment of wounds brought about by Lister he went on to speak of recent modifications in method. These modifications consisted chiefly in reducing the strength of the antiseptic solutions used for douching purposes and the adoption of heat sterilisation for instruments and dressings. But when the importance of the natural antiseptic property or natural immunity of living tissues came to be more appreciated some surgeons discarded chemical antiseptics in operations altogether on account of their deleterious action on the tissues of the wound, and adopted sterilised physiological saline solution, as it produced no irritation but tended to keep the tissues as nearly as possible in their physiological condition. Antiseptic solutions, however weak, irritated or benumbed the cut tissues of a wound and thus their natural immunity became impaired. But the antiseptic solutions employed during operations had no germicidal properties unless when kept in direct contact with the micro-organisms for several hours or even days—a very undesirable procedure even if possible—so that their action was purely mechanical and, so far as the removal of micro-organisms was concerned, was limited to those on the surface, just as in the case of douching with normal saline solution. The position, then, of the aseptician and antiseptician was perfectly clear. The aseptician, by employing normal saline solution for douching purposes, and studiously preventing any chemical antiseptic from coming in contact with the wound, trusted to the inherent antiseptic properties of the tissues themselves in warding off or destroying any micro-organisms which might have been left in or which found access to the wound subsequently. The antiseptician, on the other hand, by employing antiseptic solutions impaired or destroyed the natural antiseptic property of the tissues so that they were thus less able to cope with micro-organisms. A description of the operation for the removal of senile cataract was taken to illustrate aseptic technique in ophthalmic operations. From the time the patient entered the hospital till he was discharged no antiseptic was allowed to come in contact with the eye. The patient's face was carefully washed on the morning of the operation with warm water and soap, special attention being paid to the folds in the skin of the eyelids. The eyelashes were cut short so as to allow the margins of the lids to be more easily treated and to prevent the eyelashes from coming in contact either with the instruments or with the wound during the operation. By means of a special douche the conjunctival *culs-de-sac* were flushed with sterilised salt solution (6 per cent.). The eyelids were in turn everted so as to allow their conjunctival surfaces to be carefully cleansed. This was of the utmost importance, as the conjunctival surface of the upper lid was the innermost and therefore the most important part of the dressing. After applying the speculum the part of the eye corresponding to the wound was again douched and the patient enjoined not to rotate the eye upwards till the operation was completed so as not to allow the wound to come in contact with the margin of the eyelid for fear of contamination. Mechanical cleansing of the conjunctiva with a mop was soon discontinued, as it produced undue irritation. All instruments, lotions, mops, and dressings were sterilised by heat, so that everything that touched the eye was aseptic. Before removing the speculum the eye was douched with a gentle stream of salt solution, the solution being allowed to play over the wound to remove any cortical or capsular *débris*. Some of the solution invariably found its way into the anterior chamber and was valuable in removing soft lens matter without causing any irritation. The dressing consisted of a piece of moist lint applied next the eye and one or two thin layers of absorbent cotton wool, the whole being kept in position by means of a vertical and horizontal strip of adhesive rubber plaster; only the eye operated on was covered. Throughout the operation and also during the preliminary treatment every treatment was employed to avoid irritating the conjunctiva as much as possible, because conjunctival irritation produced hypersecretion, for the nearer the conjunctiva was to its normal condition the better for operative interference. The motto in dealing with the conjunctiva should be, "Let sleeping dogs lie."—Mr. Arnold Lawson had just completed the bacteriological examination of ninety-six apparently normal conjunctival sacs. In only two cases had he been able to find pathogenic organisms, the staphylococcus pyogenes albus; several non-pathogenic staphylococci were found, but these were all harmless. He had not found the streptococcus at all. He therefore did not consider that it was correct to say that the normal conjunctival sac was a receptacle for micro-organisms.—Mr. Mackinlay always boiled his instruments and used saturated boric acid lotion for the eye during operations.—Dr. Bronner considered that it was not possible to make the conjunctival sac aseptic, therefore antiseptics were necessary; he always put his knives into absolute alcohol before using them. He believed that cocaine by its action on the cornea favoured suppuration.—Mr. Bickerton always boiled his instruments for two and a half minutes before the operation and again after using them. He irrigated the eye with perchloride 1 in 5000. He had only seen two cases of suppuration and both were in hospital practice.

Mr. Marcus Gunn read a paper on Ophthalmoscopic Evidence of General Arterial Disease. After referring to a case which he had shown at the society some years ago he went on to describe the appearances seen in the arteries affected, as part of a change in which the arteries of the body generally and of the brain in particular shared. The general reflex from the vessel was brighter than normal, the central light sheath was bright, and the whole artery was of a lighter colour than normal. This was due to a hyaline change in the arterial walls; as a consequence of this change the circulation in the veins was impeded and in some cases the vein became invisible where crossed by an artery. As a further result of this venous obstruction there was set up an œdema of the retina, which might be either general or partial, the effect of which was to blur the details of the fundus. In some cases the size of the arteries was not uniform; the vessel would be narrowed at one spot or increased in a certain part of its course; this change was most often seen in the small arteries in the region of the macula. The arteries were sometimes very tortuous. The central streak was narrow, bright, and with points of greater brilliance in it; this condition was also seen in hypermetropia and after optic neuritis in the vessels arising from the optic disc, but in diseased vessels it was those of the second and third magnitude which should be looked at. There was a loss of translucency of the arteries, so that where the vein passed behind the artery it could not be seen. On the other hand, if the vein covered the artery, the artery could be unduly seen through the blood column in the vein, because of the thickening of the arterial coat and partial emptying of the vein by the thickened artery as the two crossed each other. As a consequence of the hardness of the arteries there was an interruption of the venous current, the vein was distended, and often hæmorrhages took place along its course. The change in the arteries was a change in the coats, an irregular thickening; with this there was a loss in carrying power, and hence tortuosity. The change in the veins was due to the damming back of the blood; the walls of the veins and capillaries underwent degeneration, hence arose the hæmorrhages. The question of etiology was one for the physician. The change usually occurred between forty and fifty. If well marked at this age the prognosis was grave. The patients had often been subject to migraine, indigestion, or gout. Chronic alcoholism was also a factor in the causation. In some of the cases known as hæmorrhagic glaucoma this affection of the vessels was the cause of the change which gave rise to the hæmorrhages. It was in close association with renal disease, but the vessels of the eye and brain might be affected before the kidney. He had examined the eyes of all the patients in the National Hospital at one time who had had hemiplegia. In seven the arteries were normal, in ten they were affected, and in seven the changes were quite characteristic.—After remarks by Dr. JAMES TAYLOR, Dr. ALDREN TURNER, Dr. BRONNER, and Mr. MACKINLAY, Mr. GUNN replied.

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[2] American Journal of Experimental Medicine, January, 1898.

The following cases and specimens were shown:—

Mr. DEVEREUX MARSHALL: Epithelial Tumour of the Cornea.

Mr. MACKENZIE DAVIDSON: Foreign Body Localised in the Lens by means of X Rays and successfully removed.

Mr. HOLTHOUSE and Dr. BATTEN: Tumour of the Lacrymal Gland.

Dr. BATTEN: Congenital Symmetrical Tumours of the Lacrymal Gland.

Mr. C. J. AYRES: Drawings of Tumours of the Caruncle.

Mr. S. STEPHENSON: Deposits on the Intermarginal Space of the Lower Lid.

HARVEIAN SOCIETY OF LONDON.

Gastric Dilatation.

A MEETING of this society was held on March 17th, the President, Dr. J. F. GOODHART, being in the chair.

Mr. W. ARMSTRONG (Buxton) read a paper on Gastric Dilatation. He described the acute form, drew attention to its onset during typhoid fever, acute rheumatism, &c., and advocated investigation of this factor in cases of tardy convalescence from acute disease. Chronic dilatation was divided into two groups: (1) obstructive; and (2) idiopathic. The first was due to pyloric obstruction either from malignant disease, cicatrix of gastric ulcer or fibroid thickening, or from any cause which depressed the body of the stomach without altering the position of the pylorus. The chief causes of idiopathic dilatation were: (1) habitual distension from chronic dyspepsia; (2) the taking of too bulky meals; (3) bolting of food and drinking of much fluid with meals; (4) failure of power in the central nervous system; (5) neurasthenia; (6) worry, anxiety, and overstrain, mental or bodily; (7) debility, atrophy, or fatty degeneration of the muscular coat of the stomach itself; and (8) the after-effects of febrile diseases, especially typhoid fever. If from failure of nerve power to cause contraction of the muscular coat of the stomach or if that coat became unable to respond to the nerve stimulus retention of fermenting food took place and various morbid products were formed, such as acetic and butyric acids, skatol, cresol, phenol, leucin, tyrosin, and various ptomaines and gases. Gastroptosis was mentioned as simulating or even causing gastric dilatation. The presence of the following symptoms often pointed to gastric dilatation: failure of nutrition, loss of flesh, morning depression, nervousness and "shakiness," oxaluria, some affections of the skin, migraine, vertigo, tetany, pseudo-Reynaud's disease, cardiac neuroses, false angina, irregular palpitation, spasmodic asthma, insomnia, and in some of the very severe cases loss of knee-jerks, pseudo-ataxia, and marked contraction of the pupils. The connexion of gastric dilatation with phthisis and chlorosis was alluded to, as was also the fact that a considerable number of cases of so-called latent or suppressed gout were really caused by gastric toxins. The frequent occurrence of moveable kidney in connexion with dilatation was also touched upon. The various methods of diagnosis were described and special stress was laid upon "splashing" as a reliable symptom, and also as to the exact information obtainable from washing out the stomach in the morning after long fasting. The indications for treatment were: (1) to distend the stomach as little and seldom as possible; (2) to promote evacuation of the lagging contents of that organ; (3) to keep down fermentation; (4) to regulate the dietary; and (5) to improve the tone of the general nervous system. With regard to the methods of treatment, the performance of gastro-enterostomy in very bad cases where all other methods had failed was spoken of, as was also a weak solution of Carlsbad salts as a gastric evacuant. The great importance of antiseptics was dwelt upon, Mr. Armstrong's own preference being for fuming hydrochloric acid, 6 to 12 drops in 6 ounces of water, and for small doses of calomel. Arsenic, strychnia, and kola were the best nervine tonics. The great value of lavage was recognised, but it was pointed out that it was only a palliative, not a curative, method of treatment. Massage was very valuable as a means of improving the general tone of the nervous system, but its local effects were disappointing. The modification known by the name of electro-massage was highly spoken of. Central galvanisation of the higher nerve centres was in some cases most valuable, but its internal application by means of the gastric electrode was deprecated; the faradaic current had, however, done good service when used in this way. The use of the needle bath and of packs of mustard bran over the sympathetic ganglia in the neck and the solar plexus was advocated. The advantages to be gained from mountain or high moorland air were mentioned. Mr. Armstrong laid stress on the necessity for extreme care in dietary and mentioned that while above all things the general nutrition must be kept up it was desirable to take as few meals as possible, giving the stomach time to empty itself. Bread, farinaceous foods, bulky vegetables, and milk were spoken of as being harmful in cases of dilatation; what little bread was taken should be twice baked or cut very thin and thoroughly torrefied. As little fluid as possible should be taken with meals, such fluid as was required for the purposes of the system being taken one hour before food.

Dr. HARE stated that while much admiring the paper as a whole there were one or two points in it to which he would venture to take exception or on which he would wish to make a few remarks. The first was that under the head of "Evacuants" Mr. Armstrong had made no mention whatever of the best and most efficient remedies of that class—namely, emetics. He was quite aware that emetics were nowadays rarely given, but thus a most potent remedy for good was neglected. They were much more efficient in the cases under consideration than was washing out the stomach by the stomach pump, for in the latter way the stomach was only rinsed out, while the strong contraction of the stomach walls produced by an emetic not only emptied the viscus of its contents but squeezed out from the cells the morbid secretions which they produced. He had over and over again stopped by a single emetic vomiting which had recurred for weeks together. The form of emetic which he usually employed was from 20 to 25 grains of powdered ipecacuanha made up into an ounce draught; and though emetics were not pleasant remedies Dr. Hare said he would infinitely prefer taking one to having a pipe passed down his œsophagus. Another point was the suggestion that dilatation of the stomach was a cause of moveable kidney; to this he entirely objected; and the question of moveable kidney has been a pet one with him even so long ago as when many persons actually doubted the existence of "floating" or "moveable" kidneys. He pointed out how anatomically it was almost impossible for a distended stomach to displace a kidney; then that moveable kidneys were confined almost entirely to women—the reverse of what is the case as regards gastric dilatation; and that the right kidney, and not the one behind the stomach, is the one far the most commonly mobile.

Dr. **Alexander Morison** questioned the propriety of too curious an investigation of the dimensions of a dilated stomach and would hesitate to recommend gastro-enterostomy for any case not assumed to be dependent upon pyloric obstruction of an "organic" character. The anatomical conditions of the stomach and its double nerve supply from the pneumogastric and sympathetic nerves brought it into line with the heart as a hollow muscular viscus and he considered its dilatation should be treated as a rule upon the principles on which dilatation of the heart is treated—namely, by functional and postural rest, a limitation of its contents and the use of tonics found to affect favourably, that is, increase the power of, the visceral muscles.

Dr. **Ewart** referred to the group of cases of confirmed dilatation, which should be distinguished both from the temporary dilatations due to atony, which were usually amenable to relatively simple treatment, and from the advanced cases of gastrectasia with atrophy of muscular fibre and partial replacement by fibrous tissue for which no medicinal or mechanical treatment availed and for which the aid of the surgeon should be called in. For the intermediate group mechanical treatment was available. Dr. Fenton Turck of Chicago had given much attention to the intragastric treatment and claimed for his revolving "stomach swab" or "gyromele" that it brought the agents of treatment, whether medicinal, faradaic, or merely mechanical, to bear upon every part of the internal surface. Dr. Ewart laid stress upon the indication of posture. Continued recumbency relieved the dilated fundus of any further downward stretching from the weight of its contents. More, however, could be effected by keeping the patient for long periods on an inclined plane, by planking the bottom of the bed and raising the foot end of it. This tended to raise the level of the depressed greater curvature and to lessen its distance from the pylorus. Where no contra-indications existed skilful local kneading applied in a suitable direction at the proper interval after meals undoubtedly assisted the stomach in emptying itself through the pyloric outlet. After a time the patient should be allowed to get up, but not before an efficient abdominal belt had been applied.

Dr. **John Broadbent** considered that dilatation of the stomach was a relative term, for abnormal size or capacity of this organ did not necessarily constitute dilatation, inasmuch as the stomach could be educated to hold and digest large or small quantities of food according to the habits of its owner. It was only when an atonic condition of its walls supervened, so that it could not completely empty its contents, that symptoms of dilatation set in (excluding, of course, cases of pyloric obstruction). The condition of atony was amenable to treatment, but if neglected might pass into one of real dilatation due to over-stretching of the muscular coat, recovery from which would be tedious and often incomplete. Among the causes of dilatation were chronic alcoholism, a neurotic disposition, and a life of worry or excitement. It was often difficult to differentiate between symptoms of gastric dilatation and those of neurotic dyspepsia, more especially in cases where pseudo-anginoid attacks and cardiac disturbances were the prominent features.

Dr. **Herschell** entirely disagreed with Dr. Hare as to the fact that they might with advantage replace lavage of the stomach by the use of emetics, as in these conditions of dilatation the stomach had lost its muscular tonus and would not respond to such an agent.

Dr. **Horace Manders** remarked that he thought there was a general agreement that there were two conditions of stomach having many similar symptoms and that it was a great point in treatment to prevent the atonic stomach from degenerating into the true dilated variety, that this was best done by preventing the ptomaines derived from the food from remaining in the stomach and thereby poisoning the system, and that the best means of accomplishing this object was by lavage and electricity combined.

Mr. **Jackson Clarke** advocated the operation of gastro-enterostomy in cases unrelieved by other methods of treatment.

The **President** expressed satisfaction at hearing the distinction between atony of the stomach and true dilatation so well brought out by the various speakers. He agreed with Dr. Morison that acute dilatations of the heart following long-standing hypertrophy were parallel to those of the stomach. He considered that dilatation of the stomach as the direct result of pyloric stricture, even when cancerous, was extremely rare. The dilatation occurred in consequence of muscular weakness and not on account of the stricture. Atony in many cases preceded dilatation. In the worst cases of dilatation good results might be attained by gastro-enterostomy. He was doubtful as to the good effects of posture, but could speak highly of the relief afforded by well-applied Martin's bandages. He did not think that moveable kidney was ever produced by the pressure of a dilated stomach, but that both conditions when coincident were part of a general neurosis.

Mr. **Armstrong**, in reply, pointed out that an emetic could only be useful in very recent and temporary cases. He had tried the postural method recommended by Dr. Ewart without good result, as the retained fluid instead of passing through the pylorus seemed to bag out the stomach in the most dependent part; he had found the use of the belt much more effective in gastroptosis than in ordinary dilatation. Mr. Jackson Clarke's new indiarubber button seemed to him likely to be very useful in cases where operation was necessary. The nervous influence mentioned by Dr. Morison he thought to be the keynote to the cause of many cases of dilatation. He agreed with the remarks of the President concerning the desirability of distinction between atony of the stomach and real dilatation, but his difficulty had always been to find where the one ended and the other began.

SOCIETY OF ANÆSTHETISTS.

Deaths under Anæsthetics.—The Continued Administration of Nitrous Oxide Gas.

An ordinary meeting of this society was held on March 17th, the President, Dr. **Dudley Buxton**, being in the chair.

Mr. **W. J. MacCardie** (Birmingham) having narrated three cases of Deaths under Anæsthetics, a discussion followed in which it was pointed out that in the case of young children who had to undergo operations, even if brief, provided much blood was lost it was a dangerous practice to allow too prolonged a fast before the chloroform was given as otherwise the depressed vitality of the child was unable to stand up against the shock. In cases of adults the risks of bronchitis, renal complications, and rupture of diseased arteries reputed to follow the use of ether were, it was said, more imaginary than based upon accurate observation. Ether when given properly and in moderate quantity probably gave rise to none of these dangers, indeed was given medically to combat the very dangers which its use by inhalation was said to bring about.—Mr. **Chapman** (Tunbridge Wells) narrated a case in which ether given to a man as an anæsthetic distinctly benefited a pre-existing attack of bronchitis, while Mr. **Tyrrell** believed also that asthmatics were relieved by ether.—Mr. **Carter Braine** pointed out that posture was an important point in cases of removal of tonsils and post-adenoid growths under anæsthetics and he preferred having one tonsil removed before the adenoids were operated upon as it gave more air passage.

Mr. **Alfred Coleman** detailed his Method of Giving Nitrous Oxide Gas through the nose so as to allow more prolonged operations on the teeth to be performed than was possible when the ordinary methods in vogue were employed. His apparatus consisted of a nose-piece made to loosely cover the nose, fitting accurately at its base and connected with a flat tube also adapted to fit accurately over the forehead. To the latter is attached a piece of stout rubber tubing having at its further extremity a very lightly constructed two-way stopcock, which is connected with the ordinary gas-bag, a valve being placed between the two. The gas-bag is connected by a long tube with the gas-bottle. Over this nose-piece as well as over the mouth is placed an ordinary although somewhat large face-piece capable of covering alike the mouth and the nose-piece placed *in situ*. When the patient is fully narcotised this face-piece is removed and the anæsthesia maintained by the gas being allowed to traverse the nose. In fifteen cases the average period of anæsthesia was about two minutes, in one case five minutes, thirteen teeth being extracted. The same principle has been adopted by Mr. Coleman to the giving of ether, nitrous oxide, and air, and a similar plan was suggested for giving chloroform dosimetrically.

Mr. HARVEY HILLIARD contributed a paper on the Prolongation of Nitrous Oxide Anæsthesia in Dental Practice. His plan is to give nitrous oxide gas in the ordinary manner and when consciousness is lost the face-piece is removed at the commencement of an expiration and a soft gum elastic silk tube of the size of a No. 7 catheter and six inches long is then passed into the nose. Its distal end is like an *à boule* male catheter and is solid up to the orifice which is half an inch from the point. The proximal end is expanded to receive the conical attachment of tubing in connexion with the gas cylinders. By a simple arrangement the foot controls the supply of gas to the ordinary face-piece as well as to the nasal tube. As soon as the nasal tube is passed, although the face-piece is again placed over the patient's face, yet the stream of gas is deviated from it to the nose-tube and so completes narcosis and maintains it as long as is required after the face-piece is finally removed and the operation is in progress.

Mr. S. A. T. COXON (Wisbech) described a further and different method of prolonging Nitrous Oxide Anæsthesia during operations upon the mouth. His plan was to employ a metal tube which is held in the mouth after the ordinary method of producing narcosis had effected anæsthesia. To obviate the cooling of the mouth which experience had shown to occur when gas was thus pumped into the buccal cavity Mr. Coxon had adopted the use of a metal coil, through which the gas passes and which is placed in water of the required temperature.

The PRESIDENT, while congratulating the writers of the three papers, said his experience of the use of a nasal catheter in connexion with the prolongation of anæsthesia in operations on the mouth was not in its favour, as in so very many cases stenosis or complete blocking of one or both nostrils occurred, and it was often difficult to pass the catheter at all or to avoid hæmorrhage in the attempt. He had employed Mr. Coleman's method with conspicuous success, having easily obtained an anæsthesia of four and a half minutes, during which time fourteen teeth were removed. He entered a caution against the prolonged anæsthesia being used as a means of introducing multiple extractions of teeth as experience had shown that such operations were open to grave objections.—Mr. PATERSON said that his trial of Mr. Coleman's apparatus led him to approve the principle, although he believed the actual apparatus could be improved. The catheter method was not, he contended, free from disadvantages—for example, the obvious difficulty of its rapid introduction and the impossibility of properly sterilising it after or during use.

PATHOLOGICAL SOCIETY OF MANCHESTER

Pernicious Anæmia.—Perityphlitic Abscess of Cæcal Origin.—Rhabdomyosarcoma of the Kidney.—Exhibition of Card Specimens, &c.

A MEETING of this society was held on March 9th, the President, Mr. C. E. RICHMOND, being in the chair.

Professor DRESCHFELD read a paper on the Changes met with in the Spinal Cord in Cases of Pernicious Anæmia.

Mr. SOUTHAM mentioned a case of Perityphlitic Abscess due to Perforation of the Cæcum by a Foreign Body. Upon opening the abscess a concretion containing a pin in its centre came away in the pus. This was followed by the formation of a fæcal fistula, which was subsequently closed by a plastic operation, and it was then found that the fistula communicated with the cæcum, the appendix being quite healthy. Reference was also made to two similar cases, in each of which a perforation was found in the cæcum, the appendix being normal. It was pointed out that though in most instances of suppuration in the neighbourhood of the cæcum the appendix was at fault, yet in a small proportion of cases an abscess in this situation was of cæcal origin.

Dr. EURICH described a specimen of Rhabdomyosarcoma of the Kidney taken from the left kidney of a child, aged two years, with congenital absence of the left suprarenal capsule. The tumour consisted of islets of sarcomatous (round-celled) tissue separated by strands of spindle elements. Within these groups were small ducts, according to some authorities derived from the Wolffian bodies. Striped embryonic muscle was found comprising a hard nodule in the middle of the tumour, besides a few isolated fibres scattered throughout the growth. A delicate film of similar embryonic striped muscle covered part of the posterior aspect of the tumour close to the origin of the latter from the kidney.

Mr. HENRY IRVIN showed a preparation of a Peculiar Double Intestinal Anastomosis from Malignant Disease.

The following card specimens were shown:—

Mr. COLLIER: Large Gall-stone from the Intestine.

Mr. LAKIN: Extra-uterine Pregnancy Ruptured into the Right Broad Ligament.

Mr. SMALLMAN: Old Intra-capsular Fracture of the Neck of the Femur associated with Chronic Rheumatoid Arthritis.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens.—The Use of Quinine as a Substitute for Ergot in Midwifery.—The Cervix Uteri and the Attitude of the Fœtus in Leopold's Sections.—Congenital Teeth.

A MEETING of this society was held on March 9th, Professor A. R. SIMPSON being in the chair.

Dr. OWEN C. MACKNESS (Broughty-Ferry) showed a Missed Abortion from a multipara who conceived on June 1st. On Aug. 10th she had a fairly severe uterine hæmorrhage but without pain and the os remained closed. The hæmorrhage continued for seventeen days. At the beginning of October she noticed that her breasts, which up to this time had been enlarged and contained milk, were becoming quite flaccid; while her abdomen, which, as was always the case with her in the early months of pregnancy, had increased a good deal in size, was gradually returning to its normal proportion. On Dec. 10th she noticed a slight reddish-brown discharge, which continued on and off till Dec. 30th, when after two pains the specimen was expelled. There was only very slight hæmorrhage. The placenta was apparently fatty. The ovum probably ceased to grow soon after the hæmorrhage in August, but was not expelled for four months later.

Dr. F. W. N. HAULTAIN showed Tuberculous Fallopian Tubes removed from a patient aged fifty-two years. Also Uterine Appendages from a young woman who had never menstruated. Also a photograph of a large Ovarian Tumour which weighed 83 lb. and was removed successfully.

Dr. J. W. BALLANTYNE exhibited a photograph of a child without Arms and with very Short Legs, each foot having three toes, and a photograph of a child without Radius and Thumb.

Professor SIMPSON showed a Dermoid from a sheep attached by a Hair to the Uterus; the kidney on that side was absent. Also a soft Fibroid from a woman, aged fifty-two years, with Inversion of the Uterus. Also a skiagram of a Naegele Obliquity shown at the Moscow Congress by Professor Budin, of Paris.

Dr. OWEN C. MACKNESS read a paper on the Use of Quinine as a substitute for Ergot in Midwifery. The disadvantages of ergot are various. Its preparations are very unreliable in potency and action, different preparations showing variable results, and sometimes they are practically inert. Its taste is nauseous and if a large dose is given it may cause vomiting. Ergotin is difficult to keep; pills made from it rapidly deteriorate; a hypodermic solution even when made up with antiseptics, soon goes wrong and its injection into the muscles produces considerable pain.

Ergot produces a tetanic contraction of the uterine muscles with occasional increases of violence; there is no complete relaxation between the spasms as in ordinary labour pains (Lauder Brunton). It is dangerous, therefore, to the mother and in a high degree to the child as it interferes with the placental circulation and may thus asphyxiate the child. It is also said to cause hour-glass contraction of the uterus. Quinine, on the other hand, has certain advantages. It can be easily administered in the form of a pill, which will keep for any length of time without deterioration; it is tasteless in this form and has no tendency even in large doses to produce vomiting. Its action is more certain in that there is no variability in its composition, while the pills, if properly prepared, are easily soluble in the acid gastric juice, so that it acts rapidly. As a rule, its effect is seen at the outside in twenty minutes after administration. The chief advantage of quinine is that it does not produce tetanic contraction of the uterine walls, but merely increases the strength of the labour pains, while relaxation occurs in the intervals just as in normal labour. This fact has been verified over and over again. It is especially of use in those cases where delay is due to inertia uteri pure and simple—i.e., when the inertia is caused by the general exhaustion of the patient or by the actual want of power in the uterine muscles and where there is no obstruction present in the passages or special cause in the fœtus. Dr. Mackness has found quinine of service in primiparæ when the pains were flagging by giving fresh tone and stimulating them anew, so that instrumental interference was not required. The action of quinine is not always certain, yet he requires to use forceps less seldom, and cases that have before always required forceps have under its use been completed without their application. He used four-grain pills of the sulphate, two being given at once and one repeated in an hour and again after another hour's interval. No headache, deafness, or tinnitus have been observed in any of the large number of cases in which he has used them. Ergot, however, is specially of use after labour, as in post-partum hæmorrhage. Ergot in small doses is useful in the continued hæmorrhage of threatened abortion.—The paper was discussed by Professor **Simpson**, Dr. **James Ritchie**, Dr. **Haultain**, Dr. **Barbour**, Dr. J. W. **Ballantyne**, Dr. **Haig Ferguson**, and Dr. **Lackie**.—Dr. **Mackness** replied.

Dr. **Freeland Barbour** read a paper on the Cervix Uteri and the Attitude of the Fœtus in Leopold's sections—"Uterus and Child." Leopold maintains that these sections give no support to the view that the cervix is taken up so as to form part of the cavity in which the ovum lies, either mechanically by dilatation or physiologically by differentiation. There are two views. One is the purely mechanical process; the growth of the ovum during the latter months of gestation causes dilatation or opening out of the upper part of the cervix and thus contributes to the size of the cavity in which the fœtus lies. This implies shortening of the cervix. The other view is more recently brought forward by Bayer. He believes that the cervix contributes to the lower pole of the uterine cavity by a process of growth, its mucosa being converted into a decidua and its muscular fibres being transformed into that of the lower uterine segment. This might be called physiological; it implies a process of differentiation of the mucous membrane of the cervix. This latter view is based on insufficient data. Franqué, of Würzburg, collected records of 117 sections of pregnant uteri, 26 of uteri in labour, and 75 from the puerperium. He noted the length of the cervix and of its vaginal portion, the position of the reflection and of the firm attachment of the peritoneum, the thickness of the wall and the condition of the mucosa with the attachment of the membranes. His conclusions are that the os remains closed during pregnancy unless pains are present and there is no constant difference between the length of the cervix in primiparæ and multiparæ. The length of the cervix at the various months of gestation varies within certain limits. It grows slightly in length in pregnancy. There is no evidence of its being taken up to form part of the cavity in which the ovum develops. In labour it does not become essentially elongated, the elongation from stretching being counteracted by shortening from dilatation. The firm attachment of the peritoneum which marks the upper limit of the lower uterine segment rises higher as pregnancy advances. The relation of the bladder is variable. The development of a contraction ring in normal labour and its presence in anatomical specimens he considers established. He has never found cervical mucous membrane extending over the lower uterine segment. Leopold in his work accepts the conclusions arrived at in Franqué's paper. In studying the attitude and position of the fœtus Leopold describes nine cases from the sixth month to full time; of these four are breech and five head presentations. This large proportion of breech cases strikes attention and it is noted that these are the ones from the earlier months, from the sixth to the ninth lunar months. The five head presentations are from the end of the ninth lunar month to full time. It is interesting to note that of the four breech presentations two of them were diagnosed as vertex presentations during life, the change to breech evidently occurring during the agony, the cause of death being eclampsia in both. The cord may have some effect in producing a position of the legs when one leg becomes hitched over it and might thus affect the presentation. One of Leopold's cases is from a case of placenta prævia where turning had been performed. It shows the graduated wedge which is of value in plugging and dilatation. But at the same time it brings out its weakness where the cervix is very rigid. Leopold draws attention to the fact that where the os externum is rigid and gripe the upper part of the thigh the breech does not get down on the placenta so as to compress it and stop bleeding. It would be better, therefore, in a similar case to dilate with a bag first, so as to allow the breech to descend, or to rupture the membranes high up. Another procedure is to pull down both legs on turning. Of the head presentations, one shows some undoing of the flexion of the child during pregnancy, somewhat comparable to what occurs during the second stage. But this has quite evidently resulted from the uterus having been removed from the body and frozen, not frozen *in situ*. In a case of justo-minor pelvis the occiput of the child looked directly to the left while the back was to the left and front, and Leopold says that this section raises the question whether the trunk or the head rotates first. But this can evidently be put down to the fact that this fœtus was dead in the uterus and therefore limp. The evidence from sectional anatomy, so far as it goes, is all in the line of making internal rotation, a movement primarily of the head and determined by the form of the pelvis as modified by the soft parts. A section of a rickety pelvis shows the head not extended and that the sagittal suture is near the symphysis and the posterior parietal bone is the more prominent.—Professor **Simpson** and Dr. J. W. **Ballantyne** made remarks on the paper and Dr. **Barbour** replied.

Dr. J. W. **Ballantyne** read notes on three additional cases of Congenital Teeth. In the first case, which was one of face presentation, there was a little difficulty in diagnosing the presentation owing to the presence of the teeth. There were two, the upper central incisors; one was well developed, the other was poorly developed. The child is now sixteen months old and has eight incisor teeth, the congenital teeth remaining. These latter were larger than the others, not mere shells of dentine as in similar cases. In the second case the teeth eventually sloughed out and the alveolar process became necrosed, causing the death of the child. In the third case it was the two lower central incisors which were cut. They were moveable in their sockets and the alveolar process for about three-quarters of an inch was elevated three-eighths of an inch above the level of the gums on either side and was also moveable rocking backwards and forwards. Below this large process was an exostosis in the middle line of the symphysis menti which disappeared later. The mobility and elevation of the alveolar process afterwards disappeared and the teeth at the same time became fixed in their sockets. The child at six weeks showed signs of syphilis and was treated with mercury. At the same time the teeth became soft and gelatinous and very easily removed. Microscopically the typical dental structures could be recognised.—Dr. **Haig Ferguson** and Dr. **James Ritchie** mentioned instances of the same condition.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Pathology.

Malaria.—Ankylosis of Hip and Sacro-iliac Joints.—Resection of Vasa Deferentia.

A meeting of this section was held on Feb. 25th, the President, Dr. J. M. **Purser**, being in the chair.

Dr. J. B. COLEMAN exhibited blood from a case of tertian ague, showing the different stages of development of the Plasmodium Malariæ. The patient was a soldier, who had returned from India six months ago, and who was admitted to hospital with well-marked tertian intermittent fever. The specimens were fixed by immersion for about half an hour in a mixture of equal parts of absolute alcohol and ether. They were then stained first with alcoholic solution of eosin and afterwards with concentrated watery solution of methylene blue. Mild quotidian fever is due to the simultaneous presence in the blood of two generations of the tertian parasite or three generations of the quartan, each group being twenty-four hours older than the preceding one. The effect of quinine was to prevent the development of the young plasmodia.

Professor O'SULLIVAN also showed specimens of the Malarial Parasite. The patient was a medical man who had lived in Bengal and had contracted a simple tertian ague in December, 1896. The examination of the blood was confined to a single attack which was allowed to run its course without treatment. Shortly before the next attack was due the patient took quinine and although the attack occurred in a mild form there were very few parasites to be found in the circulating blood and shortly afterwards they had entirely disappeared. The fit began at 1 P.M. on Saturday, Dec. 18th; blood was taken at 2 P M., 4 45 P.M., and 11.45 P.M. on Saturday, and at 9.30 A M. on Sunday. Specimens taken at 2 P.M. (temperature 102° F.) showed chiefly a delicate ring form of half or less than half the diameter of a normal red corpuscle. The ring was circular or slightly oval with a thickening at one side extending over one-third of the circumference and a small deeply-stained nodule opposite to the centre of the thickening. In a few cases the ring showed no thickening or nodule. In addition there were some segmentation forms containing from seventeen to twenty spores in two rows, and pigment, which was in some cases diffused in coarse granules through the body; in others, collected in a ball in the centre. In the next two specimens (4.45 P.M., temperature 103·2°, sweating stage, and 11.45 P.M, temperature 98·5°) nothing but ring forms were to be seen, showing, however, signs of further development—e.g., pigment granules in the thickened part and formation of a small, clear body, staining lightly with methylene blue at the side of the thickening. In some cases two rings and even three were found in the same corpuscle. These joined at a point in their circumference at the edge of the thickening. In the specimens taken at 9.30 A M. on Sunday no ring forms were found; the thickening had developed into a pigmented body as large as, or larger than, the original ring, traces of which with its nodule could often be made out. The specimens were fixed by heating to 115° C. and were stained with methylene blue and eosin.—The exhibits were discussed by the Secretary (Professor MCWEENEY), Surgeon-General POTTER, Dr. PARSONS, and the President of the Academy (Dr. BENNETT).

Dr. J. KNOTT made a communication on a specimen of Complete Osseous Ankylosis of Hip and Sacro-iliac Joints on one side. The pelvis also presented the special deformity formerly described by Professor Naegele, of Heidelberg, as the Pelvis Oblique Ovata. Professor Naegele's experience of this variety of pelvic deformity was that of the difficulty to which it gave rise during parturition, which had been the means of drawing his attention to it. He had never found any external cicatrisation, had never been able to obtain a history of caries, had never known the condition to be diagnosed during life, and had found it to be invariably fatal to both mother and child. It had been one of the many triumphs of the Dublin School of Obstetric Surgery that the existence of this pathological condition was first discovered during life in the Rotunda Hospital and by the late Professor Sir Edward Sinclair, of the Dublin University.

Mr. TOBIN read the report of a case of Prostatic Hypertrophy which he had treated twenty months ago by resection between ligatures of a half inch of the vas deferens on each side. The patient had the usual symptoms and at the time of the operation had not micturated without the help of a catheter for three months. He was discharged from hospital fairly well in three weeks. He now stated that although he did not lead a temperate life he had no kind of urinary trouble since he was discharged from hospital and that his sexual functions were quiescent. A digital examination per rectum found the prostate very small. A catheter passed after micturition showed the bladder to be empty. The testicles had not diminished in size and were, as far as one could judge, normal. Testicular feeling was present. On each side below the point of resection the vas deferens was swollen into what might be called a retention cyst the size of a small walnut. Fluid drawn from one of these swellings was found crowded with active spermatozoa. If the improvement was due to the resection of the vasa deferentia Mr. Tobin could see no way in which the operation could act, since no atrophy of the testicles had occurred, except by inducing a quiescent state of the prostate gland by cutting off the seminal fluid from the regions where its presence had a stimulating effect.—Dr. KNOTT, Dr. BENNETT, and Professor MCWEENEY discussed the communication.

SECTION OF SURGERY.

Gunshot Fracture of the Humerus.—Tuberculous Disease of the Hip.

A MEETING of this section was held on March 4th, the President, Sir WILLIAM THOMSON, being in the chair.

Mr. M'ARDLE brought forward a case of Gunshot Fracture of the Humerus in which a perfect result was obtained by free incision over the point of lodgment of shot and wadding and subsequent free irrigation after fixation on an angular splint. The points which Mr. M'Ardle accentuated were: (*a*) the first dressing should be complete, however collapsed the patient; (*b*) immediate fixation of the limb; (*c*) circulation in the limb should be restored by irrigation—the temperature of the fluid may reach from 106° to 110° F.; and (*d*) that all the procedures should be carried out under chloroform.—The case was discussed by Sir WILLIAM THOMSON, Mr. T. MYLES, and others.

Mr. TOBIN referred to six cases of Tuberculous Disease of the Hip in an early stage treated by osteotomy of the femur, passing obliquely from the lower border of the great trochanter to the lesser trochanter. He claimed for them that in every instance (1) complete union of the fracture had taken place within six weeks; (2) the progress of the disease had been quickly arrested, as instanced by the subsidence of swelling and the non-formation of abscess; and (3) in three of the cases after six months, and two after nine months, the patients were able to walk long distances without support and with only a slight limp, and showed no tendency to relapse. The sixth patient, who had been operated on only six weeks before, was going about wearing a Thomas's splint.—Mr. LENTAIGNE, Mr. M'ARDLE, and others discussed the cases.

SECTION OF MEDICINE.

Pneumothorax.—Cystinuria.—Acromegaly.

A meeting of this section was held on March 11th, the President, Sir GEORGE F. DUFFEY, being in the chair.

Dr. FINNY communicated a case of Idiopathic Pneumothorax without Effusion, in which, after complete recovery and resumption of manual labour, a second attack came on with a similar absence of fluid effusion and again followed by recovery. The patient was a stableman, aged eighteen years, who had not been ill previously and had had no cough or pulmonary trouble. The first attack occurred on Nov. 3rd, 1897, and the second on March 3rd, 1898. The onset in both attacks was sufficient to keep him from work and physical examination readily discovered air in the left chest, stretching the pleura to its fullest limits and displacing the heart to the right mammary region, and yet the patient made very little complaint and did not consider himself ill enough to go to the hospital. All through the attacks there was absence of fever, quick pulse, or constitutional disturbance, and the respiration was easy after one or two days. No special treatment was called for and gradually the air was absorbed.—Dr. A. R PARSONS, Dr. KNOTT, Dr. R. TRAVERS SMITH, and Professor E. H. BENNETT discussed the case.

Dr. WALTER SMITH drew attention to three curious Perversions of Metabolism: (*a*) alkaptonuria, due either to presence of pyrocatechin, uroleucic acid, or homogentisic acid; (*b*) diaminuria—i.e., the occurrence of diamines (cadaverin, putrescin) in fæces and urine; and (*c*) cystinuria. Few cases of cystinuria are upon record, probably not more than 75 in all, since the first recognition of cystin by Wollaston nearly ninety years ago. Two cases have come under Dr. Smith's observation—viz., in 1890 and 1897. The first case occurred in a boy, aged eight years, in good health. The odour of the urine was fragrant; the reaction was faintly alkaline; the sediment was slate-coloured. Cystin crystals were found rather sparingly in this deposit, associated with phosphatic crystals and calcium carbonate. The second case was that of a woman, aged about fifty years, who consulted Dr. Smith for rheumatic pains. The urine was faintly acid and the white sediment consisted almost wholly of cystin in elegant hexagonal crystals, insoluble in acetic acid and soluble in ammonia. The true formula of cystin is $(C_3H_6NSO_2)_2$. It has no relation to uric acid. The probable antecedent of cystin in the body is cystein, a soluble base. Cystinuria is frequently associated with diaminuria, and both are possibly due to a common cause—viz., an intestinal mycosis. Hence the therapeutical indication is to disinfect the intestine.—Mr. M'CAUSLAND, Dr. J. W. MOORE, Professor E. H. BENNETT, and Dr. W. G. SMITH took part in the discussion.

Dr. W. J. THOMPSON read notes of a case of Acromegaly, in the course of which he said that since Marie in 1886 first described the disease little advance had been made towards discovering its cause. It occurs more frequently in females than in males, and in the former is associated with menstrual disturbance. It follows anæmia, influenza, the exanthemata, rheumatism, syphilis, and traumatism; it frequently comes on without any cause and occurs at all ages from fourteen months to seventy years. The symptoms are now well known—viz., hypertrophy of the bones of the hands, feet, and lower part of the extremities, and the cranial and facial bones, with subcutaneous thickening, kyphosis of spine, enlargement of nose, ears, and lips, and optic disturbance. The thyroid gland is often hypertrophied, rarely the thymus. The pituitary body is constantly found affected—in about 90 per cent. of all cases it is enlarged and diseased, and in about 10 per cent. diseased but atrophied. The diseases embraced almost every form of tumour—viz., sarcoma, adenoma, glioma, &c.—hence, from the lesions of this body very little light is thrown on this disease. Similar changes are found in pituitary bodies not clinically associated with acromegaly.

Reviews and Notices of Books.

The Year-book of Treatment for 1898. London: Cassell and Co. Pp. 484. Price 7s. 6d.

THIS is the fourteenth annual issue of this useful publication and it well maintains the standard of its predecessors. The aim has been as heretofore to present the busy practitioner with a readable digest of the progress made in the domain of therapeutics during the past year and the editor is to be congratulated on the success of his endeavours. The list of contributors is a lengthy one, but the different articles are well arranged so that too much prominence is not given to any one subject.

The advances in the treatment of diseases of the heart and circulation are considered by Dr. G. A. Gibson, Lecturer in the Edinburgh School of Medicine. He draws attention to the application of the serum treatment in acute endocarditis and considers that the results which have been attained are encouraging and should lead to the employment of the anti-streptococcic serum in these hitherto hopeless cases of disease. The mechanical treatment of circulatory diseases also receives due notice.

Dr. Schorstein contributes a capital paper on Diseases of the Lungs and Organs of Respiration, laying stress on the preventive measures which have been adopted against tubercle. The reports on "the new tuberculin" of Koch are of course criticised, but the inevitable conclusion is drawn that "the few months that have intervened make it impossible to draw any definite conclusions as to the value of the remedy."

The section on the Treatment of Nervous and Mental Diseases is in the hands of Dr. E. S. Reynolds, of Manchester, who directs special attention to lumbar puncture, to the treatment of epilepsy by opium and bromides, the results obtained at epileptic colonies, the relationship of syphilis to tabes, and the treatment of ataxia by systematic exercises. Dr. H. P. Hawkins writes on Diseases of the Stomach, Intestines, and Liver. He remarks that "the past year cannot lay claim to any marked advance in the treatment of abdominal disease by drugs or medical means. It shows, however, a steady widening of the sphere of abdominal surgery. Physicians are placing more reliance on surgical aid. The surgeon appears on the scene at an earlier point of the illness and the successes gained are proportionately greater." We believe that Dr. Hawkins gives expression to the general opinion of medical men who are in touch with large hospital experience. Diseases of the Kidneys, Diabetes, &c., are considered by Dr. F. D. Boyd, of Edinburgh, attention being drawn to the successful trials of artificial serum in disease of the kidneys.

Amongst other contributors are Dr. A. E. Garrod on Gout, Rheumatism, and Rheumatoid Arthritis; Dr. Sidney Phillips on Infectious Fevers; Dr. Dawson Williams on Medical Diseases of Children; Dr. Dudley Buxton on Anæsthetics; Mr. W. J. Walsham on Orthopædic Surgery; Mr. Reginald Harrison on Diseases of the Genito-Urinary System; Mr. Malcolm Morris on Diseases of the Skin; and Dr. Patrick Manson on Tropical Diseases. The section on General Surgery is in the able hands of Mr. William Rose and Mr. Albert Carless. A large number of subjects are touched upon, the remarks on the Surgery of the Abdomen being especially interesting. Dr. Herman writes the article on the Diseases of Women in his usual thorough manner. Well worth perusal are his comments on the bacteriology of the female genitals. The book concludes with a summary of the Therapeutics of the Year 1896–97, chiefly with reference to new remedies, by Dr. Tirard.

Manual of Gynecology. By D. BERRY HART, M.D. Edin., &c., Lecturer on Midwifery and Diseases of Women, Surgeons' Hall, Edinburgh, &c., and A. H. FREELAND BARBOUR, M.A., B.Sc., M.D. Edin., &c., Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, &c. With 13 Lithographs and 381 Woodcuts. Fifth Edition. Edinburgh and London: W. and A. K. Johnston. 1897.

THE appearance of a fifth edition of this manual sufficiently testifies to its popularity and usefulness. The authors say that it has been carefully revised and brought up to date and that the portions dealing with operative gynæcology have been in great part re-written and illustrated by new plates. We should say that the strong points in the work are, first, that it deals fully with the anatomy and physiology of the female pelvic organs; and, secondly, that there are few, if any, parts of the subject on which some information will not be found. It therefore gives the beginner a sound foundation on which to build up his knowledge and constitutes for the advanced student and for practitioners a reasonably complete work of reference. The clinical and practical side of the subject, however, does not seem to us so satisfactory. Thus if we turn to the account given of retroflexion, a common condition requiring to be considered, we find under the head of "Symptoms" "weakness in the back, symptoms of chronic pelvic peritonitis, painful defecation, leucorrhœa, dysmenorrhœa, menorrhagia, sterility, abortion." It is true the authors say "that the symptoms are not due to the lesion immediately but to other pathological changes consequent on and associated with it." That they do believe that pathological changes of a serious type are "consequent on" retroflexion of the uterus is nevertheless plain from what follows. Thus the "leucorrhœa is due to chronic inflammation of the mucous membrane" (caused by the retroflexion), "menorrhagia forms one of the prominent symptoms." 'The reproductive function is variously and seriously affected." "As the result of the displacement there is passive congestion of all the tissues of the uterus; this leads in the first instance to a simple hypersecretion of mucus, which gradually passes into chronic inflammation." On the contrary we believe that there is ample evidence to show that the relation between retroflexion and the symptoms named is accidental and not causal, and, further, we believe it to be the fact that a majority of the teachers of gynæcology in London medical schools are of this opinion. Indeed, it appears to us that, whatever may be the cause of it, the gynæcologists of the London schools do not in this book receive that attention to which the vast clinical material at their disposal entitles them. The authors at the end of their work make a list of English text-books of gynæcology other than their own, but omit from the list two at all events which are largely used and enjoy a considerable popularity. Some of the works also mentioned in the list of "modern" English text-books are twenty or thirty years old and therefore practically obsolete at the present time.

Children under the Poor-law: their Education, Training, and After-care, together with a Criticism of the Report of the Departmental Committee on Metropolitan Poor law Schools. By W. CHANCE, M.A. London: Swan Sonnenschein and Co., Limited. 1897. Price 7*s*. 6*d*.

AT the present time, when public attention is so much directed to the subject of the education of pauper children, any contribution is of value, and the one before us is all the more welcome as coming from the pen of a gentleman who, as secretary of the Poor-law conferences, has been intimately mixed up with the various movements of later years. The introductory chapter deals with the important historical aspect of the question from the great year of Poor-law reform, 1834, to the present time. A perusal of this chapter reminds us of a fact which is too apt to be lost sight of—namely, that although perhaps there may still be a good many matters needing reform, nevertheless very great advances have been made in the care and custody of pauper children since the date referred to. The chapters which follow deal with Workhouse Schools, District and Separate Schools, Cottage-home Schools, and the use made of Public Elementary Schools, the last-named being a system which answers at the present time so admirably in country districts where workhouses are usually few in number. Two chapters are devoted to the Boarding-out System, which is now becoming so popular that, as the author mentions, "the dangers which surround it need to be carefully pointed out." To those interested in the welfare of these children we would specially commend the chapters on After-care and the various employments in life open to pauper-trained children, which are not, by the way, any too numerous.

The appearance of this work will do much to counteract the erroneous impressions produced by the departmental inquiry into the metropolitan Poor-law schools. Looking back through the softening vista of time upon the storm of resentment produced by the report of that committee, it must be admitted that the subject of pauper education was approached with considerable bias—one might almost say prejudice—against large schools and in favour of boarding out. This is a matter for considerable regret and inevitably weakens the force of that otherwise excellent report. Had the committee approached all the different Poor-law systems of dealing with children with more of a judicial spirit they would probably have concluded that each system had its merits and defects and that each was capable of use and abuse. If mal-administration and deficiencies in the executive lead to cases of poisoning amongst children in big schools, so also will it in the boarding-out plan. If *insufficient inspection* leads to cruelty in a big school, how much more will it do so in the case of boarded-out children? It is after all the want of adequate inspection which the inquiries of the committee revealed more than anything else.

We heartily commend this work as a fair and complete account of the educational needs and after-care of children under the Poor-law which should certainly be in the hands of all those to whom belongs the responsibility of providing for this large and important section of the community.

A Text-book of Zoology. By T. JEFFERY PARKER, D.Sc., F.R.S., and WM. A. HASWELL, M.A., D.Sc., F.R.S. Two vols. London: Macmillan and Co. 1897. Price 36*s*. net.

IN their preface the authors claim that "in spite of its bulk the present work is strictly adapted to the needs of the beginner." From our experience of former works by Professor Parker we quite expected to find this claim made good, nor were we in any way disappointed. The system adopted is to describe as many animals as possible in detail and to use them as types or examples of those which follow. The examples selected are those most easily obtainable and they are described in a plain, clear, homely way which leaves the impression that the authors really care more to instruct their reader than to convince him of their own profundity. The work begins with an introduction, in which the principles of classification are defined, and this is followed by a section on the structure and physiology of animals, at the end of which the authors state their intention to recognise twelve phyla. Of these twelve phyla, into which the animal kingdom is divided, eleven are treated of in the first volume. Section II. is devoted to the Protozoa, and Amœba, Didymium, Euglena, Monocystis, and Paramœcium are described as examples of the various classes; the mutual relationships of the chief groups of Protozoa are discussed at the end. The sponges occupy the phylum Porifera, and Sycon is taken as the example; they are separated from the phylum Cœlenterata which occupies Section IV. This phylum is divided into four classes: (1) Hydrozoa with Obelia as a type; (2) Scyphozoa with Aurelia; (3) Actinozoa with Tealia; and (4) Ctenophora with Hormiphora. The authors, in our opinion, do well to altogether discard the term "Vermes" and to distribute the animals which formerly were included under that name among the five following phyla: (1) Platyhelminthes: (2) Nemathelminthes; (3) Trochelminthes; (4) Molluscoida; and (5) Annulata.

Planaria is described as an example of the first of these phyla, Ascaris of the second, Brachionus of the third, Bugula, Phoronis, and Magellania of the fourth, while the Annulata are not described until after the Echinoderms, the animals chosen as examples of them being Nereis and Lumbricus. The phylum Echinodermata which comes between the Molluscoida and Annulata is richly supplied with examples; these are Asterias, Echinus, Cucumaria, and Antedon. The phylum Arthropoda succeeds that of Annulata and here we are glad to find a good and well-illustrated account of Apus, in addition to which Astacus and Periplaneta are taken as examples. The Mollusca form the last phylum dealt with in this volume, the types described in detail being Anodonta, Triton, Sepia, and Nautilus. We highly commend the authors' thoughtfulness in giving a full and separate index to each volume.

The second volume is devoted to the phylum Chordata and commences with a description of Balanoglossus and its allies. The authors lean to the view that if these animals are not the existing representatives of ancestral Chordates they are at least a greatly modified branch of the base of the chordate tree; at the same time they point out that by many zoologists their chordate affinities are altogether denied. The tunicates are next dealt with, Ascidia being taken as an example of the class and illustrated by several of Herdman's figures. Amphioxus is described in some detail and its anatomy is made more clear by excellent sections and diagrams; its development is paid special attention to. The next fifty pages are devoted to a description of the chief organs and tissues of craniate animals, and this is followed by an account of the Cyclostomata and Pisces, the latter being exemplified by a detailed description of the dogfish and trout. The transition from the fish to the amphibians is prepared by an account of the dipnoan Ceratodus in which several of Günther's figures are reproduced. The frog is taken as the chief amphibian example and we cannot help wishing that the artist had been allowed to prepare a new process block to illustrate the external features of the common grass frog; the one borrowed from Mivart's book is hardly up to the standard of the illustrations of the rest of the work. The type selected for the reptiles is the lizard and at the end of the description of the class there is a short section on extinct reptiles. An account of the pigeon forms a good introduction to the study of birds and the illustrations of this portion of the book are enriched by several photographs of skeletons and stuffed specimens from various museums. The way for the mammals is prepared by a description of the rabbit, after which the various orders are dealt with and the external forms of many characteristic specimens figured. The different systems in the anatomy of mammals as well as their development are then described and the section closes with a discussion on the mutual relationships of the Chordata. The next section deals with the distribution of animals and includes a coloured chart showing the zoo-geographical regions of the world. The Philosophy of Zoology occupies the next section and is followed by one on the History of Zoology, which records the chief work of the leaders of the science from the time of Aristotle to that of Weismann. The work ends with a guide to modern zoological literature in the form of an appendix. The illustrations are very numerous and usually good. They have been gathered from many sources and also contain a large number of original drawings by Mr. M. P. Parker, whose name is a sufficient guarantee for the accuracy and artistic merits of his work. We can conscientiously recommend this book to anyone taking up the study of zoology and we deeply regret that one of its authors should not have lived to see the success which we believe it is bound to command.

The Essentials of Experimental Physiology. By T. G. Brodie, M.D. Lond. Pp. 231. 177 Illustrations. London: Longmans, Green, and Co. 1898. Price 6*s.* 6*d.*

THIS work, which is complementary to Schäfer's "Essentials of Histology" and to Halliburton's "Essentials of Chemical Physiology," is intended for the use of students and describes the experiments that are suitable for class demonstrations. In the selection of these the author has in great measure followed the lines laid down in Professor Burdon Sanderson's "Syllabus of Lectures" published in 1879 and adopted in the course of advanced practical physiology under Professor Halliburton at King's College. The exercises fitted for elementary and for advanced students respectively have been distinguished by different kinds of type, so that the text-book is adapted for a complete course of experimental physiology. The work is especially valuable from the beautiful tracings and curves, which are all original and have been prepared by the author for this work.

The description of the mechanism and arrangement of the apparatus for the various experiments is simplified and rendered absolutely clear by numerous drawings and diagrams, some of which are from other sources, but many appear here for the first time. The work admirably supplies students of physiology with a reliable and much required guide to experimental work and will assuredly long remain a recognised handbook on the subject.

LIBRARY TABLE.

Some Incidents in General Practice. By Augustin Prichard, Surgeon. Bristol: J. W. Arrowsmith. 1898.—The late Mr. Augustin Prichard, an obituary notice of whom appeared in our issue of Jan. 15th, was connected with the medical profession for a period of over sixty years. That being so his reminiscences might be expected to be interesting to the younger generation, and this little book bears out the expectation. Written in a pleasant and simple manner it gives a life-like picture of a state of society long since passed away and is full of sound wisdom. Mr. Prichard's remarks upon suicide may well be pondered upon by magistrates and those silly but well-meaning people who see in the suicidal temperament only a condition to be petted. Referring to an instance of a silly girl who jumped from Clifton Suspension Bridge he says: "She should have had two or three weeks hard labour instead of being petted and handed over to her friends." The book is an interesting record of a long, useful, and honourable life, and well worth the study of the present-day practitioner.

The Medical Annual and Practitioners' Index, 1898. Bristol: John Wright and Co. Pp. 697. With 127 Illustrations and 30 Plates.—The sixteenth and latest volume of this useful book of reference is well up to the standard of those which have gone before and presents two new and welcome features. The editors have done wisely to secure Mr. S. G. Shattock to write an atlas on Bacteria Pathogenic to Man and to include it, with its well-executed plates, in this publication. The first half of this atlas appears in this year's instalment. Since medical men have often an imperfect knowledge of the law as it affects them, the addition of recent legal decisions which either affect the medical profession directly or have reference to public health is a step in the right direction and one, it is to be hoped, that will be continued in future years. The illustrations are well done and mention may be made especially of a series of photographs showing the operative obliteration of the deformity in Pott's disease which is appended to an article by Messrs. Tubby and Jones. The names of the contributors and a study of the articles prove that this is a publication which should be in the hands of every practitioner who wishes to keep abreast of the advances in medicine and surgery with the least possible expenditure of time and trouble.

The Story of Life in the Seas. By Sydney J. Hickson, D.Sc., F.R.S., Professor of Zoology in the Owens College, Manchester. London: George Newnes, Limited. 1898. Price 1*s.*—This is a volume of the Library of Useful Stories, a series of popularly but accurately written little books upon scientific subjects. It commences with a short but clear account of Oceanography and then passes to describe the various fauna—those of the shallow water, those of the surface, and those of the deep seas. Then follows a most interesting account of Commensalism and Parasitism and the book ends with a speculative chapter upon the Origin of the Marine Fauna. Dr. Hickson, though he allows the difficulty of the question, considers that the evidence at our disposal points to the origin of life having had its seat in the shallow waters.

Doctor and Patient: Hints to Both. By Dr. Robert Gersuny, Director and Principal Visiting Surgeon of the Rudolfinerhaus, Vienna. Translated with the permission of the author, by A. S. Levetus, with a preface by D. J. Leech, M.D., F.R C.P. Lond., &c., Professor of Pharmacology in the Owens College and Victoria University. Bristol: John Wright and Co. Price 2*s.* — This is an admirable little work written upon the same lines as "The Profession of Medicine," by Dr. Charles West. It deals with various ethical points and will be found of great value to patients as well as to medical men. Many disagreeables would be avoided if both classes took to heart Dr. Gersuny's remarks upon Gossip, Chapter vi.; Harmful Influence of the Persons about the Patient, Chapter vii.; and Corruption of Doctors by the Public, Chapter ix. Dr. Gersuny's remarks upon medical aid societies and their medical officers—"medical clerks," as he calls them—are a striking confirmation of our Special Commissioner's observations as published in our series of articles, "The Battle of the Clubs." He thinks that the evils will cure themselves by the very fact of their existence but not "before a new generation has arisen."

Lexique-Formulaire des Nouveautés Médicales (Dictionary of Recent Advances in the Medical Sciences). By Professor PAUL LEFERT. Paris: J. B. Baillière et Fils. 1898. Pp. 336.—This little book consists of alphabetically-arranged paragraphs giving condensed but satisfactory descriptions of many of the new methods, new words, and new substances which have of recent years been introduced in medicine, surgery, obstetrics, materia medica, &c. The inclusion of such headings as Agglutination des microbes, Bacille ictéroide, Iodothyrine, Ligature apophysaire, and Protargol, shows that the work is brought well up to date; under Vaccination the author quotes a regulation relative to the vaccination of French soldiers which is dated Nov. 1st, 1897. The book will be found useful for reference, and in particular it supplies a want which is not uncommonly felt by those whose reading includes either French and German medical periodicals or extracts translated from them.

Constipation in Adults and Children, with special reference to Habitual Constipation and its Most Successful Treatment by Mechanical Methods. By H. ILLOWAY, M.D., Formerly Professor of the Diseases of Children, Cincinnati College of Medicine and Surgery. New York and London: Macmillan and Co. 1897. Pp. 495. Price 17*s*.—So much splendid work is being done in America at the present time, and the standard has been raised at Johns Hopkins University and elsewhere to such a high level, that it is a real disappointment to come across such a book as this American volume. The book is divided into two parts; 184 pages are devoted to a description of the conditions leading to, and associated with, constipation and the rest to treatment. The author is at pains to show the need of elaborate mechanical and electrical devices in order to cure constipation. That massage is of value in some few cases and even necessary will no doubt be granted, but it is certain that massage need never, and will never, take the prominent position assigned to it in this volume in the treatment of constipation. The worst feature of the book is the illustrations, many of them being in thoroughly bad taste. The literary level of this production may be judged by the following: "Cloacina is very exacting and demands the full concentration of the mind upon the duties then to be performed" (p. 96), and "remotus (*sic*) causa tollitur effectus" (p. 185).

Sanitation in Srinagar: A Review of Four Years' Work, 1893-96. By ASUTOSH MITRA, L.R.C.P., L.R.C.S. Edin., F.C.S. Pp. 12.—This pamphlet is drawn up somewhat in the form of an official report giving an account of the first introduction of sanitary reform into Srinagar, the capital of the valley of Kashmir. This city has over 25,000 houses and a population of more than 120,000 persons. It extends along both banks of the River Jhelum, the water of which becomes excessively polluted in its course through the city. Great mortality was caused by an epidemic of cholera which visited Kashmir in May and June, 1892, and the author, who is chief medical officer of Kashmir and president of the Srinagar municipality, was asked to draw up a practical scheme of public sanitation. His recommendations were of the most approved modern kind and although difficulties were encountered at first through the prejudices of the population and the heavy expenditure, yet so much was accomplished that when cholera again visited the place in 1895 it was kept within very small proportions indeed.

JOURNALS.

The Journal of Physiology. Edited by MICHAEL FOSTER, M.D., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXII., No. 5. London: C. J. Clay and Sons. March, 1898. Price 5*s*.—The original articles contained in this part are six in number—viz.: 1. J. L. Bunch on the Origin, Course, and Cell-connexions of the Viscero-motor Nerves of the Small Intestine, with seventeen figures in the text. The main conclusions arrived at are that the small intestine in the dog, cat, and rabbit shows normally a regular rhythm of contraction and dilatation varying in frequency and extent but averaging in the dog twelve per minute; that small doses of morphia produce no appreciable effect upon the tone—i.e., increased or diminished contraction; that nicotine in most dogs occasions systolic and in some dogs and all cats diastolic tone of the small intestine; that elimination of the peripheral end of the cut vagus produces no effect on the movements of the small intestine, whilst stimulation of the cut splanchnic usually produces in dogs systolic tone and in some dogs and all cats diastolic tone; that the splanchnics probably contain in all animals two sets of nerve fibres, one tending to produce increased contraction of the intestine, the other set diminished contraction; and that the nerve fibres pass to the splanchnic from the anterior roots of the dorsal and lumbar nerve, from the sixth thoracic, to as far down in some instances as the fifth lumbar nerve. 2. An Intestinal Plethysmograph, by Arthur Edmunds, B.Sc. 3. The Effect of Resistance to Secretion upon the Percentage of Salts in Saliva and upon the Work Done by the Gland, by O. F. F. Grünbaum, B.A., B.Sc. The author of the article found that when a gland is made to secrete against resistance it secretes much less saliva in a given time and the percentage of salts in it increases. 3. On Hepatic Glycogenesis, by F. W. Pavy, M.D. Lond. This article is a criticism on statements made by Dr. Paton in a previous number of the journal. 4. The Precipitation of Carbohydrates by Neutral Salts, by R. A. Young, M.D. Lond., showing that the salt precipitation method can be quite as easily applied to the colloid carbohydrates as to proteids and can be equally well used for the purpose of discriminating one from another. 5. Hydrolysis of Glycogen, by M. Christine Tebb. Lastly, the proceedings of the Physiological Society at the meeting of Feb. 12th are given.

Recueil d'Ophtalmologie. Sous la direction des Docteurs GALEZOWSKI et CHAUVEL. 3me. Série. 20e. Année. No. 1. Janvier, 1898.—The articles contained in this number are: (1) M. E. Goblot: La Vision Droite; (2) Dr. Galezowski: De la Thermométrie Oculaire et de son Utilité dans le Diagnostic de certaines Maladies des Yeux; (3) Dr. G. Valois: Retards de Cicatrisation après l'Opération de la Cataracte; (4) Dr. Strzeminski: Complications Oculaires de Zona Ophtalmique. The Proceedings of the Ophthalmological Society of Paris complete the number.

OTTERY ST. MARY COTTAGE HOSPITAL.—The fourth annual report of the Ottery St. Mary Cottage Hospital showed that 53 patients had been admitted during 1897, against 58 in the preceding year. The total income for the year was about £400 and the expenditure £437.

WALTON CONVALESCENT HOME.—The annual report of this convalescent home stated that during the past year 340 patients have been admitted, a larger number than in any previous year. The income amounted to £858 and the expenditure was £848.

# Analytical Records
FROM
THE LANCET LABORATORY.

(1) PROTARGOL; AND (2) IRON SOMATOSE.

(THE ELBERFELD FARBENFABRIKEN CO., LIMITED. LONDON AGENCY: 19, ST. DUNSTAN'S-HILL, E.C.)

CLINICAL results of the employment of protargol in the treatment of gonorrhoea have already appeared in THE LANCET.[1] We have recently had an opportunity of examining this interesting compound in the laboratory. It is a yellowish powder, quite soluble in water, containing silver in combination with a definite protein. The solution is not decomposed by dilute salt solution or by weak hydrochloric acid, but on adding strong hydrochloric acid chloride of silver is obtained, and on filtering the mixture the protein substance is found in the filtrate free from silver. The solution of protargol is powerfully bactericidal and is specially applicable to the treatment of wounds and to broken surfaces where pus largely occurs. As a germicide it appears to yield excellent results, particularly in the destruction of gonococci. Iron Somatose is a cocoa coloured powder which dissolves in water to a dark brown solution. The compound is quite tasteless. Our analysis showed it to be a compound of proteoses with iron, the former amounting to about 80 per cent. and the latter calculated as ferric oxide to 4·5 per cent. This interesting iron compound presents not only the iron in a form that is easily assimilated and appropriated by the blood but also a proteid substance of admitted nourishing value. It possesses none of the drawbacks of the ordinary inorganic iron compounds; it is not astringent and would appear to have a laxative rather than a constipating effect. In a pamphlet before us the results go to show that the health and general condition of patients to whom iron somatose was administered improved quickly, the weight of the body being increased and the amount of hæmoglobin in the blood being decidedly augmented. Iron somatose is indicated in anæmia and chlorosis, in which conditions it is said to have given very encouraging results.

SPECIAL BREAD.

(JOHN BROWN, 45, HAMILTON-STREET, GREENOCK.

The analysis of this bread confirms the claims made in regard to it as to its special dietetic properties. Microscopical examination shows that it is composed of a mixture of pulse and cereal foods, which considerably augment its nitrogenous value. On further examination the bread proved to contain a rich proportion of soluble carbohydrates due to the use, in the course of preparation, of well-known digestive agents. The bread is free from rough, irritating particles of bran. The taste is sweet and nutty. The loaf possesses a special food value and is wholesome and nutritious.

WELCH'S GRAPE JUICE.

(THE WELCH GRAPE JUICE CO., WESTFIELD, NEW YORK U.S.A. AGENCY: TAYLOR AND WEAVER, 12, LANCELOTS HEY, LIVERPOOL.)

Judging from the flavour and general characters of this juice there can be little doubt of its genuineness, while care is evidently taken in the selection of the grape and in the preparation of the juice. We found, however, that the juice contained a comparatively large amount of salicylic acid as preservative. This recourse in our own experience is not in the least necessary and may lead to harm in some persons. Grape juice is very easily sterilised and preserved in that condition for almost any length of time in bottle. In that case it has the advantage of being entirely free from antiseptics which might prove objectionable.

CROWN STOUT.

(MOUNTJOY BREWERY, RUSSELL-STREET, DUBLIN.)

The nourishing qualities of stout are due mainly to a comparatively high proportion of malt extractives, which, consisting principally of maltose and dextrine, offer little task to the digestive organs. The sample before us is marked by an excellent proportion of these extractives, while at the same time the alcoholic strength is by no means excessive. The results of analysis were as follows: malt extractives, 9 0 per cent.; mineral water, 1·38 per cent.; alcohol, by weight 4 62 per cent., by volume 5·78 per cent., equal to proof spirit 10·13 per cent. The mineral matters consisted almost entirely of soluble potassium phosphate. The stout was in good condition, ripe, yet free from undue acidity, and possessed a characteristic malty flavour.

THE COMPOUND SYRUP OF GLYCERO-PHOSPHATES.

(ROBERTS AND CO., 76, NEW BOND-STREET.

The composition of this preparation is in accordance with well-ascertained principles and facts. Glycero-phosphoric acid, as is well known, is a constituent of lecithin—a material existing in the nervous tissues and blood corpuscles—which plays an important part in the nutritive processes. It has been observed that in neurasthenic patients under the same diet and regimen certain among them eliminated relatively large amounts of unoxidised phosphorous compounds, which was attributed to the excessive destruction of lecithin. In such a case phosphorus is indicated and the best form for this purpose has proved to be glycero-phosphoric acid, lecithin itself, as we have just remarked, being a glycero-phosphoric compound. The preparation submitted to us contains the glycero-phosphates of calcium, sodium, potassium, magnesium, and iron as principal ingredients, but other things are present, such as pepsin and diastase, which add to the value of the formula. It is a bright red syrup, of plum-juice taste, but slightly bitter, and having an acid reaction. It is obviously a compound which requires care and skill in preparation and from the satisfactory appearance of the syrup submitted to us these factors are evidently well borne in mind. The syrup was quite clear and free from sediment. The combination is said to have given excellent results in practice.

PICTET'S ETHYL CHLORIDE.

(AGENTS: THOMAS CHRISTY AND CO., 25, LIME-STREET, E.C.)

In THE LANCET some years ago we ventured to predict that excessively low temperatures would ultimately be employed as a means of separating and purifying substances intended for medical purposes. The above liquid is an instance of this means of purification now being undertaken in practice. The properties of ethyl chloride are well known. By reason of its rapid and uniform evaporation it is employed very conveniently as a local anæsthetic in minor surgical operations. An important improvement has recently been made both in the construction and the shape of the glass vessel containing Pictet's ethyl chloride. The vessel is made so as to stand upright and on the shoulder a screw valve is attached connected with a bent glass tube, which dips to the bottom of the liquid when the vessel is in the upright position. To obtain a spray the valve is simply removed and a jet of liquid is then ejected by the pressure of its own vapour within the bottle. On turning the vessel upside down the flow of liquid soon ceases as in this position the end of the syphon tube projects above the level of the liquid. The curved glass tube is useful also in preventing the capillary opening from getting blocked.

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[1] THE LANCET, Dec. 18th, 1897, p. 1622.

THE LANCET.

LONDON: SATURDAY, MARCH 26, 1898.

THE Vaccination Bill, like every other mundane thing, has its merits and its demerits. Beginning with the latter, they are mostly faults of omission and we have no doubt that in Committee amendments will be brought forward which will at least give the Government an opportunity of adding to the Bill what it should have originally contained. The reason for the omissions is probably to be found in Mr. CHAPLIN'S anxiety to get the measure successfully through Parliament without any very lengthy discussion. In presence of large political questions both home and foreign the time that can be devoted to a public health subject even so important as vaccination is not likely to be great. It will, however, be the duty of the profession to try to influence the course of events in such a way as will make the Bill a more useful and more workable means for preventing the spread of small-pox than it would be in its present form. And in saying this we are far from expressing any out-and-out condemnation of the Bill. So far as it goes there is, indeed, little to find fault with, but it does not go nearly far enough.

No fact in medical science has been more fully established by world-wide experience than the power of re-vaccination to renew the protection against small-pox given by primary vaccination. It is, indeed, universally recognised that as a supplement to the original operation performed in infancy its repetition is a practical necessity if all the protection is desired which the Jennerian prophylaxis is capable of affording. It is hard to see why Mr. CHAPLIN in his Bill should deliberately shirk so important a fact. If vaccination is to be a matter of State concern there is no getting over the conclusion that it ought to embrace re-vaccination as well as primary vaccination. No possible reason can be adduced for dealing with the one and omitting to deal with the other. The facts, indeed, are not in dispute excepting by those who deny any virtue to vaccination. Nor could any opportunity more suitable than the present be found for remedying this great defect in all previous vaccination laws passed in this country. The introduction of calf lymph, accompanied as it must be by the final disappearance of that greatest though almost imaginary bugbear, the fear of the inoculation of syphilis, puts the Government in an exceptionally strong position with regard to legislation for re-vaccination. We care little here for details as to compulsion or non-compulsion. The essential point is that before a child leaves school the parent should not only have brought before him, directly and formally, his duty to secure the further protection of his child against small-pox, but the opportunity of carrying out that duty should be definitely given to him. Whether this should be done by the public vaccinator systematically calling at schools or by domiciliary visitation intimated beforehand is of little moment. Neither is it of moment to insist here on repeated penalties or single penalties or any penalty at all. There would surely be no hardship in asking that in the event of a parent getting timely notice of the proposed visit of the public vaccinator, and of the parent's desiring that his child should not be vaccinated, he should be put to the trouble of going to a magistrate or a registrar to declare and record his "conscientious" objection, and so save the vaccinator an unnecessary visit. No matter how slight the pressure towards re-vaccination might be, even, indeed, if there were absolutely nothing but the formal offer of the immediate performance of the operation by the public vaccinator, the parent with the child being present, we are persuaded that a very large number of re-vaccinations would be done, and a correspondingly large amount of national protection against small-pox obtained. There are tens of thousands of parents who have a general belief in the need for re-vaccination, but before whom the question is never brought in concrete fashion at any particular day and hour. The actual meeting of the parent and child with the public vaccinator, prepared there and then to vaccinate, could not but be followed by a large increase in the vaccinal protection of the adolescence and manhood of the country. Moreover, it is easy to suppose that even parents who, fearing some risk to their babies, had paid a fine, or had had a fine paid for them out of the "defence fund" of the Anti-Vaccination League, might yet in the ten years or so of interval have had these fears removed, or have seen cause to fear small-pox more, and so have become willing that their sturdy boy or girl should undergo the little operation which they had objected to when the subject was only a puling child. This is the first and most important point on which the Bill requires amendment and, as we have said, the question of compulsion is of little importance here compared with the question as to whether the State shall or shall not for the first time in English legislation recognise that re-vaccination is a matter of Governmental and national concern. It is unnecessary here to do more than just refer to the defect which we pointed out last week—i e., the failure of the Bill to transfer the administration of the law from boards of guardians to sanitary authorities and so do away with the conflict so often experienced in times of epidemics between those whose duty it is to quell the outbreak and those who have neglected the most important means of prophylaxis.

Still another point is that something should be done towards attaining greater uniformity in the amount of vaccinal protection conferred on children and towards the registration not merely of the fact of vaccination but of the amount of vaccination. Every vaccination certificate should state the number and area and perhaps also the foveation or non-foveation of the scars left by the operation, though this last requirement as to recording foveation would be troublesome to fulfil. Another question is as to the payment of vaccinators for this work of visiting children at their houses, either when sent for by the parents or when fulfilling the provision in the case of children who have reached the age of nine months without being vaccinated. Supposing that in a rural district the child lives five or ten miles from the public vaccinator and that he goes only to find the door locked, or to be refused permission to vaccinate, or that, when at last he does get the vaccination done, he has to revisit in order to certify, how is he to be rewarded for all this work? Echo answers How? But the Bill answers nothing. The omission is so preposterous that it almost looks as if this part of the Bill were a *ballon d'essai*, launched by Mr. Chaplin in the expectation that some suitable guidance will be afforded him during its passage through Parliament.

The setting back of the "compulsory age"—if the term may be so used—may help to reconcile many parents to the operation, and it will make impossible many charges brought against vaccination as an alleged cause of skin eruptions and what not in the earlier months of life. In the march of an English generation through life, so eloquently described by Dr. Farr, many fall by the way even during the first year. Vaccination is not infrequently blamed for deaths in which it has no kind or degree of share and in delaying the operation till towards the close of the first year such blame will to that extent be rendered impossible.

The use of glycerinated calf lymph will have a similar tendency to render impossible some suspicions which, however unjust, have been largely fomented by anti-vaccinationists and have undoubtedly been a main factor in producing resistance to the present law. If a calf lymph vesicle be ruptured and irritated and fouled a sore arm may follow as before and no expedient can prevent occasional evil results from parental neglect and carelessness. But syphilis cannot be caused by calf lymph, erysipelas cannot be inoculated by such lymph sterilised by glycerine, and as the vesicles will not be opened by the vaccinator the risk of any subsequent infection will be correspondingly diminished.

The question of compulsion yet remains for consideration. Medical men who know how terrible a disease small-pox is and who know the value and safety of vaccination are apt to have little patience with parents who are so misled as to refuse to protect their children against variolous disfigurement and death. Medical sympathy is with the helpless children rather than with the chimerical alarms of the fathers of these children. But in so far as fears really exist, however unscrupulous and shameful may have been the means by which they were excited, they must have some heed paid to them, and having done his best to allay such fears and to make vaccination even a safer procedure than before, Mr. Chaplin cannot, we think, be blamed for deciding that no more than a single prosecution can be raised, and no more than a single fine exacted, with regard to any child. We cannot compel parents to be wise, and we cannot in some cases prevent their offspring paying the penalty of their unwisdom. The Anti-Vaccination League will be even less satisfied than the medical profession with the part of the Bill dealing with this question of compulsion. They desired that parental folly should have its full fruition. In this hope and purpose they have been baulked. Mr. Chaplin's proposal is a compromise, but it has the merits as well as the defects of a compromise, and we are of opinion that it should be accepted as a genuine effort to settle a very difficult question between the rights of the individual and the rights of the State.

Leaving this matter of compulsion as it stands, the aim should now be to get re-vaccination provided for in the Bill, to get sanitary authorities appointed to administer the vaccination laws, to secure that work done by public vaccinators shall be paid for, and to have the amount as well as the fact of vaccination properly recorded with regard to every individual case.

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The criticism most commonly passed upon London by visitors whose lives are spent for the most part in Paris or Vienna or Berlin is that it is a dirty city, and for a nation which rather boasts of its cleanliness this criticism is undeniably galling, especially as it is impossible without palpable disingenuousness to deny its justice. London has many great merits. It is picturesque, it is gigantic, it is impressive. Its practical advantages over other cities are not inconsiderable. It is well-drained, and, on the whole, well built. Though its size is vast communication between its different parts is, on the whole, swift and easy. As a city of pleasure it has advanced rapidly towards the first position during the last twenty-five years, while as a city of business it has no rival. All this and more may be said in its favour but the original criticism still holds, it is not clean.

Can anything be done to make it clean? The practical difficulties are enormous but they ought not to be insuperable. We have only to compare the City with the West End in this respect to see that the problem is not insoluble if London as a whole were willing to expend the necessary care and money on it. The bill, no doubt, would be a heavy one, but when we consider the amount of expense that is entailed upon individuals by vestries who leave two inches of liquid mud to accumulate for half a day in the gutters or to lie in pools upon the roadways that cabs and omnibuses may have a source whence to bespatter the passers-by we cannot feel certain that the present system is not a false economy. If the shopman whose windows are plastered with mud from top to bottom, the lady whose clothes are at the mercy of every passing vehicle, together with all those whose business it is to clean cabs and carriages and vehicles of all descriptions, not to speak of horses, realised the amount of extra expense or labour entailed upon them by the condition of the London streets, they would agree that any extra money devoted to cleaning them would be well expended. Of course this argument applies with especial force to the West End, but there is much to be said for improving the street-cleaning throughout the metropolitan area if only because dirt is easily conveyed from one part of London to another by cart-wheels and horses and pedestrians and therefore one unclean district means a centre from which mud may be distributed in districts which are more thoroughly cleansed. The great problem with regard to the cleaning of London is unquestionably the paving problem. If London could decide upon one uniform pavement for its streets which should present a smooth and even surface the difficulty of cleaning would be greatly diminished. Asphalte is, perhaps, the paving which most nearly answers these requirements, and in the City the use of asphalte, as far as cleanliness is concerned, has been attended with most satisfactory results. But asphalte is supposed to be very trying to horses and West and South London have to put up with wood or stone paving or macadam. Macadam and stone and wood paving where they are at all worn cannot be cleaned at all in any thorough sense where there is much traffic. The London vestries appear to realise this only too clearly in districts where these pavings prevail and as soon as rain begins to fall suspend the operations of street-cleaning until it is fine again. This system may be economical but it cannot be called efficient. It may, no doubt, be urged that the expense of cleaning the whole of London as thoroughly as, for example, the City is cleaned would be too heavy for the vestries to undertake or the ratepayer to bear. The staff required for the task would be enormous, while the mere machinery of additional carts and horses for removing the dirt which the sweepers collected would be a serious item. But this, after all, is a question of degree and though a clean London may be an utopian dream a cleaner London is not too much to ask for. The real crux of the problem, however, is still the question of pavement, and of that, so far, no solution seems to have been found. It may be questioned, however, whether some form of shoe might not be devised which would enable horses to use asphalte roads without unnecessary slipping and a consequent sacrifice of efficiency, though we may admit that it passes the wit of man to devise a shoe which shall be equally suited to all the different methods of paving which a horse may encounter in the course of half an hour's journey in London.

We have spoken only of the discomforts arising from this condition of affairs. There is, of course, another aspect of the question which is at least as serious, the sanitary aspect. Not merely are the streets of London a sea of mud in wet weather but even in dry weather they are highly unsatisfactory. When it is hot the wood pavements of the West End are admittedly insanitary and when it is windy the very air we breathe is charged with minute particles of dust and chaff and other and more undesirable matter. Here, too, it will be urged that in a great city there will always be dust and dirt and nothing will prevent their presence, but this matter also is one of degree and there is no fair reason why a nuisance of this kind should not be reduced to the smallest possible limits. It is absurd, for example, that every cab-rank in London should be daily littered with chaff which no one save the wind takes the trouble to sweep up. We should like to see some municipal reformer arise who would seriously take in hand the problem of the cleaning of London streets. He would be conferring a benefit not upon Londoners alone but upon all that vast population who from time to time find it necessary either for business or pleasure to visit London.

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ACCOUNTS from all quarters agree that the epidemic of measles through which we are passing is one of unusual severity and extent. Practitioners find the cases are so numerous and acute as to occupy much of their time and care, and medical officers of health find that the mortality from the disease is spoiling the account they have to render of their stewardship and giving an exceptional severity to the mortality of the late weeks and months. Mr. A. E. HARRIS, the medical officer of health of Islington, reports 72 deaths in the fourth quarter of 1897, the largest number recorded for the same quarter in twelve years with two exceptions, 1888 and 1891, when 91 and 93 deaths respectively occurred. Mr. HARRIS reflects somewhat severely on the School Board teachers for failing to give effect to Article 148 (ii.) of the Code of the School Board of London, whereby the Public Health Department was undoubtedly deprived of valuable and early information of cases. It became necessary owing to the prevalence of the disease for the Public Health Committee to avail itself of its powers, under Article 88 of the School Code of the Education Department, to call on the School Board for London to close several schools. In an annotation in THE LANCET of March 12th we referred to a report by the medical officer of health of Blackpool on the epidemic of measles in that borough last year and both this report and that of Mr. HARRIS show that the mortality falls chiefly on children below five years of age. The Blackpool tables show that males are more subject to attack than females and that the mortality among them is greater.

Similar accounts reach us from all parts of the country and occupy a large amount of space in the columns of our daily contemporaries. Dr. REGINALD DUDFIELD told an interviewer of the *St. James's Gazette* that in Paddington more cases had occurred in two months of this year than in all the year 1897. He is reported to have said that measles and whooping-cough were the special diseases of childhood and caused more deaths between them than any other. In Mid-Cheshire upwards of 200 cases have occurred. In West Herts 1000 cases are known to exist. In Burton-on-Trent the Grammar School, girls' school, and Sunday schools have been closed. In Stretford (Manchester) 727 cases are reported and the prevalence of the disease is attributed to the carelessness of the public in regard to the disease. The medical officer of health, Mr. HESLOP, says that the epidemic there confirms the statistics of the Registrar-General, showing that 60 per cent. of the deaths from measles occur in children under two years of age and about 90 per cent. in children under five years. At Lancaster an epidemic affecting 1185 persons has been investigated by Dr. THEODORE THOMSON, of the Local Government Board. The cases occurred mainly in the first quarter of 1897. The deaths from Dec. 5th, 1896, to July 15th, 1897, were 51. Dr. THOMSON finds that schools were the chief medium of the rapid extension of the disease; that no cases were removed to isolation hospitals; that Sunday schools were not informed of the disease; that schools were not closed when they should have been; and that the arrangements for early information of cases from schools were not good. For such defects of information he reflects gently on the sanitary authority of the town and declares that the staff was insufficient for any more effective management of the epidemic. In Townhill, Dunfermline parish, 90 families are said to have been affected.

We have said enough to show that the epidemic is one which ought to make a deep impression on the public. The interruption to school work which it involves is in itself a great loss to the public. It is no slight matter in these days of costly public education to have the machinery of it stopped for weeks together by an epidemic of this sort. Besides, it cannot admit of much doubt that the schools themselves are the chief agents in disseminating the disease.

In London, indeed, a curious diversion of this responsibility has been attempted. BARNUM and BAILEY's show happens to have been the chief popular entertainment of the winter season and it is in everybody's mouth that this show has been the *fons et origo* of the epidemic. The explanation is flippant and superficial. Most practitioners will recognise that a great proportion of their little patients have not been to "Olympia." Moreover, the epidemic had well begun before the show arrived. The high mortality from the disease in Islington was in the three months of 1897 before the show had opened. Possibly in some West-end parishes this exhibition may have been a factor in the case, but for the general diffusion of the disease in the provinces and in the metropolis it cannot be held responsible. Clearly we must look mainly to defects in our sanitary laws and in the sanitary management of our elementary schools. There is a want of cordial coöperation between the school authorities and the sanitary authorities and the sooner this is remedied the better. It is intolerable that our school system should be allowed to be a huge medium for the communication of dangerous diseases. Doubtless measles is a disease which is less easy to control than some others, but that it can be controlled to a great extent seems to be shown by the good effect of closure of schools in this epidemic even with very local and ineffective powers of notification. Apart from its public aspects the disease has been serious and interesting from a professional point of view. Measles is really a very acute disease. It has been not uncommon in the present epidemic to find a temperature of over 105° F. and for the appearance of the eruption to be preceded by several days of oscillating and sometimes severe temperature. The mortality has been large, but the wonder is that it has not been larger considering the "epidemic constitution of the season," as SYDENHAM would have said, and the nature of the disease. As we have previously pointed out, in several weeks the mortality from measles in the metropolis has practically equalled the combined mortality of scarlet fever, diphtheria, and whooping-cough. No disease seems to admit of beneficial guidance and control more than measles. Though so acute in its onset and attended with such high temperature and distressing cough, sometimes with hæmoptysis, it quickly subsides and leaves the patient practically well in a large proportion of cases. Medical practitioners whose work lies among classes that can take care of their children and have the intelligence to put them early under medical treatment never see such a great mortality arising from the disease as we have been speaking of, for under such circumstances the disease is rarely fatal. But such a fact only adds to the seriousness of the great mortality which has been reported lately week after week. We have said that the epidemic should make a great impression on the public, but we doubt whether it will do so, for the impressions produced by epidemics on the public are very evanescent. Even small-pox, with its horrible accompaniments and consequences, is soon forgotten when the actual risk of taking it is over. And measles is still more likely to be forgotten. We shall look with interest to the effect of this outbreak on public opinion as expressed through sanitary bodies and School Boards, and with some hope that these great authorities, on whom so much of the health and happiness of the public depends, will see their way to more hearty and effectual coöperation in the future.

Annotations.

"Ne quid nimis."

THE GENERAL MEDICAL COUNCIL: THE VACANT PRESIDENTIAL CHAIR.

THE death of Sir Richard Quain at this particular time has created a somewhat awkward situation for the General Medical Council. Under ordinary circumstances the business of the Council could wait for the ordinary May meeting, when a new President would be elected and everything proceed in its usual order. But several matters of consequence press at this particular moment and call urgently for an effective head. Chief of these is the request of the Government for the observations of the General Medical Council on the Midwives Registration Bill now before Parliament at the earliest possible convenience of the Council. As the Bill is down for a second reading on May 11th it is not surprising that the Government has sent a second communication to the Council requesting its early attention to this subject. Here arose the difficulty. The Council was not timed to meet, according to its own standing orders, till the end of May. A special meeting was clearly necessary. But power to summon a special meeting resides, according to the Act, in the President, acting either on his own motion or on that of eight members of the Council requisitioning him to this effect; unfortunately, the Council was without a President and the ordinary way of procuring a meeting was not available. The senior treasurer, Sir Dyce Duckworth, has risen to the occasion and has summoned the Council to meet for special business on Tuesday, April 5th, the special business being (*a*) the election of a President in succession to Sir Richard Quain and (*b*) to receive a report from the special committee on the Midwives Registration Bill now before Parliament. It is understood that the report of the special committee is nearly ready for the printer and will soon be in the hands of members of the Council, so that they will have the material for preparing a reply to the Government almost as soon as they meet. According to the standing orders no other business will be entered on at the special meeting but these named on the summons, "*unless the Council by resolution agree to consider such business.*" It is clearly necessary for the authority and influence of the Council that no delay should take place in the appointment of a President. It would not be difficult to name several members who would well befit the office and ably discharge its duties. By common consent Sir William Turner is one of the most capable members of the Council and would make a most efficient and courteous President. Few members have been so long on the Council and few have such a knowledge of its business or have taken such a hearty interest in it in all its details and departments. These are great qualifications and go far to outweigh the disadvantage of his residence in Edinburgh. To mention one more name, Mr. Bryant, who is known to have been Sir Richard Quain's lieutenant on many occasions and to have an excellent grip of the Council's business, would be a very satisfactory choice. The Midwives Registration Bill is the great subject with regard to which the public and the profession look to the Council for sound guidance. The occasion is a critical one. Time is telling in favour of something being done. The simple rejection of actual measures is not a course that can be always pursued with dignity. An evil exists, and if the Council can indicate to the Government a remedy which will not be worse than the disease it will bring credit to the medical profession and dispose of a question which urgently needs settlement.

THE GOVERNMENT AND THE NEW FOOD BILL.

This new Bill, recently prepared and brought into the House of Commons by Mr. Kearley, Sir James Woodhouse, Mr. Horace Plunkett, Mr. Lambert, Mr. Nicol, Mr. Jeffreys, Mr. Channing. Mr. Cawley, Mr. Lough, and Mr. Maurice Healy, presents a different title from those of the Bills previously introduced. Instead of being cited as the Sale of Food and Drugs Act it is simply to be called the Adulteration Act, 1898. The new Bill is constructed almost exactly on the same lines as the comprehensive measure introduced by the same gentlemen in January, 1897, so that the views which we expressed in a leading article in The Lancet of March 6th, 1897, apply equally to the new measure. As we said of the last Bill, the very comprehensiveness of the measure will invite, if we are not mistaken, considerable contention, and it is pretty safe to say that in its present form it will not have an easy passage through the House. We notice that in the new measure additional powers and duties are to be conferred on the proposed Board of Reference. According to the following clauses, these additional powers are: (*h*) to examine and report upon the composition of food and drugs and to describe, investigate, devise, and recommend methods for their examination; (*i*) to prescribe forms of certificates of analysis; and (*j*) to investigate and inquire as to new forms of adulteration, and to acquaint the Local Government Board with the result of such investigations for the information of local authorities or their officers.

SHOULD MEDICAL MEN ACT AS GUARDIANS?

That medical men may with advantage to the public act on boards of guardians there can be no doubt. These bodies are called upon to decide questions in which medical knowledge is of use and in filling up medical and nursing appointments they are able materially to assist their colleagues. Moreover, if the profession were more largely represented on these boards we should probably see fewer of the miserable pittances which now and then appear in our advertisement columns attached to some medical office connected with the Poor law—salaries, so-called, which are derogatory alike to employer and employed. On the other hand, medical men urge that their time is very fully occupied and that their calling is of an exacting nature, and also that in sparsely inhabited districts if a medical man acts as a guardian he may be precluded from acting in various medical capacities in connexion with the Poor-law. We have recently received an inquiry of this sort which raises the question whether a medical practitioner if he be elected a guardian is precluded from maintaining various official or semi-official relations with the guardians Our correspondent writes as follows: "I am the medical officer's deputy to a Poor-law union and workhouse without salary and have been nominated a guardian of the same union (1) Am I disqualified under Section 46 (I. d.) of the Local Government Act, 1894, from being elected or acting? (2) If the answer to this question be in the negative, should I be debarred from accepting a fee for certifying in lunacy at the request of a magistrate under the Lunacy Acts? or (3) from charging a fee for assisting the medical officer in an operation, such as administering chloroform and the like?" Our answer to each of these queries is in the negative It has been held under the old law that a medical officer's substitute may be elected a guardian, and there is nothing in the Local Government Act of 1894 to alter this. This statute only debars anyone from acting as a guardian who is in receipt of a *fixed* salary or emolument from the poor-rate. The Poor-law Board, in point of fact, expressed the opinion that a medical officer's substitute may be elected a guardian. It is, therefore, reasonable to conclude that an *occasional* fee does not debar. As regards the second question, lunacy fees rest entirely with the lunacy justice, and it is only reasonable to apply the same argument. In point of law there is nothing, in our opinion, to debar our correspondent from acting as a guardian and continuing the same official relations as heretofore.

THE NEW PROFESSOR OF BIOLOGY AT OTAGO.

Dr. Benham, so long known as the able assistant of Professor E. Ray Lankester in the department of Comparative Anatomy at Oxford, was entertained at dinner at Magdalen College on March 11th, on the occasion of his leaving England to assume the duties of Professor of Biology in the University of Otago, New Zealand. A numerous company, which included most of the science and medical teachers in Oxford, sat down to dinner under the chairmanship of Professor Vines, who gave expression to the regret of all at parting with so agreeable a colleague. On March 16th Dr. Benham's past and present pupils presented him with a handsome piece of plate. Dunedin is to be congratulated on having secured the services of so distinguished a man of science and the good wishes of all Oxford men follow him to his new sphere of influence.

THE DISAGREEABLE TASTE AND SMELL OF CERTAIN WATERS.

The growth of green slime in water reservoirs is an occurrence which quite baffles the efforts of our water engineers and however pure a water may be this vegetable growth invariably takes place. The rapidity of its growth varies, however, in different waters. Everyone is familiar with the green slime that collects and accumulates on the walls of the cistern. This is not necessarily due to stagnation, for if water be passed for some time through a capacious glass tube without stopping the flow the same green growth occurs. The growth is essentially of vegetable character and is due to algæ and certain infusoria. It is this very growth upon the filter-beds upon which the efficiency of filtration, and especially the removal of micro-organisms, depends. Recent researches have shown that this growth is responsible for the objectionable taste and smell which characterise some waters occasionally. Mr. G. D. Jackson, assistant biologist, and Mr. J. W. Ellims, assistant chemist, of the Massachusetts Board of Health, have recently made an important experimental contribution to the subject, which shows that the peculiar odours and tastes of surface waters may be due, not always to decay, but to the presence of living or undecomposed micro-organisms, either animal or vegetable, in the water affected. This is not surprising when it is considered how characteristic are the odours of some of the larger plants and animals with which we are familiar. In an interesting series of experiments these investigators have been able not only to add to the evidence upon this point by showing that the natural odour of *anabæna* (a blue green alga) is due to a peculiar oily product, but also to draw a sharp distinction between the natural odours of the microscopical organisms found in surface waters and the odours produced by their decay. Thus of the diatomaceæ, the *asterionella, tabellaria*, and *meridion* possessed a natural odour ranging from aromatic to fishy, with no odour of decay. All the cyanophyceæ, including the *anabæna, rivularia, clathrocystis, cœlosphærium*, and *aphanizomenon*, possessed not only a natural grassy mouldy odour, but gave rise also to an odour of decay comparable with that of a "pig pen." Other organisms, as the chlorophyceæ and infusoria, possessed natural odours, as of that of "fish," "ripe cucumbers," "clam shells," and "candied violets." The *anabæna* is marked by a high percentage of nitrogen, sulphur, and phosphorus, and these elements would amply account for the production of an offensive smell produced on decomposition. There is, however, a marked distinction between the odours of growth and the odours of decay of the organisms occurring in surface waters. The usual cause of the disagreeable odours and taste occurring in potable waters is found in the presence of large numbers of certain microscopical organisms which secrete compounds of the nature of essential oils. There is no reason to suppose that these compounds are any more harmful than those which give odour and taste to fresh vegetables or to fish. But the "pig-pen" odour is produced by decay, and although the sanitary significance of these partially decomposed compounds in drinking water is yet to be determined analysis would indicate that their effect upon the general health would probably be prejudicial if it were not for the fact that they occur in such minute quantities. These products may even possess the highly toxic characters of certain alkaloids.

INDUSTRIAL OCCUPATION OF WOMEN AND INFANT MORTALITY.

AT a meeting of the Royal Statistical Society on the 15th inst., under the presidency of the Right Hon. Leonard Courtney, M.P., a very valuable paper was read by Miss Clara Collet, M.A., on the "Extent and Effect of the Industrial Employment of Women." The paper was based upon a careful analysis of the statistics of the occupations of females in England and Wales enumerated and tabulated at the five censuses in 1851–91. Contrary probably to general impressions Miss Collet shows that the proportion of females returned as following definite occupations was lower in 1881 and 1891 than in the three previous census years. The most remarkable change shown in these census returns is the decline in the proportion of women employed in agricultural and farm service, which was in 1891 only one-tenth of that recorded in 1851; marked decline was also shown in the proportion of women employed in silk, worsted, and woollen manufactures, and also in the proportion of seamstresses, owing mainly to the introduction of sewing-machines. On the other hand, an enormous increase has occurred in the proportion of women engaged in the teaching service and the proportion of those returned as tailoresses, mostly sewing-machinists, also shows a large increase. The paper gives special attention to the evidence afforded by available statistics as to the effect of the industrial occupation of women upon infant mortality. Miss Collet, while admitting that the industrial employment of married women with young children is an obvious evil, after an elaborate and careful investigation which we cordially recommend to the special attention of medical officers of health for industrial populations, corroborates the conclusion expressed some time since by Mr. Noel Humphreys, at a discussion on the subject, that the factory employment of women is not the main cause of the high rate of infant mortality in Lancashire and other industrial localities. Some very interesting tables are given in the paper showing that there is much more constant relation between infant mortality and the social condition of different town populations, measured by the proportion of domestic servants employed, than there is between the proportion of industrial occupation among women and infant mortality. The census returns do not, unfortunately, show separately the occupations of married and single women, which information is to a large extent necessary to the satisfactory elucidation of the problem dealt with in Miss Collet's paper; by an ingenious method, however, she is able to ascertain the minimum number of industrially employed women in each of the manufacturing populations to which her investigations are principally devoted. The result of these investigations has been to show that no constant relation exists even between infant mortality and the proportional employment of married women in industrial occupations. The effect of industrial employment of women, and even of married women, depends in great measure upon the conditions under which such labour is conducted, and it is not difficult to imagine conditions under which its influence upon infant mortality might be even beneficial, inasmuch as it would make possible better housing, a higher standard of home comfort, and generally more healthy surroundings. There are doubtlessly careful and careless mothers in all classes; but given this admission infant mortality appears to be mainly a class question and bears a far more constant relation to the wages or earnings of the parents than to the proportion of mothers engaged in industrial occupations, which is but one of the many factors which influence this complex question.

A QUESTION OF ANALYSIS?

THE members of the Town Council of the Borough of Maldon have recently availed themselves of an opportunity for expressing their views with reference to the subject of water analysis, and as these views are unfortunately very generally held, though not often so freely expressed, their erroneous character should, in the interest of the public health, be fully exposed. At the outskirts of the town there is a spring rising within a short distance of "some dangerous cesspools down twelve or fifteen feet below the surface," the water from which is piped to a central conduit in the town. This water enjoys a high reputation and is largely used for drinking purposes, being preferred by many to the public supply which is derived from an artesian well. A short time ago the council directed the surveyor to send a sample of the water to Dr. Thresh for analysis. Together with the sample he sent to the analyst particulars as to the source of the water and also mentioned that a cargo of London manure had recently been spread upon the field above the spring. The analytical results do not appear to have been satisfactory, since Dr. Thresh recommended the council to cut off the supply and pointed out to them the grave responsibility which they would otherwise incur. A small minority of the council wished to act upon Dr. Thresh's advice. The majority joined in reprimanding the surveyor for furnishing the analyst with particulars concerning the source. One remarked that "the analyst ought not to know where the water came from," whilst another considered it "a most outrageous thing that the water should be sent for analysis as this was. Surely the analyst could find out impurities without leading strings. Germs might have existed only in imagination in these circumstances." Ultimately, it was decided to send another sample of the water to Somerset House for an opinion which should be unbiassed by any knowledge of the source. It is greatly to be regretted that an assumedly intelligent body of men should be found to give expression to such views. It is obvious from the admissions of the councillors that the spring is in immediate proximity to most dangerous sources of pollution and the analysis evidently showed that traces of polluting matter were to be found in the water. At any time this contamination may become specific in character and a serious outbreak of disease result. Notwithstanding this and the terrible and recent experience at Maidstone, the council desire to avoid cutting off the spring and to shirk responsibility by getting a favourable analytical report from some one ignorant of the danger of pollution to which the water is exposed. It is certainly to be hoped that neither the analysts at Somerset House nor any other analyst will venture to express an opinion upon the safety of a water without knowing something of the source from which it is derived. If chemists would make a rule of insisting upon being informed of the possible sources of contamination before giving a report, the public would soon begin to realise that other factors besides the analytical results have to be taken into account before a water-supply can be certified to be free from risk. The Maldon Council were wisely advised by Dr. Thresh and will incur the gravest responsibility if they do not promptly cut off such a dangerous source of supply.

THE ABSENCE OF COLLAPSE IN A CASE OF PENETRATING ABDOMINAL WOUND.

IN another column we publish a very remarkable case which recently came under the care of Dr. zum Busch at the German Hospital. To put the facts shortly the patient fell from his bicycle, breaking the handle-bar, and receiving a blow in the epigastrium. His brother, who had been riding in front of him, was also bruised. Both brothers walked some three miles to their home and then to the hospital, as the one who had been riding in front complained of his knee. When there the injury to the second brother was discovered owing to his suddenly turning very pale, upon which the house surgeon insisted upon undressing and examining him. The nature of the injuries is graphically described by Dr. zum Busch. That a man should be able to walk three miles when suffering from an injury of this magnitude is remarkable enough, but perhaps it is even more so that he should have been quite unconscious of having received any injury other than a slight graze on the chin and "possibly on the abdomen." But Dr. zum Busch quotes three other cases of a similar nature, and some fourteen years ago a patient was brought into St. Bartholomew's Hospital with a large portion not only of his abdominal wall blown away, but also a great portion of his stomach, by the explosion of a bottle of compressed gas. This man said "that he thought something had happened but he did not quite know what." He was perfectly sensible and only slightly collapsed. The cases reported by Dr. zum Busch are additional evidence of the extraordinary toleration which the abdominal cavity sometimes exhibits to very severe injuries when they are diagnosed and treated in the prompt and skilful manner reported in this instance.

ACTION AGAINST SOLICITORS FOR NEGLIGENCE.

A CASE was heard at the Durham assizes recently which is of interest both to the medical and legal professions. It was an action against a firm of solicitors for negligence. In November, 1893, the plaintiff, who was then a waitress at a café where she is now manager, was seized with typhoid fever, and her medical man informed the sanitary authorities and she was removed to the fever hospital. The fever was accompanied with distension of the abdomen which excited the suspicions of the nurses in attendance upon her. They informed two of the medical officers at the hospital and according to the plaintiff's account notwithstanding her protests they insisted upon examining her and then asserted that she was pregnant and she was turned out of the hospital. She was examined by her own medical man and two others, who all agreed that the charge against her was unfounded. She instructed the defendants to bring three actions, two separate actions for slander against the medical officers and a third against the corporation of Sunderland and the medical officers for negligence, breach of duty, and assault. The defendants agreed, she said, to take up her case on the chance of getting their costs out of the other side. They issued writs in February and March, 1894, and delivered statements of claim in August of that year, but had, she alleged, taken no further steps in the action. One of the medical officers made an offer of £100 and costs through a friend, but by their advice she refused to accept this amount. He had since died and some of her witnesses had also died or gone away and could not be found, and consequently her prospects of success in the actions were now very remote. The defendants denied that they had been guilty of any negligence whatever. They had not undertaken to conduct the action on speculation but, on the contrary, had told her distinctly that she must provide the funds or they would not act on her behalf. She neither provided the funds nor the evidence to enable them to comply with an order for particulars or to prove her case and would not allow them to settle the case on her behalf upon reasonable terms. The jury found a verdict in the plaintiff's favour for £50. The medical evidence, if any were given, is not detailed in the reports which have reached us. Such cases are most troublesome to the medical men concerned, but in this case in the absence of the medical evidence we are unable to comment further.

THE MANCHESTER CORONER ON MIDWIVES AND THEIR CERTIFICATES.

THE city coroner of Manchester has been investigating, as will be seen by our Manchester Correspondent's letter in THE LANCET of March 19th, the death of a child which was attended with peculiar circumstances. The child was born the day after the marriage of the parents. The mother was attended by a certified midwife, who gave a certificate to the effect that the child had only lived six hours and was prematurely born. The registrar refused to accept the certificate and so the matter came to be investigated by the coroner. The divisional police surgeon gave evidence. He had made a post-mortem examination. The birth was premature; the lungs had never properly expanded and death was caused by exhaustion. He said that it was impossible that the child could have cried. If artificial respiration had been practised no doubt the child would have lived. The grandmother said that she suggested that a medical man should be sent for, but the nurse said it was not necessary. The nurse denied that such a suggestion was made by anyone. So much the worse. The coroner was very severe in his remarks, reminding the midwife that she was only a nurse and not a doctor, and that it was her duty in any such case to have summoned a medical man or to have advised the people to send for one. The coroner would do well to forward copies of his depositions to the Home Secretary and to the General Medical Council, who both have this great evil under consideration. He would do well, too, to forward a copy to the Council of the Obstetrical Society, who have the responsibility of having given a certificate to this midwife. It is high time that some effective punishment should be enacted for midwives who fail to summon medical assistance in cases in which the life of either the child or the mother is at stake.

THE PRESENCE IN THE BLOOD OF FREE GRANULES DERIVED FROM LEUCOCYTES.

M. F. MÜLLER, an assistant in Nothnagel's clinic in Vienna, in 1896 described certain "small, generally round, colourless granules" which he found constantly present in the freshly drawn blood from healthy and diseased persons. These granules are readily distinguishable from blood plates. Dr. William Royal Stokes and Dr. A. Wegefarth conducted a series of observations in the bacteriological laboratory of the Health Department of Baltimore, and their results were published in the *Johns Hopkins Hospital Bulletin*, No. 81, December, 1897. The paper is now reprinted in pamphlet form. After detailing their experiments the writers sum up as follows: "In the blood plasma and serum of man and many of the lower animals there are present varying numbers of granules which resemble the granules of the eosinophilic and neutrophilic leucocytes in size and appearance. After addition of dilute acids, dilute alcohol, &c., and subjection to body temperature, the granules of the leucocyte assume marked activity, and such treatment increases the number of granules present in these fluids. These free granules are almost certainly derived from the granular leucocytes. The filtration of the serum of the dog and rabbit through new Müncke porcelain cylinders removes its normal property of causing the agglutination and cessation of motility of many motile pathogenic bacteria and of destroying large numbers of these organisms. This property can be partially restored by adding a sediment consisting of leucocytes, free granules, and red blood corpuscles. Since the red blood corpuscles are not germicidal (Buchner) it follows that the restoration of the bactericidal property is due to the addition of the leucocytes and free granules, and that these cells can furnish a germicidal material." From these facts Dr. Stokes and Dr. Wegefarth evolve a theory of immunity but admit that the proof is extremely difficult to furnish since filtration of a sediment even through double filter-paper will allow leucocytes as well as granules to pass. They suggest that the bactericidal power of the leucocyte of the blood and of the serum of man and many animals is due to the presence of specific granules, especially the eosinophilic and neutrophilic. These observers think that the granular leucocytes when called upon to resist the action of invading bacteria may give up their granules to the surrounding fluids or tissues. They consider that this theory explains how apparently cell-free fluids can destroy bacteria.

LEAD POISONING IN THE POTTERIES.

Several questions have recently been asked in the House of Commons with regard to the numerous cases of lead poisoning which have occurred in the Potteries. The Home Secretary has spoken in the House of thirty cases in which such poisoning had admittedly occurred; there have been several deaths and several sad cases of blindness. It is also certain that the cases of illness which are admittedly due to plumbism, and officially returned as such, form but a proportion of the real number. This is deplorable, but it is satisfactory to know that the Government have taken steps to provide a remedy. Dr. Whitelegge, Chief Inspector of Factories, is now completing an investigation, undertaken on the spot, with a view to reporting to the Home Secretary upon the efficiency of the present factory rules, and it is probable that his report will lead in the near future to a better state of affairs by showing the present rules to be insufficient to guard the operatives against so subtle a disease as lead poisoning and by showing also that, such as they are, the rules are not observed. The blame for the non-observance of the rules will probably be found to lie pretty equally between employers and employed and any amendments will be made in the interests of both, but beyond the framing of new rules there lie other important questions. These questions we cannot answer, and we believe that at the present moment no one can answer them, but they are no longer in the air only. They have become of practical importance. Is lead poisoning a necessary concomitant of working in the Potteries? If lead must be used, is there no form which is more innocuous than the form of the metal at present employed? Lastly, if foreign competition is so severe on the manufacturers that the employment of lead in any other way than the way in which it is at present employed would exactly make the difference whether their manufactures can be run at a profit or at a loss, what does sound political economy dictate? If the factories are closed the wages of thousands will be cut off; there will be no lead poisoning and no food. If the factories remain open it seems impossible to prevent occasional cases of lead poisoning, though strict rules and strictness in enforcing them should reduce the number of cases to a minimum.

LONDON UNIVERSITY COMMISSION BILL, 1898.

This Bill passed the third reading stage in the House of Lords on Friday, March 18th, without comment. A deputation of six delegates from the institutions interested in the formation of the University will wait on both sections of the metropolitan Members at the House of Commons on Monday next to point out to them that this is a London question and of vital importance in the interests of education to everyone living in or near the metropolis. The six delegates will be representative of the Royal College of Surgeons of England, the Royal College of Physicians of London, University College, King's College, the Theological Colleges, and the Medical Schools.

COLONIAL MEDICAL SERVICE ORGANISATION.

The committee elected at a public meeting, held at the Imperial Institute on March 2nd, 1898, to deal with this question, met for the first time on Monday, March 21st. The committee consists of Sir Joseph Fayrer, Bart. (chairman), Sir Wm. des Voeux, Sir Guyer Hunter, Sir Dyce Duckworth, Surgeon-General Reade, C.B., Mr. Osbert Chadwick, C.M.G., Dr. J. Anderson, C.I.E., Dr. V. Corbould, Dr. R. W. Felkin, Mr. John Furley, Dr. H. P. Hawkins, Dr. A. P. Hillier, Dr. A. Keith, Dr. H. M. Murray, Dr. H. W. McLeod, Mr. T. H. Richards, Dr. W. J. Simpson, Mr. W. G. Spencer, Dr. G. Thin, Mr. J. G. Turner, and Mr. J. Cantlie (honorary secretary). The committee drew up a resolution to be forwarded to the Secretary of State for the colonies to the effect that "it is desirable to organise the Colonial Medical Service on lines parallel to the other public medical services."

FEES AND CERTIFICATES OF DEATH.

A remarkable case has just been tried at the West Ham police-court where a medical practitioner named Blewitt was summoned for refusing to give a death certificate without reasonable cause. The facts of the case were as follows. Mr. Blewitt had attended a woman named Desborough in her confinement and also the baby, who died upon Dec. 2nd, aged two months. When the father called for a certificate Mr. Blewitt is reported to have refused to give one until he had been paid his fee for attending Mrs. Desborough. As the child could not be buried an inquest was held at which Mr. Blewitt attended, receiving his fee of one guinea. In his evidence he said that signing certificates took up a certain amount of time, that that time could only be obtained by special appointment, and that appointment could only be made upon payment of a retaining fee. As he had never been paid for attending Mrs. Desborough he turned the fee for attendance on her into the retaining fee for the death certificate. At the police-court he was fined 40*s.* and costs—in all £5 9*s.* 6*d.* Now this shows very well the hardships to which medical men are liable. First of all the delay which occurs in their receiving payment for services rendered; secondly, the responsible duties laid upon them by the State which they have to give without fee or reward. But it also points the moral that illegalities should not be committed because the law is bad. Mr. Blewitt was quite in the wrong in saying that death certificates could only be obtained by appointment, such appointment having to be paid for, and by his action he necessitated an inquest and put the ratepayers to an unnecessary expense. It savours of a Gilbert comic opera to see a man receiving a fee for giving evidence in an inquiry which has been set on foot owing to his illegal action, but the fact remains that even if he does get, or has got, paid he will still be out of pocket by the amount of £3 16*s*. 6*d*.

A "NOSE COMPETITION" AT MILAN.

THE nose has at all periods of their history possessed a peculiar significance for Italians. As a symbol of intelligence it figures in familiar speech ancient and modern, a "homo nasutissimus" being Seneca's equivalent for a very clever man and "Naso" a name held in honour by the Otacilian, Octavian, Ovidian, and Voconian "gens," while "Nasica" was a cognomen of the Scipios, one of whom, Publius Scipio Nasica, was, as the most virtuous man in the State, chosen to accompany the image of the Mater Idæa to Rome. In the Italy of to-day "aver naso" and "esser di buon naso" (to have nose, to be of good nose), are the first of a series of phrases all turning on that feature in its symbolic sense, and giving rise to proverbs infinite in the variety of their application. The great Napoleon was true to his Italian origin in his preference for a "big nose," and the late Lord Beaconsfield, descended from Venetian Jews, never concealed his scorn for the "flat-nosed Frank." He held, in fact, that to be "simus" was the first step towards being a "simia" or ape—a "retrocession in evolution" admitted by some among the "facts for Darwin." Such a horror have Italians of any lesion costing the face its nose or robbing the latter of its due proportions that rhinoplasty among them has long been one of the "surgical fine arts" and the great Bolognese anatomist Tagliacozzi (1546–99) has for all time given his name to an ingenious method of replacing the feature when lost. Quite in keeping, therefore, with all precedent as well as with the fitness of things it is in Italy that we find the "cult of the nose" as vital as ever, insomuch that within the last seven years she has had two "Concorsi di Nasi" (or nose competitions) in which the owners of the feature received prizes according as they could present it in greatest perfection as regards type, size, beauty, and olfactory power. The former of these "Concorsi" was held in 1891 at Padua on the initiative of the students of that medical school and the citizens were invited "con ischeda segreta," by universal suffrage and secret voting, to name the possessors of "i nasi più sviluppati e rispettabili" (noses the most pronounced and respectable) of the ancient Venetian town. The prizes, consisting of pocket-handkerchiefs and snuff-boxes, were in due course awarded by plurality of votes. At Milan, and quite recently, a much better ordered and more conclusive competition of the same kind has just come off, the whole proceedings being controlled by a committee and the "examinations" conducted in a "Nasoteca" furnished with drawings and water-colours of heads well provided with noses, such as would have gladdened the artistic sense of William Hogarth. The competitors numbered thirty-six but not more than twenty-three appeared before the "examiners." The first prize (gold medal) was won by a Venetian, Fortunato Michielutti by name, a vendor of lucifers, whose nose was found to be of "proporzioni inquietanti, lungo, deciso, ardito, tagliente come una lama di coltello" (formidable proportions, long, well-pronounced, aggressive, trenchant like a knife-blade). The second prize fell to one Antonio Pozzi, possessed of a nose "prepotente, presuntuoso, con nari larghe e cavernose" (domineering, assuming, with nostrils wide and cavernous). The award for this was a medal in enamel; while the third prize (a silver medal of the first order) was adjudged to Carlo Ascani for the refined, symmetrical proportions of his nasal feature. The last two prizes (the fourth and fifth, silver medals of the second and third order respectively) were given for a nose "without pretension, ingenuous, but solid and well planted," and for one "considerable, regular, and worthy of respect." The candidates who were unsuccessful—perhaps "ploughed" would be a more suggestive word—shared the festivities with which the committee concluded its labours; and so the "Concorso di Nasi" became a thing of the past, till the "Buon-temponi" (merry-makers) of a future year or another city think fit to revive the harmless, not inartistic, though dubiously "scientific," competition.

THE NOTIFICATION OF PUERPERAL FEVER.

THE indefiniteness of the term "puerperal fever" is inconvenient, to say the least, especially in regard to the duties of medical men under Section 55 of the Public Health Act. It would be absurd to require the medical practitioners to notify every slight or temporary rise of temperature in a puerperal case under the name of puerperal fever. We have lately written briefly for the guidance of practitioners on this question. The Vestry of St. Matthew, Bethnal-green, has had its attention drawn to this subject by its Sanitary Committee in the following terms, which correspond very much with the views we have expressed:—

> "The committee find that considerable uncertainty exists as to what diseases should be reported to the medical officer of health under Section 55 of the Public Health (London) Act as 'the fever known as puerperal'; they have also ascertained that owing to its indefinite meaning the term 'puerperal fever' has been expunged from the Official Nomenclature of Diseases and therefore recommend that The London County Council be requested to take the necessary steps under Section 56 (6) of the Public Health (London) Act to add to Section 55 (8) of the same Act the names of the diseases included under the heading of 'puerperal fever' by the Registrar-General—viz.: 'Both peritonitis and metritis, when occurring in connexion with parturition, as well as puerperal pyæmia, puerperal septicæmia and puerperal sapræmia.'"

It would be interesting to know how vestries contrive to inform themselves of puerperal fever cases in the practice of midwives, who are not included in Notification Acts.

MR. GLADSTONE'S ILLNESS.

WE regret to learn that Mr. Gladstone's case has entered on a new phase which has made surgical advice necessary. This can scarcely be interpreted in any other way than that there is a serious cause for the symptoms from which he has suffered during the past nine months. At his great age the gravity of any surgical ailment is apparent and the exhaustion consequent on prolonged and severe neuralgia is in itself an unfavourable feature. Mr. Gladstone's vitality, however, is wonderful, and his general health remains good.

THE IRISH WORKHOUSE NURSING ASSOCIATION.

THE annual general meeting of the Irish Workhouse Nursing Association, lately held at the Mansion House, Dublin, was one of unusual interest. Sir George Duffey paid a very proper tribute to the active part which the medical profession has taken in bringing about various reforms in workhouses in all parts of Great Britain, from the time when THE LANCET appointed a Special Commission in 1865 to investigate the state of Irish infirmaries and workhouses down to the present time. Mr. D'Estree Parker, in seconding the motion, referred to the high mortality amongst children in Irish workhouses. Sir John Arnott, when he was Mayor of Cork, had visited the workhouse of that city and found the children in a shocking state of illness, delicacy, and ill-treatment. As a result of that an inquiry was held by the Irish Poor-law Commissioners and it was distinctly proved that as many as 50 per cent. of the children admitted to the Cork workhouse since 1859 had died before they reached the age of fifteen years. After the attention of Parliament had been called to it an Act was passed enabling the children to be boarded out. The concluding resolution was one urging on the Executive Committee of the association the need for systematic effort to improve the condition of children under Poor-law authorities, and to go on with the beneficent work which they have begun towards the abolition of pauper nursing which led to bribery and all kinds of abuses. The association referred to undoubtedly merits the congratulations that were accorded to it. There seems every probability that the introduction of the clauses relating to the improvement of nursing in workhouses in Ireland into the new Bill was largely at the initiation of a deputation of the association which waited on Mr. Gerald Balfour only a few weeks ago, shortly before the Local Government (Ireland) Bill was laid before Parliament.

DOGS AND THE PUBLIC SAFETY.

ANY law which tends to protect the public from the likelihood of being bitten by stray and possibly rabid dogs should find general favour and the Dogs Regulation Bill, as the Government have named their measure framed for this purpose, is an improvement on such fragmentary and spasmodic Acts and Orders as have preceded it. Put briefly it enables county councils to make regulations facilitating the identification of dogs and their owners and assists the police and the public in getting rid of ownerless and destructive animals, while it leaves to the Board of Agriculture the powers which it had already under the Diseases of Animals Act, 1894. These include the prescribing and regulating of dog-muzzling and also the prescribing and regulating of the seizure, detention, and disposal of stray dogs, so that the Board presumably will not only be the sole muzzling authority but will be able to step in and deal with stray dogs in any place where the local authorities have not taken steps to diminish their numbers. The Board will, we imagine, have the power to order universal muzzling; at any rate it will act with more authority and scientific knowledge than is usually at the disposal of local authorities and, if necessary, upon a larger scale. There are, of course, many matters of detail in the Bill that will be criticised and more carefully defined when the Bill reaches the committee stage, as, for instance, the branding to be allowed for purposes of identification, and inserted presumably for the benefit of hounds, while the arbitrary powers given to the police to diagnose and destroy suspected cases found upon the highway will probably be curtailed; but apart from minor alterations the Bill is more likely to find public favour and be enforced by the police than the muzzling orders that have preceded it. The practical question of enforcement remains the chief difficulty.

WELSH WATER FOR BIRMINGHAM.

THE evening discourse at the Royal Institution on March 18th was delivered by Mr. James Mansergh, vice-president of the Institute of Civil Engineers, who took for his subject the bringing of water to Birmingham from the Welsh mountains. The lecture was for the most part occupied with engineering details relative to the construction of reservoirs, dams, and the great aqueduct about seventy-four miles in length which conveys the water to a reservoir in the immediate neighbourhood of Birmingham. The aqueduct has an average fall of sixteen inches per mile and is for the greater part of its length constructed of brickwork and concrete, iron pipes being used in the places where the water is conveyed under pressure. The discourse was profusely illustrated with lantern views thrown on the screen and models of various engineering works together with a relief plan of the collecting area stood on the platform. This area is in the districts known as Elan and Claerwen in Radnorshire; it extends to about 45,000 acres of hill or moorland which would probably not support more than one sheep per acre and is very sparsely inhabited indeed, so that there is practically no risk of local pollution. One of the reservoirs will include the site of Cwm Elan House, where Shelley formerly resided, and the surface of the water will be at a higher level than the tops of the trees surrounding the house. For the accommodation of the men engaged on the very extensive works which are in progress in Radnorshire a village has been built capable of housing 1100 or 1200 persons, all the hygienic and sanitary arrangements being of the most approved modern type. Schools have been provided for the children, recreation halls and baths have been erected, and there are two hospitals, one in the village for the ordinary patients and accidents and the other on a hillside at some distance for infectious cases. To diminish the chance of infectious diseases, such as small-pox, finding an entry into the village casual labourers on first presenting themselves are subjected to a partial quarantine: they are employed in the kind of work for which they are engaged, but are not admitted to the village till they have lived for about a fortnight at a "doss-house" specially provided for them.

THE PHARMACY ACTS AMENDMENT BILL.

IN THE LANCET of March 12th we discussed briefly the principal clauses in the Pharmacy Acts Amendment Bill, which has just passed a second reading. It is easy to understand why this measure is regarded with approval throughout the ranks of the Pharmaceutical Society and by pharmacists generally. It brings with it the promise of a great increase in the membership of the society and at the same time it aims at preserving a good average of qualification. The Act of 1868, which fixes the legal status of chemists and druggists, makes provision practically for two classes of persons—(1) chemists in business before the date of the Act who are *ipso facto* entitled to be registered; and (2) all others, who must pass a qualifying examination. It follows that at no very distant date all registered chemists will have become qualified by examination, while any who are not thus recommended must at least possess the guarantees that go with long experience. Two tests of competence, a "minor" and a "major" examination, have been instituted by the Pharmaceutical Society which is the examining body. At the present time a candidate in order to attain to membership must have passed the major examination. The minor test, however, is fully sufficient to ensure a competent knowledge of the principles and practice of pharmacy. Under the circumstances, therefore, there seems to be every reason why this examination also should carry with it the privileges of membership. To secure this desirable end is in effect the most important purpose of the new Bill. It is only right that further opportunity for discussion and amendment should be afforded in the committee stage, but these are hardly likely to alter materially its essential features. The Pharmaceutical Society, which cannot at present be considered as being in any true sense representative of its own offspring and much less so of the general body of chemists and druggists, would certainly gain in cohesion and corporate influence by the passing of the new Bill. It has already done so much towards providing a body of thoroughly educated druggists that we cannot but regard its proposed voluntary reconstruction as a reform of good omen for the practice of pharmacy.

THE HEALTH OF LORD SALISBURY.

WE are glad to be able to state that Lord Salisbury has been making very satisfactory progress and it is hoped that he will be able to start for Beaulieu to-day (Saturday).

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE St. Patrick's festival dinner of this Association was held at the Café Monico on March 17th, the President, Dr. Mapother, being in the chair. There was a large assembly of members of the Association and guests and a most enjoyable evening was spent. The Association is noted for its hospitality and the number of guests exceeded any previously recorded. One feature of these dinners is the presence of ladies, and although we did not see any representatives of those who hold medical degrees still the fair sex was worthily represented in other respects. Amongst the guests were Lord Charles Beresford, Archdeacon Sinclair, the Ven. Archdeacon Jones, the Vice-Chancellor of Cambridge, the President of the British Gynæcological Society, Inspector-General Lloyd, Inspector-General Whitty, Inspector-General Davis, Professor Ramsay, F.R.S., Dr. Anderson, C.B., Sir Joseph Fayrer, Bart., K.C.S.I., Sir Trevor Lawrence, Lord Oxmantown, the Hon. Charles Russell, the Baron de Bush, Dr. John Anderson, C.I.E., Mr. Reginald Harrison, Dr. Radcliffe Crocker, Mr. Butcher, Q.C., M.P., and there were many others. After the toast of "The Queen and the Royal Family," Professor Alexander Macalister proposed "Our Guests," to which toast Admiral Lord Charles Beresford, M.P., and Sir Joseph Fayrer replied. "The Association," proposed by Dr. A. Hill (Vice-Chancellor of Cambridge University), was responded to by the President. Sir W. Mac Cormac, Bart., President of the Royal College of Surgeons of England, proposed "The Universities" and Professor Ramsay, F.R.S., and the Ven. W. M. Sinclair replied. The hon. secretary, Mr. Freyer, proposed the toast of "The Ladies" and Mr. Butcher, Q.C., M.P., responded on their behalf. Songs by Mr. Frankin Clive and Mr. Douglas Powell contributed to the enjoyment of the evening.

THE ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

IT has long been known that the accommodation at the Royal Westminster Ophthalmic Hospital, King William-street, Strand, is insufficient for the increasing number of patients. The beneficent record of the institution extends back more than eighty years—in fact, to 1816—when it was founded by the eminent surgeon, Mr. G. J. Guthrie, F.R.S., whose perception of the need for such an institution has been justified by the course of events. The existing building dates from 1831 and the committee, feeling that larger premises would enable the work of the hospital to be carried on under more favourable circumstances than at present, have accordingly opened a building fund, a step the reasonableness of which, and in fact the necessity of which, is acknowledged by all who are acquainted with the manifold calls made on the resources of the charity. Loss of sight, whether complete or partial, is one of the greatest deprivations imaginable, especially when the sufferers happen to be persons who have to support themselves and their families by their daily employment, and the work of an ophthalmic hospital seems to have an especial claim on the sympathy and favourable consideration of the wealthy and the charitable for the reasons that, on the one hand, the prospects of the patients, if unrelieved, are too often deplorable, while, on the other hand, the timely intervention of skilled aid is frequently successful in doing much to remedy the effects of injury or disease. Great advances have been made in our knowledge of the structure, functions, and pathology of the eye since the present hospital has been in existence, and the natural effect of this advance in knowledge has been to make operations on the eye more numerous and more successful, to increase the instrumental and therapeutic requirements of ophthalmic surgeons, to add new departments to ophthalmic hospitals, and in almost every way to render larger premises and a larger outlay unavoidable. The long and honourable story of the Royal Westminster Ophthalmic Hospital entitles it to sympathy and support, and for its opportunities to be hampered by lack of means would be grievous in the extreme. The amount sought to be raised in connexion with the building fund is £50,000, which will provide for site, building, and endowment. Of this sum only about £3800 has up to the present been received, and it is essential that £6000 should be obtained during the current year for the purpose of securing a site. In order to bring the needs of the hospital more prominently before the benevolent it has been determined to hold a dinner in aid of the building fund on April 30th at the Hôtel Métropole, at which the Speaker of the House of Commons has consented to preside, and it is earnestly hoped that the result of the committee's appeal may be a substantial addition to the finances of the institution. The annual report for 1897 shows that 644 in-patients were treated during that year, as against 558 in 1896. There were also 10,558 individual new out-patients, who made 26,404 total attendances.

THE SANITARY INSTITUTE.

THE annual dinner of the Sanitary Institute took place on Wednesday evening last at the Holborn Restaurant. In the unavoidable absence of the President, H.R.H. the Duke of Cambridge, the chair was taken by Sir Douglas Galton, K.C.B., President of the Council. There was a large gathering of members and friends of the Institute, the company included Earl Fortescue, Earl Egerton of Tatton, Sir E. Galsworthy, Sir Joseph Fayrer, Bart, Sir A. Blomfield, Dr. R. Farquharson, M.P., Mr. G. J. Symons, F.R.S., Professor Corfield, Dr. Vivian Poore, Dr. Sims Woodhead, Dr. Coupland, and Dr. Whitelegge. After the usual loyal toasts had been duly honoured, Sir Joseph Fayrer proposed the toast of "The Navy, the Army, and Auxiliary Forces," which was responded to by Major-General Carey. Sir A. Blomfield gave "The Houses of Parliament," to which Lord Egerton of Tatton and Dr. Farquharson replied. The toast of "The Sanitary Institute" was proposed by Sir E. Galsworthy, who reviewed the work done by the Institute since its foundation in 1872, and was responded to by Sir Douglas Galton, who dealt with the various departments of its labours and gave many interesting particulars of the manner in which it was furthering the cause of sanitation.

A MEETING of the board of management and medical staff of the West London Hospital and of medical practitioners resident in the western districts of London will be held at the hospital, Hammersmith-road, W., on Wednesday next, March 30th, at 4 P.M., to discuss the subject of hospital reform. All interested in the various questions involved are, we understand, invited to be present.

DR. W. S. CHURCH and Sir Dyce Duckworth have been appointed consulting physicians, and Sir Thomas Smith, Bart., has been appointed consulting surgeon, to the Royal General Dispensary, Bartholomew-close.

The sixteenth Congress of German Internal Medicine will meet in Wiesbaden from April 13th to the 16th under the presidency of Professor Moritz Schmidt. The programme announces that the following important subjects have been selected for discussion and will be introduced by authorities of the first rank: Instruction in Clinical Medicine, introduced by Professor Ziemssen (Munich) and Professor von Jaksch (Prague); the Present Treatment of Diabetes Mellitus, an address by Professor Leo (Bonn); Intestinal Auto-intoxication and Antisepsis of the Bowel, introduced by Professor Müller (Marburg) and Professor Brieger (Berlin). Any medical practitioner may attend the Congress as an Associate (Theilnehmer) by taking a ticket which costs fifteen marks (15*s.*). Associates will be admitted to the addresses, demonstrations, and discussions and will receive copies of the Transactions, for which booksellers will charge about eleven marks.

The interesting case of Harrop *v.* the Corporation of Ossett, in which the plaintiffs sought to restrain the defendant corporation from using a certain building adjacent to their property as a small-pox hospital, came to a conclusion on Tuesday last, the verdict being for the corporation. We shall make full reference to the case next week.

We regret to announce the death of Dr. Charles West, the founder of the Children's Hospital, Great Ormond-street, which occurred on Saturday last. We hope to publish an extended obituary notice in an early issue.

Lord Rothschild, the President of the Royal Hospital for Diseases of the Chest, City-road, has given 200 guineas to the Festival Dinner Fund and Messrs. N. M. de Rothschild have also contributed 100 guineas.

H.R.H. the Duke of Cambridge has consented to preside at the festival dinner to be held in aid of the funds of the Royal Ophthalmic Hospital at the Grand Hotel, Charing-cross, on Friday, May 6th.

The Duke of Fife, President of the Hospital for Sick Children, Great Ormond-street, has given £100 as a donation to start the fund for the purchase of the adjoining Hospital of St. John and St. Elizabeth.

Lord Iddesleigh has accepted the Chairmanship of the Royal Commission which, as we have already announced, is about to be appointed to inquire into the various phases of the sewage question.

Dr. Thomas Oliver of Newcastle-upon-Tyne has been appointed to represent the Home Office at the International Congress of Hygiene and Demography to be held in Madrid in April next.

Lord Lister will preside at the annual festival dinner of King's College Hospital, which will be held at the Whitehall Rooms of the Hôtel Métropole on Tuesday, May 3rd.

A meeting of the Royal Commission on Tuberculosis was held on March 23rd, under the chairmanship of Sir Herbert Maxwell, when the consideration of the report was concluded.

The Worshipful Company of Skinners have granted a sum of £1000 towards the opening of the closed wards of the City Orthopædic Hospital.

H.R.H. the Duke of York has become a Vice-President of the Royal National Hospital for Consumption, Ventnor.

THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

The earlier proceedings of the fifteenth meeting of this Commission, which took place on Monday, March 14th, have already been published in The Lancet of March 19th. Our report broke off at the point where Sir John Lubbock, M.P., presented himself to give evidence.

Sir John Lubbock, in answer to the Chairman, said that in his opinion the purchase of the undertakings of the metropolitan water companies by the London County Council would not be to the interests of the people of London. He did not think that rivers were proper sources for the supply of water for London. To manage the water-supply of London would be a very onerous undertaking and would require a staff of engineers. As things were at present the water-supply was under the control of the London County Council and of the water examiner to the Local Government Board. If the undertakings were in the hands of the London County Council there would be no body to take action so effectively in matters concerning the control of the supply as there was under existing circumstances. From a financial point of view there would be great losses entailed by the purchase of the water companies' businesses by the London County Council. The comptroller to the Council had estimated the present market value of the stock of the London water companies at £39,600,000, and he had contended in the course of his examination that economies would be carried out by the London County Council with regard to administration. In Sir John Lubbock's opinion, however, it would be likely that the salaries of those employed in carrying out the work would be increased rather than diminished. Economy was not a leading characteristic of the London County Council. He could not see any reason for supposing that the collection of the water-rents would be cheaper, and with regard to the matter of stationery in which it was supposed that an economy would take place he thought the idea was a mistaken one. He did not agree with the estimate made by the comptroller with regard to the price at which money could be raised by the Council. He thought that if a large amount were to be raised by that body the price at which the loan was issued would be less favourable than the comptroller wished them to believe. Another objection to the scheme propounded by the Council was the difficulties which would arise with regard to the outside areas and in making arrangements for the water which was to be given to them.

Major-General Scott suggested that there would be engineering difficulties with regard to the distribution of water to the outlying districts.

Sir John Lubbock, in reply, said that apart from engineering questions, on which he could offer no opinion, there must be considerable expense attending the redistribution of the water-supply. The expense of bringing up water from Wales would also be considerable. If they were foolish enough to buy the present undertakings the amount paid for water in London must be considerably increased. Sir Alexander Binnie had suggested that the water supply from rivers might be replaced by a pure supply from Wales and he agreed that that would be the right course.

Mr. de Bock Porter said that he had understood that Sir Alexander Binnie had said that the supply from Wales would be used only to supplement that already in use, and the Chairman remarked that the statements of Sir Alexander Binnie on this point were somewhat ambiguous.

Sir John Lubbock said that, taking into account the price which would have to be given in the case of purchase of the London water companies' undertakings and adding to this the cost of bringing a new supply from Wales, it was surprising to him that Sir Alexander Binnie should have given an opinion that the London County Council would be able to supply water at a price less than that which is charged at present. Comparing the prices charged in London with those in provincial cities it was evident that water consumers in London had in many cases to pay less than the amount charged in other places in which the water was supplied by the local authorities. At the present time with regard to the capital invested in London water companies a large amount of it already received full dividend. In the case of the West Middlesex company the full statutory charges were not made because the maximum permissible dividend could be paid without doing so. What possible benefit, therefore, could it be for the ratepayers to buy such an undertaking? If it did well then the profit would go to the water consumers; if, on the other hand, it did badly, the loss would rest with the company. As things were at present in the case of the district supplied by the West Middlesex Company the consumers were in a state of "Heads I win, tails you lose." Nothing was to be gained by purchase and there was a chance of making a loss. On other accounts it was not desirable that the London County Council should be a great employer of labour. It would be a question whether the staff would rule the Council or the Council the staff. The Commissioners were not to suppose that the London County Council were by any means unanimously in favour of the purchase of the London water companies' undertakings. Many of the metropolitan Members of Parliament were opposed to it. So also were the members for the home counties. Sir John Lubbock recommended a policy of control and with regard to this he advocated a system analogous to that which obtains in India in the case of some of the railway companies. He pointed out that at the present time the water consumers had really an interest in all the undertakings with the exception of the New River Company. The maximum dividend which could be paid to the shareholders of the other companies was 10 per cent. Some of the companies already paid this and in some cases they were paying "back dividends" in addition. When all arrears of back dividends were paid no further dividend than 10 per cent. could be paid. The water consumers, therefore, at the present time had a direct pecuniary interest in the management of the companies' undertakings, for as the profits increased the companies must necessarily reduce the price charged for water. The case as it now stands amounted, therefore, to this, that the present shareholders of the companies held the position of preference shareholders. He suggested that it would be a good thing to place on the board of each company representatives of the ratepayers and that these representatives should see that their interests were properly looked after. In addition to this method of control he advocated that the back dividends should in some cases be reduced and that the companies themselves should be left with their present responsibilities. In this way conflict with outside authorities would be avoided. The interests of the water companies and of the public would also become identical, and therefore any consideration with regard to a new supply would be made much easier. The arrangement he proposed would be fair both to those who had shares in the water companies and to the public. The water companies would escape legal expenses and their position would be secure; the public would avoid undertaking an immense responsibility, would gain all the advantages of purchase and would avoid all its dangers.

In answer to Sir JOHN DORRINGTON the witness said that if the present companies were left to carry on the supply of water he would suggest that the extra supply which would ultimately be necessary should be so arranged that towns lying in the course of its passage from the source of supply to London should be supplied, and if the water companies were not prepared to undertake the Welsh scheme the London County Council might be empowered to undertake it.

Sir JOHN DORRINGTON suggested that this bore a "dangerous resemblance" to a competitive scheme.

Sir JOHN LUBBOCK pointed out that it would be possible to make a binding agreement before the work was undertaken.

The meeting of the Commissioners was adjourned to Monday, March 21st.

The sixteenth meeting of the Royal Commissioners was held in the Westminster town-hall on Monday, March 21st. With the exception of the Right Hon. William Mellor, Q.C., all the commissioners were present. The first part of the sitting was occupied in taking the remaining evidence of Sir John Lubbock.

Mr. H. W. CRIPPS, Q.C., referred to Sir John Lubbock's proposal that directors should be appointed to the water companies to watch the interests of the ratepayers and asked whether the same principle could be applied to railway companies whose dividends were limited by Act of Parliament.

Sir JOHN LUBBOCK said that the suggestion had originated with himself, but there were others who agreed with him that it would be useful and practicable. The dividends of English railways were not limited although the rates which the companies were allowed to charge were under control.

Sir GEORGE BRUCE said that he had never heard of any such limitation, and the CHAIRMAN remarked that he did not think that anyone else ever had.

Major-General SCOTT asked Sir John Lubbock whether he thought that it would be a good thing for some control to be exercised over the companies with regard to the contingencies of future supply.

Sir JOHN LUBBOCK said that the East London Water Company had appealed to Parliament for powers to increase their storage capacity by making new reservoirs, and that at the instance of Mr. Stuart, M.P., the Bill promoted by the Company was defeated. In this case the East London Water Company's directors had foreseen the wants of the future and the proposed work had been opposed by the London County Council.

Major-General SCOTT asked whether it would not be possible to provide against laxity on the part of any company in making provisions for the future and whether it would be possible to have an administrative control which would detect deficiencies and cause the companies to make provisions for ensuring that they should be remedied.

Sir JOHN LUBBOCK thought that if the London County Council obtained possession of the undertakings it would be extremely difficult to exercise any control over them.

Major-General SCOTT referred to the supervision exercised by the Board of Trade with regard to railway works; this supervision was exercised to ensure efficiency. If the water companies neglected to provide for their future wants they could not suddenly make the necessary arrangements for the supply of water, for the work necessary for the construction might take four or five years. Should a breakdown of the supply occur through insufficiency of storage capacity, complaint was useless because the improvements which were necessary to prevent such a contingency could not be carried out in time to be of service, therefore for a time such a catastrophe was irremediable.

Sir JOHN LUBBOCK thought that the directors of the present water companies would be more likely than local authorities to look forward to such a contingency, because it was possible that the companies would suffer in their dividends.

Major-General SCOTT said he was not aware that the companies would suffer in their dividends in such a case as the one he had suggested. Ratepayers had to pay for their water whether they obtained it or not. He asked the witness whether it would not be possible to have in the case of the water-supply an expert authority to examine into the efficiency of the undertakings. In the case of railways, to which he had previously alluded, the Board of Trade provided that the works should be of sufficient strength, but with regard to the water companies future necessities might be foreseen and provided for so that any breakdown in the water-supply would not occur.

Mr. FREEMAN, Q.C., examined Sir John Lubbock on behalf of the London County Council.

The witness said that a large majority of the members of the Water Committee of the late Council were in favour of purchase. With regard to the management of the water-supplies of Liverpool, Birmingham, and Manchester, Sir John Lubbock was not prepared to admit that the undertakings as carried out by the corporations had been financially successful. It was, however, not on financial grounds alone that he objected to the purchase of the undertakings by the London County Council. It was important with a view to securing the purity of water that should the Council acquire the undertakings a central authority should exercise over them some powers of control. In the case of some of the provincial water-supplies which had been mentioned the water was derived from pure sources, whereas with regard to London this was not the case, and it was necessary that the water should be filtered before it was fit for distribution. Filtration required supervision and control.

Mr. FREEMAN suggested that it had been the tendency of Parliament to "insist upon" the transfer of water undertakings to the municipalities which were willing to take them.

Sir JOHN LUBBOCK pointed out that Parliament had never taken the initiative in the matter. In cases in which the municipalities were willing to undertake the water-supply powers had been usually given to them to do so. He did not know of any case in which the water-supply had been transferred to a municipality and had been afterwards given up, and he thought that it would be practically impossible for a municipality which had taken over the supply to go back to the old system.

Mr. FREEMAN suggested that should the undertakings of the water companies be acquired by the London County Council supreme authority would still be vested in the Local Government Board.

Major-General SCOTT pointed out that Mr. Dickinson had suggested that there should be no control over the London County Council with regard to the water-supply, and the CHAIRMAN reminded Mr. Freeman that Mr. Dickinson had stated it as his opinion that the "Representatives of the People" ought not to be controlled by any outside authority.

Sir JOHN LUBBOCK said he agreed with the suggestion of the London County Council that it would be well for London to have a pure water-supply from a distance, but the matter involved very difficult questions. He did not think it would be impossible for the existing companies to obtain water from Wales, and should they undertake this work it might be an advantage for some of the companies to amalgamate, but he did not think any good would come from the amalgamation of the companies on the north with those on the south of the Thames, and with regard to the Kent Company they had at present an ample supply for all their wants. The fact that three of the companies had undertaken jointly to carry out the Staines reservoir scheme pointed to the fact that it was possible that the companies might come to some mutual arrangement by which water could be brought up from Wales for their common benefit. Such a thing was at least possible, but as far as he knew it had not at present been suggested by the companies themselves. In his opinion the London County Council had already such an enormous amount of work on their hands that it would be unwise to give them any more. As an example of the work which the Council had already to do he had brought an agenda paper of the work for one day. The paper contained forty-nine pages and there were on it 150 resolutions. The matters considered dealt amongst other things with a loan of over £200,000, with questions relating to the opposition to be offered by the Council to certain bills now before Parliament, with electric lighting, with tramways, with the fire brigade, with the question of the housing of the working classes, with technical education, with workmen's trains, and with a variety of other matters. The witness thought, to use Lord Rosebery's expression, that it would not be wise to "break the back" of the Council. The Council did their work zealously and displayed capacity and devotion to duty. Every member of the Council had to serve on two or three committees. He thought that it would not be well for the Council to employ more labour because there was also a danger in the case of a body like the London County Council which was directly elected that the interests of the ratepayers would not be considered with regard to economical management with respect to the question of wages. The expenses of administration would also be increased because persons elected to the London County Council had no expert knowledge with regard to matters connected with the water-supply, whereas in the event of the election of a new director to a water company a man who had some knowledge of the matter was usually selected

Sir JOHN LEESE, Q.C., on behalf of the Kent County Council, asked Sir John Lubbock some questions with regard to the opinion of the people in Kent on purchase by the London County Council.

Sir JOHN LUBBOCK said he understood that they were opposed to purchase and that should the undertakings be purchased the people of Kent wished to have control of the water in the part of the county beyond the area of London which was supplied by the Kent Waterworks Company.

Mr. RICHARDS, on behalf of the water companies, asked some questions with regard to the raising of money by the London County Council, and Sir JOHN LUBBOCK again gave his reasons for believing that in the event of purchase of the water companies' undertakings by the Council the London water consumers would have to pay more than they do at the present time, and he pointed out, with regard to the collection of the water rents, which it was supposed that the London County Council would be able to obtain at less expense than the water companies, that the matter would be attended with greater difficulty than some of the witnesses would have them believe. The collection would be by no means simple, because of the number of the London vestries and of the outside authorities. A further difficulty would arise in the case of these customers who were supplied by meter.

The latter part of the sitting was occupied by a speech by Mr. WHITMORE, who described himself as a "practical Parliamentarian," and explained the method by which the different parties in the London County Council were managed.

The next meeting of the Commissioners will be held on Monday, March 28th.

GLOUCESTER AND SMALL-POX.

(Continued from page 809.)

IT is only quite lately that opponents of vaccination have ventured to advance a theory of their own as to why the small-pox epidemic terminated so suddenly. Taking the population of the town at 40,000, there were, roughly, 2000 cases of the disease during the epidemic, and if we assume that 2000 or 3000 inhabitants had at some previous time in their lives suffered from small-pox we still have 35,000 persons to account for. Let it be remembered that at this time there was no hospital isolation to furnish an explanation of the small-pox decline. From March to July inclusive over 1200 cases were treated in their own homes, mostly in those alleged "jerry-built" houses of which Dr. Hadwen complains. There were a thousand or more foci of the disease in the town and there were, say, 35,000 people who had never had small-pox and were in this respect open to the existing infection. Nor had the drains been relaid. It is alleged by Dr. Hadwen that a number of manholes were plugged up. But if the houses were "jerry-built" would not the stopping of the street manholes simply drive the sewer gases into the houses themselves, and if, as he holds, small-pox is a "sewer malaria" would not the gases in bedrooms and living rooms do far more harm than in the open air? The density of population was as before, no new hospital was provided outside the town, and there were centres of infection all over the southern part of it and a good many also in the north. Indeed, a glance at Dr. Coupland's spot maps of fortnightly incidence shows that both north and south there were abundant foci for the spread of the disease and yet 35,000 people were not attacked. What was, what could be, the explanation? What have the anti-vaccinationists to say about it?

Their theory is a very curious one and its evolution is not its least interesting feature. Like the broth which Macbeth's witches brewed, there were three at the making of it. The first was Dr. Hadwen, who gave at a meeting in Gloucester the following explanation of the stoppage, not of the Gloucester epidemic, but of the epidemic at Sheffield in 1887: "There were no less than 7000 cases of small-pox and, alas! 600 deaths, and still the small-pox went on, until at last God in His mercy opened the floodgates of heaven and down came the rain, which washed the sewers and the drains, cleared away the filth from the gutters, washed the dirt from the streets and the filth from the dens and away went the small-pox. Pure water accomplished for Sheffield what 56,000 vaccinations had been unable to effect." This was in January, 1896, and was in one respect really a master stroke. Gloucester had at that very time new waterworks in course of construction and quite possibly the new supply might be introduced before the end of the epidemic. Then, though water has never been known to convey small-pox, it would be easy enough for an anti-vaccinationist to attribute the decline of the disease to the new supply. Unfortunately for any such prospect the water came after the epidemic had practically died out. Lieutenant-General Phelps, however, was loath to let the suggestion drop altogether and in his capacity of second witch he in due time and with appropriate incantations threw in a little contribution of his own. At the end of July he wrote to the *Birmingham Daily Post* regarding Gloucester that "the disease clung to the town till a new and much needed water-supply was brought in from Newent on July 1st." Dr. Hadwen had argued that no cause which had not begun to operate long before this time could be accepted. The cases had diminished from 733 in April to 283 in May and to 122 in June, and, allowing the usual incubation period, the infection had almost ceased to spread by the beginning of July, but the Lieutenant-General, saying nothing in his letter about when the diminution began, declares that the disease "clung to the town" till the new water came in. Finally, Mr. Bayley, M.P., the Parliamentary leader of the Anti-Vaccination League, is responsible for the third stage of the theory. His contribution takes the form of a complaint regarding Dr. Coupland's report, coupled with a demand for explanation. He says: "Practically from the commencement of the outbreak to the time of its cessation there was a period of almost uninterrupted dry weather, but about the middle of July the dry weather broke up and we had a very wet and rainy August. As to whether that had anything to do with the question or not we are left absolutely in the dark by the report; and the story of the outbreak is stopped at its most interesting point, whereas by further investigation into its sudden termination we might be led into a truer and more scientific manner of dealing with this dreadful disease than we have at the present time. We naturally want to know what effect the sudden break up of the long dry season in July and the heavy rains in August had upon the pure water-supply of the city." In addition Mr. Bayley has queries about the clearing away of filth, the removal of cesspools, the flushing of drains, &c. It is not easy to do justice to the conception that the rains of August may have had to do with the diminution or almost cessation of small-pox in the previous three months. That laureate of nonsense, the author of "Alice in Wonderland," might have made something of the suggestion, but he is unfortunately dead. The most whimsical fact of all is Mr. Bayley's solemn demand that the Government should appoint a new Commission to investigate the matter. Outside of Gilbertian opera nothing has been propounded for many a long day equal to this notion of a Royal Commission seriously considering whether the autumn rains had been the cause of small-pox decline in the preceding summer. Some of the other queries propounded for the consideration of this proposed new Commission are equally indicative of Mr. Bayley's ignorance of the whole facts of the case. He says: "One of the questions on which Dr. Coupland might have given us fuller information was the excessive number of children under ten years of age who were attacked and died. As these would divide the greater part of their time between the elementary schools and their homes in the crowded quarters of the city may it not have been that they did not get enough fresh air?"—and so forth. But the simple fact is that the most crowded quarter of the city, the St. John Baptist district, was very little affected by the disease, and that it prevailed in a newer and much less crowded part. And as for the children under ten years of age, it was during the previous ten years that vaccination had been practically abolished in Gloucester, so there need be little doubt as to why they were specially affected. Another thing that puzzles Mr. Bayley is "why certain open areas in the city should be absolutely free from small-pox or very nearly so."

It is to be understood, however, that the public inquiry which Mr. Bayley demands is not desired by him for his own benefit but only for the guidance of other people, for notwithstanding all these queries it turns out that he has no doubt whatever as to the cause of the outbreak of small-pox. The conclusion to which he arrives is so striking, and the reasoning by which he arrives at it is so cogent, that we cannot forbear making another quotation. Referring to the reports of the medical officer of health he says: "In the 1893 report we read: 'I regret to have to announce that since the Severn water has had to be used a large increase has taken place in the number of typhoid fever cases notified in the city. I do not pretend to say positively that the Severn water is the cause, but I can find no other explanation for it.' ...... Again, in the following year, 1894: 'At the beginning of the year a rather large number of cases of enteric fever or typhoid fever occurred, but I have no doubt at all that this arose from the use of Severn water ....' In face of Dr. Campbell's statement in 1891 that the continuance of the existing state of things might lead to the most serious consequences, and in face of his reports in 1893–94, showing that the same state of things did continue, the gross neglect of his warnings was as plainly the cause of the outbreak of small-pox as the starting of two express trains on the same line at full speed in opposite directions would be the cause of the subsequent collision between them." Assuming for the moment that Mr. Bayley knows the facts, then his reasoning is that because a lengthened use of the Severn water in 1893–94 caused in these years the outbreak of a disease, enteric fever, which is well known to be the disease specially conveyable by drinking water, therefore the use of Severn water for four nights in the month of June, 1896, caused an epidemic of another disease, small-pox, which began in June, 1895, and ended in July, 1896, which disease is not known ever to have been conveyed by drinking-water. Holding the opinions above quoted Mr. Bayley warns his readers "that the very natural danger that we may all be in at the present time is rather to take sides on the question of vaccination and non-vaccination"; but as to himself he declares that though his own children have been vaccinated he is "in the position of having an open mind." From the *Vaccination Inquirer*, however, we learn that Mr. Bayley is not merely a member of the National Anti-Vaccination League but a committee-man, and not merely a committee-man, but appointed and recognised as the Parliamentary leader of this League, whose principal objects are "the entire repeal of the Vaccination Acts" and "the Disestablishment and Disendowment of the practice of vaccination." We learn this from the organ of the League, but we do not learn it from Mr. Bayley's pamphlet. He gives no hint there of his connexion with the League, but presents himself as a man with an open mind and therefore in a position to warn other members of Parliament and all who may read his tract against taking sides on the question of vaccination.

Once more, then, what was the cause of the very rapid cessation of the small-pox epidemic? It cannot be attributed to new drainage of the town, for, in the first place, small-pox has not been known to be conveyed by drainage and in the second place the town did not get new drainage. It cannot be attributed to the flushing of the drains by the August rains (even if drain-flushing ever did cause a small-pox epidemic to terminate), for the outbreak had then already come to an end. It cannot be attributed to the new water, for the new water was introduced when the epidemic had already practically ceased to spread. It cannot be attributed to the clearing away of the alleged jerry-built houses, for, so far as they exist at all, they are there to this day. It cannot be attributed to the alleged defects of the hospital, for, in the words of Mr. Arthur Trobridge, anti-vaccinationist and F.S.S., "the early breakdown in the arrangements for isolation left the population without any barrier to check the spread of the disease when once it was set going." But some barrier was set up, for 35,000 persons who had never had small-pox and who were surrounded by sources of infection did not take the disease. What was the barrier?

In the last century, when small-pox was very prevalent and much dreaded, it was found in many dairy counties in England, in the south of Ireland, and in some parts of the continent of Europe, that many persons employed in dairies were insusceptible to small-pox inoculation and to small-pox infection and that persons thus insusceptible had suffered from a disease known as cow-pox. This was a malady of the teats and udder of the cow, exhibiting itself in pustules, which when undisturbed were not unlike those of human small-pox. Public attention was called to these facts by a Gloucestershire physician, who gave much consideration to the matter and made many investigations and some experiments which satisfied him that cow-pox possessed the power of preventing small-pox. He published his conclusions and the world became quickly interested in the matter. Inquiries and observations and experiments made in many countries by many medical men confirmed the value of the preventive means. As time passed it was ascertained that the protection so conferred was not always lifelong and that those who were subsequently attacked by small-pox were likely to have the disease in a remarkably mild form. These conclusions have been confirmed and elaborated by the world-wide experience of a century. It has been found that vaccination (which is the name applied to the operation) is for a number of years an absolute protection to the great majority of the vaccinated; that at later ages, when small-pox attack becomes possible to many once vaccinated persons, the great majority of such attacks are very mild; that the amount of protection corresponds to the thoroughness of the operation; and that repetition of the operation renews the protection. For nearly a decade before 189 Gloucester had grossly neglected this protection, not only among its adult population, as so many other towns have done, but also amongst its young children, as very few other towns have done. It had trusted to its cleanliness and to its hospital for preventing small-pox and had sent representatives to London to tell the Royal Commission of these opinions and of the town's freedom from small-pox. Then small-pox came. In a population of 40,000 there were 2000 attacks. Perhaps 2000 more had previously suffered from the disease and possibly some minute percentage were constitutionally insusceptible, so that there were still 35,000 or 36,000 persons open to attack. The disease began with a single case in June, 1895, but there were no more till August and not much anxiety was created until towards the end of the year. Removal of all known cases to hospital, quarantine of exposed persons, disinfection of houses, destruction of infected articles, or, in other words, the so-called Leicester system, were found powerless to stop the ravages of the pestilence. The growing alarm resulted in renewed resort to the method of protection which had been promulgated in Gloucestershire a century before and which had been so long neglected in the county town. A return of vaccinations performed in Gloucester between January 1st, 1896, and July 11th, 1896, was prepared by the board of guardians and is quoted in Dr. Coupland's Report. It is as follows:—

GLOUCESTER BOARD OF GUARDIANS.

Return of Vaccinations and Re-vaccinations from Jan. 1st, 1896, to July 11th, 1896, as Ascertained from all known Sources.

Vaccinators.	Primary.	Re-vaccination.	Total.
Vaccination inquiry office staff	756	1,098	1,854
Public vaccinators	5,477	12,423	17,900
Corporation staff	424	956	1,380
* Private practitioners	1,827	11,875	13,702
Total	8,484	26,352	34,836
Number of children, ten years and under, who are stated to have been vaccinated in infancy	1,072	—	1,072
Total	9,556	26,352	35,908

* From one medical practitioner no returns at all were received.

Thirty-five thousand people in Gloucester who had never had small-pox escaped the disease notwithstanding the presence of hundreds of sources of infection and although many thousands of them lived in conditions alleged to be highly insanitary and strongly predisposing to small-pox. Thirty-five thousand people in Gloucester were vaccinated in the midst of the existing infection and in presence of these alleged insanitary conditions. Though, as has already been said, a small percentage of persons may be constitutionally insusceptible to small-pox, and though in probably every epidemic a number of susceptible persons do not suffer, yet to all intents and purposes the 35,000 who were thus vaccinated were the 35,000 who escaped small-pox. There never was a rule without an exception. Eight persons who had been successfully re-vaccinated were attacked between fourteen days and three months after their re-vaccination. All recovered and none had confluent attacks. As to primary vaccination, excluding cases vaccinated too late, after the poison of small-pox was already in their blood, the only recently vaccinated exception yet brought forward appears to be the case of a little girl who was attacked by fatal small-pox three weeks and two days after her vaccination. This case is specially pointed out by Dr. Coupland. Dr. Hadwen describes a child named Sabin as "an instance" and a "striking illustration" but not as an entirely unique experience in the Gloucester epidemic.[1] Such are the exceptions. The rest of the 35,000 are the rule.

In presence of the facts regarding these 35,000 persons is it possible for any man not wanting in reason or distorted in intellect or misled by unscrupulous misstatement and misrepresentation, to arrive at any other conclusion than that the cause of the abrupt decline of the Gloucester epidemic was the rapid and extensive vaccination which was carried on in Gloucester in presence of the epidemic? With cause and effect so manifest the absurdity of suggesting the rains of August or the water-supply of July in explanation of a decline which was most striking in the preceding May and June is, if that were possible, even more ridiculous than before.

It is not proposed here to point out how in Gloucester, as in Leicester and in Dewsbury and everywhere else, small-pox differentiated between the vaccinated and the unvaccinated; how in households containing cases of the disease the infection attacked the unvaccinated children and passed by the vaccinated children in proportions altogether out of correspondence to their numbers; how the fatality among the attacked was much higher in the unvaccinated than in those whose vaccinal protection had so far spent itself as to leave them open to attack; how this occurred notwithstanding the allegation that vaccination weakens the system and makes the vaccinated an easy prey for all diseases; how the difference between the unvaccinated and the vaccinated was greater according to the recency of the vaccination; how those who were well vaccinated with three or four good marks fared better than those who were insufficiently vaccinated with one or two small marks; and how specially vaccinated classes like postmen and policemen, though under exceptional exposure to infection, were exceptionally free from attack. Such are the common experiences of small-pox epidemics. The striking facts about Gloucester are the rapidity and the virulence with which the disease attacked the children of a community which had neglected infantile vaccination, and the rapidity with which the epidemic subsided when the population availed themselves of the vaccinal protection which they had so long despised. The attacked were like the children of the Egyptians under the visitation of the angel of death, while the 35,000 who in the actual presence of the plague observed the ordinance escaped scatheless from the destroyer.

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Two lectures have been delivered recently before the above College. The first, on Senile Enlargement of the Prostate Gland, was given by Mr. Charles W. Cathcart, the Conservator of the College Museum, on Friday, Jan. 28th. The lecture was illustrated by many beautiful lantern slides made from photographs of specimens in the museum. Variations in the development of this gland were thus demonstrated and the associated microscopical characters of the hypertrophy were illustrated in a similar way. The lecturer further dwelt upon the lines of treatment which were indicated in the different forms of enlargement.

The second lecture was delivered on Feb. 25th by Dr. Logan Turner upon the Illumination of the Air Sinuses of the Skull and on certain points in the Surgical Anatomy of the Frontal Sinuses. The lecture was based upon a number of observations which Dr. Turner had made upon skulls, cadavers, and living persons both with healthy and with diseased sinuses. The method of illuminating the different sinuses was demonstrated and variations in the development of the frontal air spaces were shown by means of lantern slides. The lecturer first referred to the results which he had obtained from the illumination of the antrum of Highmore in skulls and showed from preparations how inequality in the intensity of the light upon the two sides might arise from anatomical causes, such as a small sinus on one side and a large one upon the other, or even from the absence of the antrum upon one side. In a great number of living persons with presumably healthy antra which he had illuminated he did not once meet with positive illumination upon the one side and with a negative result upon the other. In only one of twelve cases in which there was pus in the antrum was illumination positive on the diseased side and in that case very little pus was present. Turning to the ethmoidal cells he referred to the observations of Ruault, who had pointed out that in illumination from the mouth the nasal bone on the side upon which ethmoid disease existed was in shadow. In the few cases of disease which he had himself tested, this sign was present, but his observations on healthy persons had demonstrated great variations in the illumination of the nasal bones. The sphenoidal sinus could not be illuminated. Forty-three frontal sinuses in adult crania had been illuminated, mapped out, and then opened by removal of the anterior wall. Half of these were accurately defined by this method. Imperfect and negative results were due as a rule to variations in the thickness and density of the anterior wall of the sinus. Illumination of cadavera—first with the soft parts *in situ* and then with the bone bared—showed that the sinuses could be accurately defined, the soft parts diminishing the brilliancy of the illumination. Both in skulls and in living persons it was not uncommon to find some difference in the intensity of the light in the two sinuses owing to variation in the thickness of the bone. Dr. Turner's experience of illumination in the diagnosis of suppuration of the frontal sinuses was, like that of others, unfavourable. As regards operative treatment, however, if the diseased sinus was illuminated it could be defined before operation and the surgeon might thus be guided in the choice of his method of opening. If the diseased sinus failed to illuminate and the opposite healthy one did so, the septum could thus be defined. The outer limit of the diseased sinus or sinuses which proved negative to illumination could, however, be defined by observing the point at which dulness ceased and illumination began when the lamp was carried outwards under the supra-orbital margin. The supra-orbital margin is thin externally and readily transmits the light. Observations made in a case of double frontal disease and upon skulls negative to illumination showed that the junction of darkness and light when the lamp was manipulated in this way was approximately the outer limit of the sinus. Illumination of the mastoid cells had proved very unsatisfactory in the lecturer's hands and did not appear to be of any clinical value. Many interesting variations in the anatomy of the frontal sinuses were demonstrated upon the screen. Some striking variations in the size of these cavities were shown; in one case a small sinus lay behind the inner third of the supra-orbital margin and in another the cavity extended into the external angular process of the frontal bone and was bounded externally by the temporal fossa. The extreme obliquity of the septum in some cases caused great development of one sinus, while it reduced the other to a slit above the supra-orbital margin. The formation of recesses from the presence of incomplete partitions and the subdivision of a sinus into two, sometimes by a complete vertical partition and sometimes by a horizontal one, were also pointed out and the surgical bearing of all these points was emphasised. The very close relation between the anterior ethmoidal cells and the frontal sinus was also dwelt upon by the lecturer.

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[1] Dr. Hadwen says she was vaccinated in six places and had good marks. Dr. Coupland says he saw her and that she had three marks.

THE ARMY MEDICAL DEPARTMENT REPORT FOR 1896.

CONCLUDING NOTICE.[1]

WE do not propose to notice that section of the report dealing with foreign stations at any length. The average strength of the troops stationed at Malta in 1896 (exclusive of the Royal Malta Artillery) was 8316. The admission-rate was 793·9, that of deaths 7·93, and of constantly sick 52·13 per 1000 respectively. Compared with 1895 there was an increase of 22·4 in the admission-rate and of 1·06 in that of mortality per 1000 in 1896, but the constantly sick rate had somewhat declined. As compared with the decennial period rates there was also an increase in 1896 of 138·3 in the admission rate and one of 0·48 and 8·61 per 1000 in the mortality and constantly sick rates respectively.

The fever rates were high. Simple continued fever caused 1572 admissions and 15 deaths and enteric fever caused 49 admissions and 20 deaths, equal to ratios of 5·9 and 2·41 per 1000 respectively. There were 44 admissions for dysentery, but the attacks were generally mild and soon yielded to treatment; no deaths occurred. Venereal diseases gave a total admission ratio of 173 7 per 1000, which is, we regret to observe, above the previous year's rate by 39 2 and the decennial average rate by 48 5, while the constantly sick rate (15·01 per 1000) shows an increase as compared with the corresponding ratio in 1895 and with the average. At Bermuda we notice that the health of the troops had improved in 1896 owing to the decrease of enteric fever. The dry-earth system of latrines is in use, but the senior medical officer considers it unsuitable in the Bermuda climate and recommends that the water-carriage system with sea-water for flushing purposes be adopted. As regards the West Indies, we have already adverted to the increased prevalence of venereal diseases recorded at these stations. Among the troops stationed in China and the Straits Settlements the admissions for these diseases were also very high. Omitting any detailed consideration of the lengthy section of the report dealing with the vital statistics and sanitary conditions of the army in India, we may nevertheless say that the average strength of the troops serving in India in 1896 amounted to 70 484. The loss to India by deaths and invaliding to England was 3012 non-commissioned officers and men, being at the rate of 42 73 per 1000, an increase of 4·60 on the rate in the previous year, and the loss to the army by death and final discharge as medically unfit for further service among the troops in India was 1958, or 27·77 per 1000, an increase of 1·45 on the ratio for 1895.

A great deal has been done, and is still being done, to increase the soldier's comfort and social well-being in India and to improve generally his sanitary environment. We believe that incinerators are largely taking the place of the trench system of disposing of nightsoil, that it will soon become the practice in that country to burn all excreta from enteric fever patients and from cholera cases, which will be far safer than burying these, and that waterworks are being gradually introduced into cantonments so as to enable the troops to get their supply direct from taps instead of through the medium of the bhistie as at present. As regards Egypt and Cyprus the general health of the troops serving in that command in 1896 was good. In Egypt the great improvement noted in the previous year's report still continued. In Cyprus an increase in the ratio of sickness is recorded, but the number of troops in the latter station is small and the figures are therefore liable to fluctuations. As in the preceding year, the admission and mortality rates were higher for Cairo than for Alexandria. Enteric fever caused altogether 97 admissions and 23 deaths, inclusive of 47 admissions and 13 deaths in which the disease was contracted on active service "up Nile," but was not developed until after the return of the troops to Cairo.

The appendix to the volume contains many excellent and interesting papers; among others a Report on the Progress of Hygiene for the year 1897, by Surgeon-Colonel J. Lane Notter, Professor of Military Hygiene at the Army Medical School, Netley; a List of Operations, 1897, accompanied by some illustrative cases with clinical notes and surgical commentaries, by Surgeon-Colonel W. F. Stevenson, Professor of Military Surgery at the Army Medical School, and Surgeon-Major W. Dick, M.B. Edin., Assistant Professor; a General Report of the Medical History of the Chitral Relief Force, by Surgeon-Major-General T. Maunsell, C.B.; one upon the Dongola Expeditionary Force, by Surgeon-Lieutenant-Colonel A. T. Sloggett; and several other reports and papers of interest. We would call attention to Professor Notter's *précis* of the progress of hygiene in 1897, for it is a very useful report, inasmuch as it briefly summarises the main points which have attracted attention during the year under review. We not only advise medical officers to read it, but all who are interested in the subject might advantageously refer to it and glean much useful information. A large number of subjects are noticed, many of them being of a very practical as well as of a more purely scientific nature. Some of the cases received into the surgical division of Netley and described by the professors of military surgery are of an unusually interesting kind. Their report contains three good skiagrams illustrative of the utility of the Roentgen ray photographs in the diagnosis and treatment of fractures. Surgeon-Major-General Maunsell's report of the medical history of the Chitral relief force strikes us as being a well-considered and carefully prepared document, in which a number of subjects bearing upon field medical and hospital administration are considered with the view of remedying defects and introducing improvements in several respects; these, being the outcome of practical experience, merit attention. This is followed by a report on injuries caused by the Lee-Metford rifle observed in the Civil Dispensary, Chakdarah, among the enemy's wounded, by Surgeon-Lieutenant D. W. Sutherland, I.M.S. There are several other interesting reports in the volume which we are reluctantly compelled to pass over as our space is already exhausted. The volume for 1896 is a good one.

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[1] The first and second notices appeared in THE LANCET of Feb. 26th and March 12th, 1898, respectively.

A CLINICAL LABORATORY AT ST. THOMAS'S HOSPITAL.

THE foundation of a clinical laboratory at St. Thomas's Hospital is worthy of record as it appears to be the first instance of such an institution in London. It owes its origin, in the first place, to the increasing complexity and difficulty of the methods employed in the diagnosis of disease. The need of such a laboratory having been pointed out to the treasurer and governors of the hospital they erected without delay a separate laboratory in the hospital. The work to be carried on in it was defined as being (1) the investigation of the diseases of patients in the hospital by means of all those methods of examination which cannot be carried out at the bedside, including the bacteriological examination of the throat in diphtheria and allied conditions both on admission and before discharge; (2) the completion of the hospital record of each patient; and (3) the periodical routine examination of the water and sterilised dressings, &c., supplied to the operating theatres. The laboratory thus has no connexion with the medical school and it plays no direct part in the teaching of students. Its work is entirely devoted to the service of the hospital.

The laboratory, which is shown in the accompanying illustration, was opened in November of last year. It measures 46 ft. by 17 ft. and is lighted by seven large windows, the main frontage facing the east. A third of the room, separated from the rest by a screen of wood and glass, is devoted entirely to bacteriology. The whole laboratory is provided with electric light, teak has been used for the floor and benches, and it is thoroughly equipped with all the apparatus necessary for bacteriological, microscopical, and chemical research. The work has been placed in the hands of Dr. Jenner as superintendent and four or six assistants are appointed every three or six months from among the senior students.

THE NEW VACCINATION BILL.

THE following is the text of the Vaccination Bill which was introduced in the House of Commons on Tuesday, March 15th, by Mr. Chaplin, the President of the Local Government Board. The Bill bears the names of the First Lord of the Treasury, the Home Secretary, and the Attorney-General, as well as that of its introducer.

A Bill to Amend the Law with respect to Vaccination.

Be it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same as follows:

1.—(1) The period within which the parent or other person having the custody of a child shall cause the child to be vaccinated shall be *twelve months* from the birth of the child instead of the period of three months mentioned in Section 16 of the Vaccination Act of 1867 and so much of the section as requires the child to be taken to a public vaccinator to be vaccinated shall be repealed.

(2) The public vaccinator of the district shall, if the parent or other person having the custody of a child so requires, visit the home of the child for the purpose of vaccinating the child.

(3) If a child is not vaccinated within *nine months* after its birth the public vaccinator of the district shall visit the home of the child and shall offer to vaccinate the child with glycerinated calf lymph.

2. An order under section thirty-one of the Vaccination Act of 1867, directing that a child be vaccinated, shall not be made on any person who has previously been convicted of non-compliance with a similar order relating to the same child.

3. The Local Government Board shall have the same powers of making rules and regulations with respect to public vaccinators (whether under contracts made before or after the *passing of this Act*) as they have with respect to vaccination officers and any rules or regulations made by the Board with respect to vaccination, whether under this or any other Act, shall, while in force, have effect as if enacted by this Act.

4. The enactments mentioned in the schedule to this Act are hereby repealed to the extent specified in the third column of that schedule.

5.—(1) This Act shall not extend to Scotland or Ireland.

(2) This Act shall come into operation on the *first day of January one thousand eight hundred and ninety-nine.*

(3) This Act may be cited as the Vaccination Act, 1898, and the Vaccination Act of 1867, the Vaccination Act, 1871, the Vaccination Act, 1874, and this Act shall be construed together as one Act, and may be cited collectively as the Vaccination Acts, 1867 to 1898.

An appended Schedule shows the Bill to provide the following Repeals:—

Session and Chapter 30 & 31 Vict. c. 84. Short Title—The Vaccination Act of 1867. Extent of Repeal: Section 6; Section 7 from "and shall provide all stations" to the end of the section; so much of Section 8 as fixes the amount of payment thereunder; Section 12; in Section 15, from "according to the provisions" to "performing the operation"; Section 16, the words "within three months after the birth of such child" and from "within three months after receiving" to "period as aforesaid," and from "and the public vaccinator" to the end of the section; Section 17, to "vaccinations and," and in the same section the words "if the vaccinator so direct," and the words "and inspected as on the previous occasion"; Section 19; in Section 20 the words "brought to him for vaccination"; in Section 29 the words "to take such child or," the words "to be taken," and the words "according to the provisions of this Act."

Session and Chapter 34 & 35 Vict. c. 36. Short title—The Vaccination Act, 1871. Extent of repeal: Section 10; in Section 11 the words "take or" and the words "to be taken."

We have already spoken of the Bill generally; we comment more in detail upon its merits and demerits in a leading article.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6722 births and 4693 deaths were registered during the week ending March 19th. The annual rate of mortality in these towns, which had been 20·7 and 21·1 per 1000 in the two preceding weeks, further rose last week to 21·8. In London the rate was 21·6 per 1000, while it averaged 21·9 in the thirty-two provincial towns. The lowest rates in these towns were 13·8 in Croydon, 15·2 in Burnley, 15·6 in Portsmouth and in Gateshead, and 16·3 in Plymouth; the highest rates were 25·6 in Hull, 25·7 in Liverpool and in Norwich, 27·1 in Swansea, and 30·9 in Oldham. The 4693 deaths included 554 which were referred to the principal zymotic diseases, against 481 and 538 in the two preceding weeks; of these, 251 resulted from measles, 124 from whooping-cough, 60 from diphtheria, 59 from diarrhœa, 31 from "fever" (principally enteric), and 29 from scarlet fever. No death from any of these diseases was recorded last week either in Plymouth or in Halifax; in the other towns they caused the lowest death-rates in Burnley and in Blackburn, and the highest rates in Sheffield, Huddersfield, Oldham, and Leicester. The greatest mortality from measles occurred in London, Bristol, Swansea, Brighton, Leicester, Oldham, and Huddersfield; from whooping-cough in Birmingham, Oldham, Bolton, Huddersfield, Sheffield, and Newcastle-upon-Tyne; and from "fever" in Preston. The mortality from scarlet fever showed no marked excess in any of the large towns. The 60 deaths from diphtheria included 36 in London, 5 in Birmingham, 4 in Cardiff, 3 in West Ham, and 3 in Leeds. No fatal case of small-pox was registered last week either in London or in any other of the thirty-three large towns; and only one small-pox patient was under treatment in the Metropolitan Asylum Hospitals on Saturday last, March 19th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2419, against 2674, 2534, and 2445 on the four preceding Saturdays; 255 new cases were admitted during the week, against 199, 175, and 197 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 425 and 429 in the two preceding weeks, further rose to 430 last week, but were 77 below the corrected average. The causes of 64, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Leeds, and in fifteen other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, Blackburn, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the seven preceding weeks from 17·4 to 25·0 per 1000, declined to 24·1 during the week ending March 19th, but was 2·3 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 13·6 in Perth and 17·0 in Aberdeen to 26·4 in Glasgow and in Greenock and 26·9 in Paisley. The 727 deaths in these towns included 21 which were referred to whooping-cough, 17 to measles, 15 to diarrhœa, 10 to scarlet fever, 6 to "fever," and 5 to diphtheria. In all, 74 deaths resulted from these principal zymotic diseases, against 78 and 81 in the two preceding weeks. These 74 deaths were equal to an annual rate of 2·5 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 27 and 25 in the two preceding weeks, further declined to 21 last week, of which 19 occurred in Glasgow and 2 in Dundee. The 17 deaths from measles were within 1 of the number in the preceding week and included 16 in Glasgow. The fatal cases of scarlet fever, which had declined from 12 to 7 in the four preceding weeks, rose again to 10 last week, of which 3 occurred in Edinburgh, 3 in Aberdeen, and 2 in Dundee. The 6 deaths referred to different forms of "fever" corresponded with the number in the preceding week, and included 3 in Glasgow and 2 in Greenock. Of the 5 fatal cases of diphtheria 3 were recorded in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 142 and 187 in the two preceding weeks, declined again to 158 last week, but slightly exceeded the number in the corresponding period of last year. The causes of 38, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the four preceding weeks from 28·5 to 37·3 per 1000, declined again to 35·3 during the week ending March 19th. During the past eleven weeks of the current quarter the death-rate in the city has averaged 32·5 per 1000, the rate during the same period being 21·9 in London and 19·8 in Edinburgh. The 237 deaths registered in Dublin during the week under notice showed a decline of 13 from the number in the preceding week, and included 17 which were referred to the principal zymotic diseases, against 16 in each of the two preceding weeks; of these, 7 resulted from "fever," 4 from scarlet fever, 3 from whooping-cough, 2 from diarrhœa, and 1 from diphtheria. These 17 deaths were equal to an annual rate of 2·5 per 1000, the zymotic death-rate during the same period being 3·0 in London and 0·9 in Edinburgh. The deaths referred to different forms of "fever," which had been 7 and 5 in the two preceding weeks, rose again to 7 last week. The fatal cases of scarlet fever, which had been 5 and 6 in the two preceding weeks, declined to 4 last week. The mortality from diphtheria and from whooping-cough corresponded with that recorded in the preceding week. The 237 deaths in Dublin last week included 28 of infants under one year of age and 85 of persons aged upwards of sixty years; the deaths of infants showed a marked decline, while those of elderly persons showed a further increase upon those recorded in recent weeks. Eight inquest cases and 4 deaths from violence were registered; and 89, or more than a third, of the deaths occurred in public institutions. The causes of 14, or nearly 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

NAVAL MEDICAL SERVICE.

FLEET-SURGEON BERNARD RENSHAW is placed on the Retired List of his rank.

The following appointments are notified:—Surgeons: P. K. Nix to the *Rodney*; Charles R. Steward to the *Sharpshooter*; William Hackett to the *Vivid*, additional for disposal; Horatio W. Cowan and James H. Fergusson to the *Victory*, additional for disposal; Kenneth H. Jones to the *St. Vincent*, additional for disposal; Reginald Waterfield to the *Vernon*, additional for disposal; Henry W. W. Townsend, Eric D. Macnamara, Archibald W. Campbell, Alfred Woollcombe, and George E. Macleod, all to the *Vivid*, additional for disposal; Godfrey Taylor to the *Cambridge*; John W. Bird to the *Alexandra*, additional for disposal; and Herbert Newsome and Samuel H. Facey to the *Wildfire*, additional for disposal.

ARMY MEDICAL STAFF.

Brigade-Surgeon-Lieutenant-Colonel Steele (retired list) is selected for duty at Bristol. Surgeon-Captain Gray has embarked for service abroad. Surgeon-Captain Bullen proceeds from Kinsale to Sierra Leone for duty. Surgeon-Lieutenant W. E. P. V. Marriott has embarked for duty in India. Surgeon-Major M. D. O'Connell having reported his arrival at Netley on March 18th was taken on the strength of the Royal Victoria Hospital from that date.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Major-General J. Cleghorn (Bengal), Director-General, Indian Medical Service, and Sanitary Commissioner with the Government of India, has been granted leave out of India for eight months on account of ill-health. Surgeon-Major-General Harvey, Principal Medical Officer of the Punjab Army, will act as Director-General of the Indian Medical Service during Surgeon-Major-General Cleghorn's absence and until further orders. Surgeon-Major R. Ross (Madras) is placed on special duty under the orders of the Director-General, Indian Medical Service. The services of Surgeon-Captain Bensley (Bengal) are placed permanently at the disposal of the Government of Burma. The services of Surgeon-Lieutenant Walton (Bengal) are placed temporarily at the disposal of the Government of the Punjab for employment on plague duty. The services of Surgeon-Captain Grant (Bengal) are placed temporarily at the disposal of the Foreign Department.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major Charles Knott resigns his commission.

VOLUNTEER CORPS.

Artillery: 2nd Glamorganshire: Charles Henry Duncan Morland, M.B. Durh., to be Surgeon-Lieutenant. *Royal Engineers (Submarine Miners):* The Forth Division: Surgeon-Lieutenant R. J. A. Berry, M.D. Edin., resigns his commission. *Rifle:* 1st (Ross Highland) Volunteer Battalion the Seaforth Highlanders (Ross-shire Buffs, the Duke of Albany's): Surgeon-Lieutenant-Colonel A. R. Mackenzie, M.D., retires under the provisions of paragraph 111 of the Volunteer Regulations, 1897. with permission to retain his rank and continue to wear the uniform of the battalion on his retirement.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: Surgeon-Captain V. Matthews to be Surgeon-Major.

THE ARMY MEDICAL SCHOOL, NETLEY.

The seventy-sixth or summer session of the Army Medical School, Netley, will commence on Saturday, April 2nd. Thirty-five surgeons on probation will attend the school, twenty for the Army Medical Staff and fifteen for the Indian Medical Service. The following revised lists give the names of those who are to pass through the school:—

ARMY MEDICAL STAFF.

1. W. H. S. Nickerson.
2. G. S. Nickerson.
3. A. E. Weld.
4. J. S. Gallie.
5. G. B. Crisp.
6. H. B. G. Walton.
7. W. Jagger.
8. A. B. MacCarthy.
9. R. Selby.
10. A. E. Thorp.
11. E. J. Dobbin.
12. A. R. O'Flahertie.
13. H. Herrick.
14. C. W. Mainprise.
15. G. J. S. Archer.
16. R. S. H. Fuhr.
17. S. O. Hall.
18. F. J. C. Hefferman.
19. J. Cowan.
20. E. P. Hewitt.

INDIAN MEDICAL SERVICE.

1. T. Hunter.
2. W. R. Battye.
3. H. B. Meakin.
4. G. Hutcheson.
5. R. W. Anthony.
6. G. E. Stewart.
7. H. Boulton.
8. J. W. Watson.
9. G. F. S. Genge.
10. E. F. G. Tucker.
11. W. G. Liston.
12. F. S. C. Thompson.
13. H. J. R. Twigg.
14. C. W. M. G. Orpen.
15. T. S. Novis.

RECRUITING FOR THE ARMY.

The annual report of the Inspector-General of Recruiting for 1897 states that the total number of recruits raised for the year for the regular army was 35 015, as compared with 28,532 in the previous year. The total strength of the Army Reserve on Jan. 1st, 1898, was 82.005, which is 2000 in excess of the number provided by the Army Estimates. The number of men transferred from the colours to the Reserve in 1897 was 16,702, a larger number than in any preceding year since 1893. There has been a gradual falling off in the total strength of the Militia. As regards the employment of ex-soldiers it appears that at the end of 1897 there were 10,541 of these in the service of the various railway companies. The marching of troops through different parts of the country has been favourably reported upon; the conduct of the troops has been excellent and the men have been enthusiastically received. The results from a recruiting point of view are not always immediately felt but are usually manifested subsequently.

THE SOUDAN CAMPAIGN.

Amid the various items of intelligence of a more or less exciting political character and the wars and rumours of war but little had appeared of late regarding the Soudan expeditionary force. An important movement has now, however, been made; and we may hear at any moment of an important battle. The Anglo-Egyptian force, including the British brigade under General Gatacre, is in excellent health and good fettle and there is little sickness of any kind. According to the latest intelligence General Sir H. Kitchener's force had halted at Ras Hudi some six miles up the Atbara river awaiting reports as to the exact whereabouts of Mahmud's army, and on Tuesday, March 22nd, the Sirdar's cavalry had a brush with the enemy whom they drove back.

THE INDIAN FRONTIER WAR.

It was confidently expected that the tribes would submit to the terms proffered them. but animal transport had been sent to Peshawur and the Khyber so as to be prepared for an advance in case of their refusal. Sir William Lockhart recently had an interview with a full representative jirgah of all sections of the tribes, at which he gave them their final choice of peace or war. We are extremely glad to add that the frontier fighting may now be regarded as practically ended, for the Kuki Khels and Kambar Khels have at length complied with the terms imposed upon them.

THE ARMY MEDICAL STAFF WARRANT.

A small committee has been, and still is, sitting at the War Office with the object of formulating a workable scheme for converting the Army Medical Department into a corps, but nothing is yet really known, of course, about its proceedings or as to what will be the result of the inquiry. All rumours on the subject—of which there are several—are simply so many conjectures and medical officers must be content to await an official declaration.

The *Times* says:—"With a view to improving the sanitary administration of cantonments in India and checking the increase of enteric fever, which of late years has been the cause of much anxiety to the medical authorities, the Government has sanctioned the employment. as an experiment, of three specially qualified sanitary officers, who will be posted to Lucknow, Rawalpindi, and Ambala. It will be the duty of these specialists to investigate thoroughly the causes of disease and give practical advice in sanitary matters. Their appointments will take effect from April 1st, and will be for three years in the first instance. The pay will be that of civil surgeons in charge of second-class stations together with an allowance of Rs. 100, rising by annual increments to Rs. 300, and a deputation allowance of Rs. 5 daily when absent from their headquarter stations on public duty."

Surgeon-Captain Henry Dutch, M.D. Brux., has recently given an interesting lecture at the headquarters of the Tower Hamlets Rifle Brigade on bullets and bullet wounds produced in modern warfare and the means by which they are located and removed by the surgeon. The lecture included a demonstration of the use of the x rays in this respect.

The under-mentioned officers of the Indian Medical Service have been appointed Honorary Physicians to the Queen: Surgeon-Major-General C. E. McVittie, I.M.S., vice Surgeon-General Sir W. J. Moore, K.C.I.E., retired list, deceased, and Surgeon-Colonel B. Franklin, C.I.E., vice Surgeon-General W. R. Cornish, C.I.E., retired list, deceased.

The furlough of a number of the officers of the Indian Medical Department has become overdue owing to the stoppage of leave during the Chitral Campaign and the recent frontier expedition.

We hear that about 300 invalids are to arrive at the Royal Victoria Hospital, Netley, from India during this week and that some 600 more are expected shortly.

BRISTOL ROYAL HOSPITAL FOR CHILDREN AND WOMEN.—The Commissioners appointed by Lord Herschell to inquire into the charges preferred against this institution by Dr. W. L. Christie, a former house surgeon, sat last week. The Commissioners were Mr. G. R. Askwith, the Hon. A. Elliot, Mr. V. Williamson, Dr. W. S. Church, and Mr. Timothy Holmes, F.R.C.S. Eng. The charges included mismanagement by the hospital committee and neglect and ignorance on the part of the staff. After an inquiry lasting five days the President read a formal award, in which the Commissioners unanimously concurred, and which was to the effect that the charges generally were not true and were unjustified.

Correspondence.

"Audi alteram partem."

"THE MIDWIVES REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—Several points raised with reference to the Midwives Bill call for further notice.

1. *The restriction of practice to registered midwives only.*—A clause for this special purpose is not inserted in the Bill because it follows the lines laid down by the Select Committee on Midwives Registration. It advised that a certain term should be protected and restricted. The point was raised at least a dozen times in the course of its various sittings and is thus referred to in the summary at the end of the 1892 evidence: "It is admitted that unqualified women cannot be prevented by law from practising." The explanation repeatedly given privately was that Parliament would not sanction the formation of a monopoly in such a matter. In only protecting certain terms or titles the Bill follows the precedents set in the Medical, the Dentists, the Veterinary Surgeons, and other similar Acts. Anyone desirous of testing the feeling of Parliament on the matter can easily get an amendment moved to that end. The method adopted in the present Bill has, however, already received the sanction of the House of Lords.

2. *The statutory limitation of the sphere of practice of midwives.*—The insertion of a special clause making it obligatory on midwives registered under the Act to send for a medical practitioner in face of any unusual labour or of any unsatisfactory condition of the mother or child would not be objected to by my committee provided it did not imperil the passage of the Bill if proposed as an amendment. However, one of the main objects of the regulations of practice to be approved by the General Medical Council would be to this end.

3. *Certificates (a) of death and (b) of stillbirth given by midwives.*—(*a*) The acceptance of certificates of death by registrars from unqualified persons could be put a stop to by the mere stroke of a pen if the Registrar-General could be persuaded to issue the necessary order. So long, however, as coroners (to whom such certificates would after refusal be referred) are permitted to issue their certificates without any medical evidence as to the cause of death it is of little use for him to do so. There is, of course, a legal obligation on all persons present at a death to give notice to the registrar within five days and to sign the register. (*b*) The Registration of Births and Deaths Act (1874) permits burials of stillborn children to be carried out on the declaration of a midwife or other person present at the birth. A select committee has reported on this matter and has advised legislation with a view to a better method of certification. Doubtless this is under consideration by the Government and meanwhile it would be impossible to obtain a reform of this magnitude on a side issue.

4. *As to the suggested infringement of the Medical Acts by the registration of midwives.*—(*a*) The Medical Act of 1886 is said to have so affected the standard of midwifery practice that the registration of midwives under Act of Parliament would, in effect, lower the standard intended to be set by the 1886 Act. This Act, however, only raises the standard of education amongst those who desire to go on the Medical Register, making the fact of being on that Register proof of education in all three branches of professional work. The 1858 Act permitted registration to a medical man who was only partly qualified, as in surgery. The public was thereby misled. (*b*) The Medical Register has been recently said to confer upon those registered the exclusive right to practise. This is untrue, and has been recently disproved before a metropolitan stipendiary magistrate. (*c*) The Midwives Bill does not permit persons registered under it to use any of the titles protected under the Medical Acts, nor does it admit to the Medical Register. Therefore it does not infringe the Medical Acts.

I am, Sirs, yours faithfully,
ROWLAND HUMPHREYS,
March 22nd, 1898. Honorary Secretary, Midwives Bill Committee.

To the Editors of THE LANCET.

SIRS,—In answer to Mr. Humphreys I may say, like many other practitioners, that I am sincerely desirous of seeing a settlement of the midwives question. At the same time I cannot congratulate the promoters of the Bill on the provisions it contains. Unless we have an Act which will really prevent ignorant women from *practising* as midwives we shall be no nearer a settlement of the question. If Mr. Humphreys had had as much experience of the working of the Medical Acts as I have had he would at once see the absolute necessity of preventing *unregistered* women from acting in the capacity of midwives. "Parliament will not look at a Bill which legalises a monopoly," says Mr. Humphreys. I, on the other hand, make bold to assert that our legislators will give their assent to a Bill if it can be proved to their satisfaction, firstly, that it is necessary; secondly, that it will prove a boon to the poor women of this country; and thirdly, that it will not act in a harsh or illegitimate way with any particular class of Her Majesty's subjects. If, as Mr. Humphreys asserts, the assumption of the title of Licentiate of Midwifery by a midwife registered under the Act would render her liable to have her name removed from the Register, why did he not recommend his committee to have a clause inserted in the Bill to that effect? I object to the constitution of the Midwives Board because I feel that this is a question affecting the general practitioners of the country and therefore to place the constitution of the board mainly in the hands of consulting physicians and surgeons, who have really no practical experience of the question at issue, is to my mind unreasonable. I have no hesitation whatever in asserting that it would not be difficult to find general practitioners who would be prepared to deal justly and fairly with the whole question.—I am, Sirs, yours faithfully,

March 19th, 1898. T. GARRETT HORDER.

THE CONTAGIOUS NATURE OF ANÆSTHETIC LEPROSY.

To the Editors of THE LANCET.

SIRS,—It is Dr. Impey's opinion that anæsthetic leprosy is not contagious and that the anæsthetic lepers therefore should not be isolated. The following case of Dr. D. Enrique Robelin of Havana, Cuba (Hospital San Lazaro), proves *direct contagion in anæsthetic leprosy*. It is taken from his pamphlet "La Lepra es Contagiosa" (Cronica Médico-Quirúrgica de la Habana, Noviembre y Diciembre de 1887). *That one case proves Dr. Impey to be wrong.*

> "I owe the following observation to the courtesy of Dr. Oxamendi; it proves once more that it is not only ulcerous leprosy that is contagious. There are in science numerous observations of leprosy contracted by direct contact with systematised nervous leprosy. In a factory of 260 hands there was a negro, Lorenzo, aged sixty, by nationality a *Gangá*. This negro, in whom appeared all the characters of anæsthetic leprosy, was in due time isolated by the doctors Oxamendi, who were contagionists. Removed to a platane-tree plantation at a kilometre's distance from the factory, he lived very retired, apart from the other hands, occupied in the culture of the plantation and raising of poultry. He inhabited a small hut. From the factory there came to visit him very frequently his adopted son, Anastasio, of the *Lucumi* nation; he used to bring victuals and at each visit spent some time with the diseased man in his hut. This man after some time became a leper with the same form of leprosy. The negro Anastasio's wife was a dark creole, the daughter of creole parents, and who had never known anything of leprosy. After a while this woman became a leper, the form being the same as that of her husband's and old Lorenzo's leprosy. These were the only cases of leprosy observed in that house, isolation having prevented the spread of the disease.
>
> "This observation is worthy of our attention. We understand very well that it may be objected that the adopted son could have contracted leprosy, not by contagion, but by heredity, his parents having been lepers, things about which we know nothing. But is it not strange that the disease should have waited before making its appearance until the man came in contact with another leper? Why did it not appear before? Moreover, to be the son of a leper does not imply that a man must of necessity become a leper. If, however, this case should not be admitted to be one of contagion we have that of the woman whose parents were not lepers and who was born in the country. There is no reason here to deny that the woman was contaminated by her husband and the case may be considered as one of inoculation through coitus. Observe that all three had the same form of leprosy.
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> "This observation corroborates the opinion, held by some dermatologists, that this form is as contagious as the tubercular. I believed at first that the nervous form was not contagious, but since I have seen certain cases and read about others of recent occurrence I have no longer any doubt on the subject. There exist conclusive observations of inoculation in individuals who, *having punctured anæsthetic spots with pin and knife, were inoculated in their turn, puncturing themselves with the same instruments*, and became lepers after a certain time. For me, in view of recent cases, I believe that this form may be contracted by contagion and inoculation."

I am, Sirs, yours faithfully,
New York, March 18th, 1898. ALBERT S. ASHMEAD, M.D.

INOCULATION OF SMALL-POX.

To the Editors of The Lancet.

Sirs,—The paragraph headed "Vaccination Extraordinary" in The Lancet of Feb. 26th, 1898, p. 619, reminds me that in 1881, I believe, there was in Geneva an epidemic of variola, the regulations relative to compulsory vaccination having been to a great extent disregarded. Each time that I saw a small-pox patient in the dwellings of the poor where parents and children were crowded in one or two rooms I inoculated all the unvaccinated inmates of the *appartement*, using the pus of the first well-formed variolous pustule. This I did in the belief that every unvaccinated individual would necessarily take the disease, isolation being impossible. My method was to use the variolous pus in the same way as vaccine lymph, scratching the skin, but not making it bleed much. This was done by me in about forty instances; the inoculations were not attended by any accident and all the cases were very mild, the variola developing nicely with little fever and never being confluent. I believe that at the end of last century the Paris Academy of Medicine condemned inoculation of this kind.

I am, Sirs, yours faithfully,

Geneva, March 1st, 1898. A. Cordes, M.R.C.P. Lond.

THE LATE MR. R. R. CHEYNE AND THE PRESERVATION OF VACCINE LYMPH.

To the Editors of The Lancet.

Sirs,—In his speech introducing the new Vaccination Bill Mr. Chaplin, referring to the use of glycerine in the preservation of vaccine lymph, seems to imply that the method is of comparatively recent date and of foreign origin. That this is not so I wish to be allowed to point out. As far back as 1849 the idea had occurred to my father, Mr. R. R. Cheyne, F.R.C.S. (of 43, Berners-street and afterwards of 27, Nottingham-place), who after having experimentally proved its value for several months laid it before the profession in a letter to the *Medical Times* dated March 15th, 1850. Some correspondence ensued at the time and in June, 1853, I find my father writing to the same journal saying that he had had the pleasure of showing to the Presidents of the London Colleges of Physicians and Surgeons (Dr. Paris and Mr. Cæsar Hawkins) a case successfully vaccinated with lymph preserved for upwards of six months in this way.

"What we wanted," my father says in a letter to the *Medical Times*, dated March 30th, 1850, "was some liquid *natural* to the animal body; having the power of remaining liquid at common temperatures; neither crystallizable nor disposed to ferment; antiseptic in a marked degree; and, lastly, having the power of easily mixing with the lymph to be preserved." The discovery does not seem to have been taken advantage of by the profession to any great extent, though several public vaccinators availed themselves of the convenience and advantage of the method, until in 1866—sixteen years after my father had first made it known—Dr. Müller, of Berlin, appeared as discoverer and inventor of the use of glycerine to store vaccine lymph by admixture. There was some further correspondence (including a letter to The Lancet, dated March 13th, 1867, from Mr. A. C. MacLaren, who is still living at No. 60, Harley-street), but the matter once more dropped until now I see it revived again as a novelty of foreign origin. My father is not with us now to have the gratification of seeing the method he introduced sanctioned by authority and adopted by the Government, but I think it only fair to his memory that it should be generally known to whom the merit of the discovery is really due.

I am, Sirs, yours faithfully,

West Norwood, March 19th, 1898. R. Cheyne.

MR. A. R. WALLACE AND VACCINATION.

To the Editors of The Lancet.

Sirs,—I thank you for the notice of my pamphlet, "Vaccination a Delusion," in your issue of March 12th, at page 734, and especially for pointing out a verbal error in the introductory passage which, however, has no bearing on the main argument. It shall be corrected in future issues and your notice of it leads me to hope that there are few such errors in the more important parts of the work. I also thank you for giving what purports to be a quotation, being duly enclosed in inverted commas, but which is *not* what I have said and has a different meaning (see p. 13 at top). It is really a compliment to be thus misquoted by an opponent, because it implies such a plentiful lack of fact or argument against the author's real statements or contentions. Besides, it furnishes me with another example, to add to those I have given, of the inaccuracies of the medical profession when dealing with this question. Equally complimentary is it that immediately after commenting upon your own misquotation you run away from my book to quote some quite unimportant portions of my examination before the Royal Commission eight years ago. I tendered evidence on the statistical side of the subject only, but the Commissioners insisted upon questioning me on medical and other matters as to which I knew little or nothing and of which ignorance—not claiming omniscience—I am not in the least ashamed. Again thanking you for your unintentional, but none the less acceptable, testimony as to the unanswerable character of the facts and arguments in my book,

I am, Sirs, yours truly,

Parkstone, Dorset, March 20th, 1898. Alfred R. Wallace.

⁂ We are glad to hear that Mr. Wallace has now been convinced that typhus fever is not believed to be spread by means of specifically polluted drinking water, though we are really afraid that a plea of "verbal error" can only with very considerable elasticity be made applicable to a statement that "cholera, typhus, and enteric fever are believed to be communicated through the dejecta from the patient contaminating drinking water." We regret, however, that on our part words never intended to have been placed in inverted commas should inadvertently have been so placed, but any one reading our passage side by side with the passage in Mr. Wallace's pamphlet to which he refers would at once see that the former has no pretence whatever to be a quotation from the latter. With Mr. Wallace's contention that when before the Royal Commission he tendered evidence on the statistical side of the subject only, while the Commissioners insisted upon questioning him "on medical and other matters as to which I knew little or nothing," we must join issue. It appears to us that it is exactly the crucial statistical evidence which Mr. Wallace did *not* tender to the Commission, and when asked as to it he confessed a total ignorance of this all-important side of the question, an ignorance which it would seem is equally manifest in his pamphlet. Hence the uselessness of seriously discussing the pamphlet. For Mr. Wallace to adduce statistics such as may suit his own views of the situation, and to abstain from dealing with the evidence upon which belief in the protective value of vaccination admittedly rests, is to adopt tactics which could hardly be expected to meet with much sympathy at the hands of Commissioners bent on elucidating the facts. What would Mr. Wallace say if we professed to furnish expert evidence upon his work "The Malay Archipelago" and admitted in cross-examination that we had only read certain chapters, and those the least important of it? Mr. Wallace laments that we have reverted to his evidence before the Royal Commission, and we do not wonder: it is certainly no more worthy of his great reputation than is the pamphlet to which we have referred.—Ed. L.

"ADENOID VEGETATIONS AND LARYNGEAL STRIDOR."

To the Editors of The Lancet.

Sirs,—An article from the pen of Dr. Eustace Smith relating to diseases of childhood necessarily commands so much attention that I venture to ask for space for a brief criticism of the views expressed by him in his recent paper on Adenoid Vegetations and Laryngeal Stridor.[1] Dr.

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[1] The Lancet, March 19th, 1898, p. 783.

G. A. Sutherland and I recently[2] claimed to prove that an affection commonly known as congenital laryngeal stridor depended upon a congenital deformity of the superior laryngeal aperture aided by the flaccidity of the parts in infancy, (not on the latter factor alone as Dr. Smith erroneously interprets our views). If adenoids are the exciting cause of the affection, as Dr. Smith asserts, it is a little surprising that Dr. P. McBride, who examined six cases for Dr. Thomson of Edinburgh, and myself in some twelve consecutive cases have been unable to find them in a single instance. Dr. Smith's contention is weakened and his bias shown by his statement that he always believed these cases were due to adenoids but that until this one case came under observation he had no substantial evidence of it. The typical class of cases described by Dr. Thomson, Dr. Sutherland, and myself form a group *per se* and must be carefully distinguished, as we pointed out, from cases of laryngeal spasm due to adenoids or other form of nasal obstruction. Many details of Dr. Smith's case, apart from the result of treatment, point to its belonging to the latter class. Thus the stridor ceased under chloroform, was much increased in sleep or by closing the mouth as in feeding, and the patient was subject to severe suffocative attacks, these symptoms being characteristic of the adenoid cases and very rare in the affection we have called congenital laryngeal obstruction. Thus Dr. Smith's case in no way controverts our views as to the pathology of the latter affection. Finally, when Dr. Smith states that he believes the affection to be due to spasmodic contraction of the ary-epiglottic folds, and that this is due to irritation set up by the adenoids in the naso-pharynx, I venture with all deference to reply that the spasm in his patient was possibly due to irritation set up by the examiner's finger and laryngeal mirror in the infant's pharynx—a not uncommon reflex.

I am, Sirs, yours faithfully,

elbeck-street, W., March 22nd, 1898. H. LAMBERT LACK.

"GROUND-WATER AND MALARIA."

To the Editors of THE LANCET.

SIRS,—I write to point out that in Chart 2 of my paper on Ground Water and Malaria on page 708 of THE LANCET of March 12th the words "fever rate" and "rainfall in inches" should be transposed, as the first and third lines represent the fever rate, and the second and fourth the rainfall. I shall be much obliged if you will mention this in your next number, as the point is an important one.

I am, Sirs, yours faithfully,

London, March 22nd, 1898. LEONARD ROGERS.

"THE BATTLE OF THE CLUBS."

To the Editors of THE LANCET.

SIRS,—I beg to enclose you a copy of an agreement signed by all the medical men in this town. Hitherto no clubs have been taken on here at less than 5*s.* per annum, but the "Cirencester Working-men's Conservative Benefit Society" is establishing branches here and in the neighbouring villages and will not pay more than 4*s.* 4*d.* per member per annum—if they can help it—and it is to check this that we have combined.

The society went so far as to introduce a medical man into one of the villages, but after a stay of two or three months he left.—I am, Sirs, yours faithfully,

Evesham, March 23rd, 1898. HORACE E. HAYNES.

[ENCLOSURE.]

Evesham, March 16th, 1898.

We, the undersigned, having regard to the "sweating" rates of payment made to medical men by medical aid associations and friendly societies, hereby agree not to undertake after this date to attend any members of such societies in the borough of Evesham at a less rate than 5*s.* per head per annum with 1*s.* fee for examination on entrance, and members of such societies having their headquarters outside the borough at not less than 6*s.* per annum with 1*s.* entrance fee.

ALLEN L. HAYNES. JOHN S. SLATER.
A. H. MARTIN. R. HARRISON GILPIN.
HORACE E. HAYNES. F. LEONARD SESSIONS.

UNQUALIFIED ASSISTANTS AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—I am an unqualified medical assistant, have been in the profession forty-five years, and was apprenticed to a firm of surgeons at Nuneaton, Warwickshire, for five years, for which my father paid £500. I then went to Guy's Hospital and completed my hospital curriculum, and went for examination, but unfortunately was rejected. I then was appointed surgeon on a ship, the *Wild Duck*, sailing from London to New Zealand. I had seven voyages in the capacity of surgeon; at the end of my seven years on board I gave up the appointment and obtained an assistancy at Great Bridge, Staffordshire. I attended 2500 cases of midwifery in seven years. I have left Great Bridge twenty-seven years and since that time have been engaged as assistant in very large practices, where I have attended a very large number of midwifery cases. I can say without exaggeration that I have attended personally 5000 cases of midwifery and never had a woman die under my treatment. I am now sixty-five years of age, in very good health, and able to do any amount of day and night work, not having had an hour's illness in my life. On reading the important notice as to the employment of unqualified persons as assistants or otherwise directed to be issued by resolution adopted by the General Medical Council on Nov. 24th, 1897, where it says the foregoing notices do not apply to the legitimate employment of dressers, midwives, dispensers, and surgery attendants under the immediate personal supervision of a registered medical practitioner, will you kindly inform me if I can attend *cases of midwifery*, of course under the supervision of my principals? An early answer will very greatly oblige Yours faithfully,

March 16th, 1898. J. T. L.

⁂ In our opinion our correspondent's attendance on "cases of midwifery" would subject his principal to the risk of being called to account by the Council. Why should our correspondent not submit his question to the General Medical Council?—ED. L.

HOSPITAL ABUSE.

(BY OUR SPECIAL COMMISSIONER.)

XV.—BRADFORD.[1]

Abuse affecting the Hospital Medical Staffs.—Small Payments Imposed on Poor Patients.—A Paying Clinique for Diseases of the Eye.—The Question of the Municipalisation of the Hospitals.—Charity Patients and their Christmas Dinners.—Patients attended at their Homes by Hospital Surgeons.—Disastrous Competition against Private Practitioners.

BRADFORD boasts of being the seventh largest town in England. In 1882 its population was estimated at 197,103, the birth-rate being 13·59 and the death-rate 21·01 per 1000. In 1892 the population was 219,262, the birth-rate 28 64, and the death-rate 17·91 per 1000. In 1896 the population was set down at 228,809. the birth-rate at 25·94, and the death-rate at 16·77 per 1000. From these figures it will be seen that the attendance at the hospitals should have fallen off considerably, but these institutions, on the contrary, continually boast of their increased usefulness and appeal for more funds so as to extend the scope of their action. It would seem, however, that at Bradford even members of the staffs of the hospitals are beginning to realise that it is necessary to draw the line somewhere. Complaints were made to me that the hospitals tend to develop the belief that the ordinary general practitioner is not competent, or in any case not so competent as the members of the hospital staffs. At first it was thought that such an impression would increase the private practice of the medical men who are attached to the hospitals. But experience shows that patients, instead of referring their relations and friends to the hospital physicians or surgeons, simply bring them to the hospital. This, of course, is more gratifying to the pride, than advantageous to the purse, of members of the hospital staffs. Thus a case was mentioned to me of a hospital surgeon who, being called in for consultation, recommended an amputation and duly received his two-guinea fee. But after this the patient was taken to the hospital, where the same surgeon had to perform the amputation for nothing. Another hospital surgeon had a patient who paid him regularly from £5 to £6 a year for medical attendance. On one occasion this patient broke his leg and he thereupon sought admittance to the General Hospital. The medical man complained to the secretary that this patient could well afford to pay, and consequently the secretary did make him pay—but to the hospital, not to the practitioner. On the other hand, the patient was very angry and on leaving the hospital never sent for that practitioner again. Thus this attempt to prevent hospital abuse resulted in the loss of from £5 to £6 a year in the case of the medical man who was imprudent enough to complain.

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[2] THE LANCET, Sept. 11th, 1897, p. 653.

[1] The previous articles on this subject were published in THE LANCET on the following dates: (1) Sept. 26th, 1896, Plymouth and Devonport; (2) Oct. 10th, 1896, Exeter; (2 *concluded*) Oct. 17th, 1896, Exeter; (3) Oct. 31st, 1896, St. Thomas's Hospital, London; (4) Nov. 14th, 1896, Liverpool; (4 *continued*) Nov. 21st, 1896, Liverpool; (4 *concluded*) Dec. 12th, 1896, Liverpool; (5) Jan. 2nd, 1897, Manchester; (5 *continued*) Jan. 9th, 1897, Manchester; (5 *concluded*) Jan. 23rd, 1897, Manchester; (6) Feb. 6th, 1897, Leeds; (6 *concluded*) Feb. 13th, 1897, Leeds; (7) April 17th, 1897, Coventry; (8) May 1st, 1897, The Royal London Ophthalmic Hospital; (9) May 8th, 1897, France, United Action and Legislative Action; (10) May 15th, 1897, Leicester; (11) June 5th, 1897, Nottingham; (12) July 31st, 1897, Birmingham; (12 *continued*) Aug. 14th, 1897, Birmingham; (12 *continued*) Sept. 4th, 1897, Birmingham; (12 *concluded*) Sept. 18th, 1897, Birmingham; (13) Oct. 30th, 1897, Southampton; (14) March 5th, 1898, Glasgow; (14 *concluded*) March 19th, 1898, Glasgow.

There are in Bradford four hospitals supported by voluntary contributions. The General Hospital (or Bradford Infirmary, as it is called), the Children's Hospital, the Eye and Ear Hospital, and the Cancer Hospital and Home for Incurables. Then there are also under the municipality the Infectious Diseases Hospital and under the parish authorities the Poor-law Infirmary. According to the general impression the worst abuse prevails at the Eye and Ear Hospital. Here the number of patients is rapidly augmenting. There were, for instance, 3462 new patients in 1890; five years later the number had increased to 4777. In 1896 there were 4966 and in 1897 no less than 5703. Rule 5 of this hospital states that: "Patients who are not able to pay for private medical advice but who can nevertheless contribute something towards the maintenance of the charity are expected to pay 1*s.* for the first advice and 6*d.* for each subsequent attendance; and in-door patients of the same description shall pay for their board according to a scale to be fixed by the House Committee."

By Rule 3 those who cannot pay these fees and are "properly recommended" are admitted gratuitously. A limited number of private patients are also admitted. The secretary of the Eye and Ear Hospital informed me that though patients were supposed to bring a recommendation a suitable case would not be refused even if the patient had no recommendation. Without drawing a hard-and-fast line they took into consideration the sort of house in which the patient lived, the number of the family, and the weekly earnings. As a general rule they made inquiries when these earnings exceeded 30*s.* a week or 7*s.* a head. A minute passed on Nov. 1st, 1894, says that patients living in houses with a rent of more than 5*s* a week and under 8*s.* a week should pay as stipulated in Rule 5 quoted above. Those who live in houses where the rent exceeds £20 are to be referred to the house committee. Single men who do not earn more than £1 a week may be treated gratuitously. Those who earn from £1 to £1 10*s.* come under Rule 5, and when the earnings exceed that sum the patient must be referred to the house committee. The minute further states that the clerk shall refer all apparently unsuitable cases to the secretary, who shall deal with them or, if necessary, consult the committee; but all applicants are to be attended on their first visits and these restrictions only apply with regard to continued treatment.

On paper these resolutions look very well but in practice they do not work out so favourably. The secretary was perforce obliged to admit, in answer to my questions, that as a rule they had to content themselves with the patient's own statement. In actual practice only two or three full inquiries were made in the course of the year. It is true that two members of the committee visited the hospital at least once a week, and if they saw any doubtful patients they would question them, but on looking down a row of beds how is it possible to recognise doubtful patients? The secretary could not say that anything had been detected during these visits but he thought that the fact that such measures were taken tended to alarm people and thus prevented abuse. The Children's Hospital and the Eye and Ear Hospital, the secretary considered, were better guarded in view of preventing abuse than other hospitals in Bradford. The different scales of payment led to a sort of bargaining with the patients and this necessitated the putting of many questions. Dressmakers, governesses and others often looked as if they could pay for private advice and yet, on questioning, it was found that they were extremely poor and had, as often as not, been sent to the hospital by a medical man. Calling on one of the surgeons belonging to the visiting staff of the Eye and Ear Hospital he frankly stated that undoubtedly there was great abuse but that these cases were often sent in by medical men. He further complained of the system of exacting payments from the patients. This destroyed the charitable character of the hospital. Thus, finding that one of the patients at the Eye and Ear Hospital was a pupil teacher, he asked him what his father did and was told that his father had retired from business. My informant then protested that the patient should not come to a charity, at which the pupil teacher indignantly replied, "Oh! I do not come to a charity. I have paid a shilling." Then there is a great loss of time over trivial cases. Not to mention thousands of people who come simply to try on glasses, there are patients who have no graver complaint than a stye on the eyelid.

Speaking to a general practitioner about the Eye and Ear Hospital he complained that the hospital had no wage limit and that consequently he did not get an eye case once a month. It has been seen that, at least theoretically, there is a wage limit, but this complaint suggests that it is not strictly applied. Thus this same general practitioner when calling on the manager of some important works found that the manager's son had got some spectacles from the Eye and Ear Hospital. My informant protested and in answer to these reproaches the manager replied that he was somewhat ashamed of himself and would not go to the hospital again. Many other similar complaints were made and one of the leading officials of the Charity Organisation Society expressed to me the opinion that the Eye and Ear Hospital was "awfully abused." Subscribers gave tickets of recommendation away most recklessly. In some cases it is well known at the hospitals that the bearer of a ticket can afford to pay for medical advice, but the hospital officials dare not send the patient away for fear of offending the subscriber. Rich subscribers have to be humoured. At the Eye and Ear Hospital many patients come from the country. For instance, one woman from Skipton derived so much benefit that she got up a subscription among her friends and sent a donation of £7 to the hospital. It is not feasible to write to outlying towns and rural districts about the patients who come up to Bradford, for there are not branches of the Charity Organisation Society in all localities by which such inquiries can be made. Of course, abuse is more likely to arise at an eye hospital than at a general hospital because there is a very large class of people who can afford to pay a general practitioner's fee and who cannot pay the fee of an ophthalmic consulting surgeon. To meet this class three young ophthalmic surgeons issued a circular some time ago stating that they would devote a given number of hours per week to clinical work and operations for patients who could pay moderate fees and who were crowding the wards of the Eye and Ear Hospital. If I remember rightly, they charged 3*s.* 6*d.* per consultation and a large number of patients responded to this invitation. It was believed that the general practitioners would prefer sending their patients to these young specialists than to the hospital and that the pressure on the hospital would thus be relieved. But the hospital authorities did not view the matter in the same light. They organised, on the contrary, the strongest possible opposition to the scheme and it had in consequence to be abandoned. Thus the medical charities remained masters of the field and nothing could be done for the patient who can only afford small payments. Yet the Eye and Ear Hospital itself was not started as a charity. It grew out of a private institution created by the late Dr. Bronner. It was converted into a charity of which Dr. Bronner was the principal or first surgeon and on his death the work was continued by his son, Dr. Adolph Bronner, who also made a specialty of diseases of the ear, nose, and throat. A department for these diseases has been recently instituted at the General Hospital under the same gentleman. The number of patients seen in this department is not, however, very numerous and some doubts are expressed as to whether it was worth opening. In 1896 there were only seventy-five cases and the report of the Bradford Hospital for that year states: "In view of the small number of patients who have attended the infirmary for diseases of the throat and nose the board apprehend that the public may not be fully conscious of the fact that a special department was recently established in the hospital for the treatment of such cases and they desire therefore to invite attention to the circumstance."

This passage has been pointed out to me as lending itself to an interpretation tending to confirm the attacks often made against hospitals by some members of the profession. It suggests an attempt not to meet a demand, but to create a demand, and the question also arises whether in thus calling special attention to a particular department the hospital authorities are not indirectly advertising the medical man in charge of that department.

The Children's Hospital is managed in the same manner as the Eye and Ear Hospital, and has now the same secretary. At first the hospital was established by a sisterhood from Margaret-street, London; but most of the work was done by Mr. Burnie, jun., who then occupied the unusual position of principal surgeon and active honorary secretary of the hospital. He was untiring in his efforts and the new buildings are mainly due to him. At first there were very few patients and here again it seems as if the supply had preceded the demand. Now, however, there were 502 in-patients and 2063 out-patients during the year 1896, which is a small increase on the figures of the previous year. All applicants are asked the amount of the earnings and the addresses of the sick childrens' parents and the greater number of the in-patients are made to contribute towards their maintenance in hospital. The amount paid is sometimes as high as 10*s.* a week but 2*s.* 6*d.* is the more usual sum. The record kept of the earnings of the families shows that the majority do not receive 30*s.* a week. The parents of the sick children must appear before the hospital committee, which meets once a fortnight, to answer questions, and, in fact, to bargain as to what they are to pay for the treatment of their children in the hospital. Out-patients are not charged, and it is only the parents of in-patients who have to appear before the committee. Nor need the patients be provided with a subscriber's recommendation ticket, but they must expect to be severely questioned as to their ability to pay something if the sufferer is to be admitted as an in-patient. Of course this bargaining tends to destroy the charitable aspect of the institution. Indeed, one medical man told me that he had recently had a child in his private practice who had been taken away from the Children's Hospital. The parents explained that they had reckoned the matter up and had found that it would be cheaper to have the child at home and engage a private practitioner than to pay what had been charged at the hospital. Yet, and in the face of facts like this, surprise is expressed when it is found that workmen often refuse to look upon the hospitals as charitable institutions. To the poor the payments are a real sacrifice, while the poor and well-to-do alike conclude that when they pay they are no longer in receipt of charity, and consequently they often complain of being kept waiting and otherwise comport themselves as patrons or clients rather than as persons who are receiving help from a charity. Several medical men with whom I discussed the matter said that in view of exacting payments the control exercised with regard to the in-patients at the Children's Hospital was fairly effective. One practitioner, however, expressed the opinion that this control was only theoretical. For instance, one of his patients had a child suffering from rickets and he prescribed for both mother and child but did not hear any more of them till a year later. He was then called in again to attend the mother. On inquiring about the child he was told that it had been taken regularly to the Children's Hospital where it obtained cod-liver emulsion and maltine. Now this family lived in a house for which they paid a rental of about £20. The father was employed in a wholesale business, two of his children were at work, and they kept a servant. On being reproached for sending their child to the hospital they replied that many persons richer than themselves did the same. Also the question arises whether an ordinary case of rickets should go to a hospital at all. Of course if an operation is necessary that is quite different, but ought the time of the staff to be wasted and the child made to go through the farce of a medical consultation because he or she wants a little more cod-liver oil?

The Cancer Hospital is associated with the name of Dr. Rabagliati, who is gynæcologist and late senior surgeon to the Bradford Infirmary.

All these facts raise the question whether individual medical men should be allowed to start hospitals. Doubtless this is often done from the very best of motives—and I do not attribute other than the best of motives to the gentlemen whose names I have mentioned—but who can analyse motives and who can draw the line between a charity started because there is a genuine public need for such relief or an institution that is needed only in the imagination of a few medical men desirous of securing staff appointments?

One Bradford medical man in large general practice expressed himself in favour of municipal hospitals. Then instead of one big palatial hospital there should be numerous municipal dispensaries spread all over the town. Any fully qualified local practitioner could attend these dispensaries and be paid by the municipality according to the number of patients who chose to consult him. The municipality doubtless would recover these fees from the patients who could afford to pay in the same way as it recovers taxes. Hence every medical man would have his chance and all work done would be paid for. Now the hospitals, run independently of any public control, were too often utilised as a means of advertising some particular set of men and to increase the value of this advertisement patients who could afford to pay were treated gratuitously. Thus an unfair competition is established with the general practitioner. Not only was the money of the benevolent thus employed to advertise one set of medical men while driving another and more numerous section of the profession to ruin and despair, but under the pretext of helping the poor the charitable donors were indirectly subsidising rich manufacturers and other employers of labour. Formerly, at large works, the employer would engage a medical man to attend in case of accidents and give him a retaining fee of £20 to £50 a year. But this is now all stopped. The profession has entirely lost this source of revenue; directly an accident happens the victim is carried off to the hospital. Formerly the employer paid for these accidents and nothing was thought or said about the matter. To-day the employer is relieved of this outlay by the hospital, and by subscribing to the hospital a smaller sum than he used to give to his medical officer, he acquires the reputation of being a great philanthropist.

The three hospitals mentioned represent, however, but a small amount of medical work when compared with the Bradford Infirmary. Here the total number of patients attended by the hospital staff amounted in 1896 to 14,908. Though many complaints have been made as to the abuse which prevails at the infirmary, the secretary was very confident in his general tone of conversation and seemed to think that a wage limit was on the whole successfully applied. On the ticket of recommendation the general and the actual weekly earnings should be stated. Where this is not done inquiries are made, but there is no staff to carry out such inquiries and the secretary stated that difficult cases were referred to the Charity Organisation Society. On the other hand, when I inquired at the offices of this society they assured me that they did not get thirty cases referred to them from the hospitals during the course of a year. Supposing, however, that all these cases came from the infirmary, what effect can thirty investigations have on 15,000 patients? Nor could I find that there was any rule establishing a wage limit. The secretary had noted down his own conception of a wage limit but I am not aware that this has been officially endorsed. The secretary considers that a wage of 18*s.* a week should debar a man and wife, 23*s.* a family of three, 28*s.* a family of four; while families of five must not have as much as 35*s.*, and 5*s.* more is allowed for each additional child. He thought that the control on this basis was well maintained and as a proof of this contention pointed out that whereas the Leeds Infirmary, with some 40,000 patients per annum, had only rejected 100 applicants during the course of the year, the Bradford Infirmary, with only 15,000 patients, excluded from 130 to 150 applicants in the same period of time. Abuse, the secretary believed, occurred most frequently with regard to small accidents such as crushed fingers. The patients ran to the hospital at once for a first dressing. Then, even if they felt disposed, for the subsequent dressings, to resort to private practitioners, the latter were not particularly anxious to take on such cases; for if anything went wrong it would be difficult to say who was to blame—the house surgeon who had attended to the first dressing or the practitioner who had subsequently taken up the case. With regard to paying patients, a rule had been adopted some eight months ago, that paying patients as such were not to be admitted. Formerly domestic servants were charged 10*s.* 6*d.* a week as in-patients; now this sum has been raised to a guinea, but still the medical attendant derives no benefit from such payments. Nevertheless practitioners sometimes in the interest of their clients recommend them to send their servants to the hospital. Now difficulties are made in such cases. Other similar difficulties arise. Thus there was, a little while ago, some trouble about a child who was staying as a guest with friends at Bradford. The child fell ill with periostitis of the shoulder, and could not be sent home, yet at the infirmary they hesitated to take this paying patient. Then there are not a few medical men who prefer to send their serious cases to the infirmary rather than to run up a long bill against a poor patient. Where it is necessary to perform an operation the general practitioner sometimes does not possess the necessary instruments, and again prefers to send his patient to the hospital. But, in these cases, and where the patient is in a position to pay for his treatment at the hospital, the medical attendant should receive a part of such payments.

With regard to the admittance of trivial cases it is urged that this is more excusable where, as at Leeds, there is a medical school; for students must see boils, chilblains, &c., as well as more serious complaints; but there are no students at the Bradford Infirmary. The worst abuse, however, arises from the system of home visits. During the year 1896 the house surgeons paid no less than 28,228 visits to 3052 patients at their own homes. These comprise a very large number of chronic cases, and practically no inquiry is made nor do the visiting staff exercise any control over the juniors who are entrusted with this work. These young men may make any diagnosis and employ any remedy they choose. The patients are therefore no better off than if they engaged the newest and least experienced private practitioners established in the town. A young man who may have passed his examinations only a few months previously has a far larger number of patients placed under his care than it is possible for him to attend properly. He will often have to see fifty or sixty patients in the course of one day and, considering the distances, this is topographically impossible. At most he can only run into the house for a moment and sometimes contents himself with shouting up the stairs an inquiry as to whether more medicine is required and the patient shouts down the reply. Of course, these young medical men may call in one of their seniors to correct or supervise their treatment, but it is well known that juniors are more positive and have greater confidence in themselves than their seniors. It is experience that engenders doubt. In any case, there is not the time allowed for careful treatment. The home work done by these young medical officers from the infirmary was described to me as consisting too often of "a good morning and off again." A general practitioner told me that poor people often came to him offering small fees if he would advise them, because the infirmary surgeon never had time to attend to them properly. Out-patients from the infirmary also came and complained. At their first visit at the infirmary they might be examined, but on their returning they would generally see another medical man, who would only ask if they were better and then scribble something on their card. As for the abuse, this was very obvious. My informant mentioned a case of a woman who was attended at her home by one of the infirmary medical officers, yet she had recently made her will which showed that she was worth several hundred pounds. On another occasion he went to examine a man who wanted to insure his life. This man's wife was very ill and on inquiry he found that she was attended by one of the medical officers from the infirmary, yet these people were earning a good income. Another practitioner who formerly did some of the home work for the infirmary was invited by three private families to their Christmas dinner. They all kept servants; nevertheless he had attended them gratuitously at their homes where he had been sent from the infirmary. One infirmary patient lived in a house where the rent was as high as £60 a year. The infirmary boasts that some five hundred visits are made in a single week to patients in their own homes, and yet there are only two junior medical officers to perform this gigantic task. How can it be done properly? The distance covered measures some four by three miles. Naturally this competition injures the general practitioner very materially. Thus, a young medical man established himself in the suburbs of Bradford and the payments he received during the second year amounted to £90 and were steadily increasing. At that time, however, the infirmary extended their home patient boundary-line so that it now included his district. The result was that during the first year after this extension his income dropped to the extent of £50. One small tradesman who had paid him £5 during the course of a year now became a patient of the infirmary visiting medical man. This is illustrative of many other similar cases.

The reckless manner in which employers give recommendation tickets to persons in their employ who are well able to pay accounts for some of the abuse. All warehouse accidents become hospital cases. When the ambulance is sent for it never occurs to any one to ask the patient whether he will be taken home, but he is taken to the infirmary as a matter of course. Even with regard to workmen's families there are so many half-timers that the joint earnings of a family may amount to £3 or so a week, and yet they consider that they have as much right to apply to a medical charity as a workman whose income does not exceed 18*s.* a week. But the creation of a hospital fund with subscriptions regularly levied from working men helps to spread the idea that they have a right to go to the hospital. It is true that at Bradford the workmen's subscription is more generally 1*d.* per month and not, as in many other towns, 1*d.* per week. But again, the issuing of tickets of recommendation in exchange for these subscriptions still further tends to confirm the impression that the right to attend the hospital has been purchased. Also chapel ministers and others get tickets to give to members of their congregations. Practically, the number of tickets, at least for out-patients, is unlimited. Books of forms are given out and are renewed even when the subscription is not renewed. Yet when an applicant for a ticket is not known the person who gives the ticket must believe all he is told, for he is not likely to have the time or inclination to make independent inquiries. Some subscribers, however, have the prudence to hand over all their tickets to the Charity Organisation Society and refer their applicants to this institution. Much education will, however, be required before the donors of recommendations for in-patients will understand that such patients should be really poor, should suffer from some serious disease which cannot be treated at home, and should be in need of rest, quiet, skilled treatment and good nursing.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague in India.

THE plague continues unabated in Bombay and the general health of the city remains unchanged. Pneumonic symptoms are a marked feature in the present stage of the epidemic. It is stated that influenza is prevalent, so that it is possible that the type of plague cases may be unfavourably modified in this way, just as on the other hand the association of plague with relapsing fever seems to favour greater chances of recovery. The mortality from all causes during the past week is recorded at 2080, giving a rate of mortality of 130 per 1000 per annum—the average being at the rate of 44 per 1000 per annum. It is difficult, if not impossible, at present to forecast a decline of the epidemic, because the disease has not yet spread to districts of the city which were affected last year, and comparison with the returns of last year show that possibly the height of this recrudescence has not yet been reached. The rate of mortality among races and castes is as follows:—

	Per 1000 per annum.		Per 1000 per annum.
Jains	204	Mohammedans	117
Brahmins	126	Parsees...	75
Bhattias	224	Native Christians	99
Caste Hindoos	133	Europeans	46
Low Caste	187		

It is stated that the difference in mortality between the Mohammedans and Hindoos is due partly to the fact that the former eat more and consume animal food and partly because they do not crowd so much together—otherwise their conditions of life appear to be identical. Bombay is admitted to be the most crowded city in the world and it is not surprising therefore that the district death-rate should vary from 235 per 1000 in Girganna to 12 in Upper Colaba, the latter being the only district having a healthy record. Statements have recently been made that this epidemic will see the last of the plague for the present and that it need not be anticipated next year. Unfortunately the history of plague in India holds out little hope of such a prospect. Some of the older Mohammedan histories and the writings of early European travellers have been examined and they show that in the early part of the seventeenth century the plague lasted eight years. An epidemic seventy years later lasted over six years and again in the early part of the present century it lasted at least six years. Europeans seem to have had the same immunity in the older days as they possess now. Two hundred years ago in an epidemic at Surat the natives were dying in thousands while not one Englishman was affected. The writer of the account ascribes something to the generous wines and costly dishes and to the strength of the aliment on which they fed. Yet he says: "When I consider how languid and feeble several of the English are at some times of the year and, notwithstanding their good food, much less vigorous and athletic in their bodies than the Indians and therefore less able to expel a contagious disease," &c. The accounts of those early days show that the ravages were then much greater than they are now. Often it is stated that half the population were carried off by the disease. In the present epidemic in Bombay notwithstanding that it has now lasted eighteen months, not one-fortieth part of the population has even been attacked with the disease. In other places it may have been more disastrous but certainly nothing to correspond with the descriptions of the older writers.

An Interestihg Table.

The following table, which has been drawn up by Brigade-Surgeon-Lieutenant-Colonel Weir, the health officer of Bombay, shows and contrasts the weekly total mortality in Bombay city in the following months of 1897 and 1898:—

Week ending.	1897. Total mortality.	1897. Increase or decrease per cent.	Week ending.	1898. Total mortality.	1898. Increase or decrease per cent.
Jan. 5th...	1711	- 7 66	Jan. 4th ...	1061	+ 8·82
„ 12th...	1638	- 4·26	„ 11th ...	1307	+23 18
„ 19th...	1758	+ 7 32	„ 18th ...	1540	+17·82
„ 26th...	1721	- 2·10	„ 25th ...	1726	+12·07
Feb. 2nd...	1645	- 4·41	Feb. 1st ...	1871	+ 8·40
„ 9th...	1911	+16·17	„ 8th...	2067	+10·47
„ 16th...	1728	- 9·57	„ 15th...	2195	+ 6 19
„ 23rd...	1650	- 4 51	„ 22nd	1974	-10 06
March 2nd ...	1484	-10·06	March 1st ...	2080	+ 5·36
„ 9th...	1326	-10·64	—	—	—
„ 16th...	1258	- 5·12	—	—	—
„ 23rd...	1139	- 9·45	—	—	—
„ 30th...	1141	+ 0 17	—	—	—
April 6th ...	1007	-11·74	—	—	—
„ 13th...	970	- 3·67	—	—	—
„ 20th...	836	-13·81	—	—	—
„ 27th...	671	-19·73	—	—	—

March 3rd.

CARDIFF PORT SANITARY AUTHORITY.—In the annual report for the Port Sanitary Authority of Cardiff Dr. Williams states that 6257 vessels had been inspected during 1897; of these 5391 were found to be in a fair or good condition and 866 were in a more or less insanitary state; 16 patients were admitted to the Infectious Diseases Hospital.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Head Constable of Liverpool's Report for 1897.

IN the annual report of the head constable of Liverpool on the police establishment and the state of crime, accidents, &c., in Liverpool for the year 1897 the following statistics are of interest. In the list comprising the number of accidents, &c., reported by the police it is stated that 187 persons were bitten by dogs; 55 persons were burned; 67 fell from buildings; 284 fell into docks, canal, &c.; 610 persons were found by the police in fits and other causes of sudden illness; 12 persons were injured by firearms; 25 were injured in dock works; 199 were injured on dock quays; 355 were injured on board vessels; 386 persons were run over by carts, &c.; there were 189 attempts to commit suicide; other accidents numbered 1224; making a total of 3545 cases reported by the police. 19 persons were rescued from drowning and fire; 9 persons were rescued from drowning, means of restoration being also used. The fatal cases amounted to 177. The total number of cases taken to hospitals, &c., by the police was 2523. First aid was rendered by the police by means of applying bandages in 125 cases; by stopping bleeding in 43 cases; by administering emetics in 22 cases; they also rendered other assistance in 670 cases. Under the Prevention of Cruelty to Children Act 250 persons were arrested without warrant for wilfully neglecting, ill-treating, or exposing children; 120 persons were arrested on warrant issued on first instance; 11 on warrant issued on failure to appear to summonses, making a total of 115 males and 266 females apprehended. 62 males and 90 females were proceeded against by summons. The total number proceeded against amounted to 533. The convictions were distributed as follows: 52 persons were imprisoned for six months and over three months; 107 for three months and over two months; 48 for two months and over one month; 79 for one month and over fourteen days; and 15 for fourteen days and under. 7 individuals were fined and 165 were discharged with or without sureties. Altogether 1166 persons were proceeded against under the Act. The number of apprehensions for drunkenness for the first time amounted to 3807, 2355 males and 1452 females. Of these some were apprehended several times, bringing up the number of apprehensions for the year to 4965, the females predominating after the first arrest.

The Dangers of Water-gas.

At the last meeting of the Health Committee Dr. Hope, the medical officer of health, presented a report as to the death on March 11th of a Swedish emigrant who died from suffocation at a registered boarding-house in the south end of the city. The report stated that "at the inquest the question arose as to whether or not the gas supplied to the house was ordinary coal-gas, with which the public are familiar, or whether a more poisonous gas was being supplied. It was admitted that for some time past water-gas had been supplied to that part of the city in varying proportions, and as water-gas contains between 30 to 40 per cent. of carbonic oxide and ordinary coal gas contains about 4 per cent. it is evident that the danger to the public is increased in proportion to the amount of water-gas sent into the dwelling. The public are fairly familiar with the uses and dangers of coal-gas and generally speaking adopt means to protect themselves from those dangers; but at the same time it must not be overlooked that small defects in fittings which might not with the ordinary coal-gas result in injury might reasonably be expected to give rise to serious consequences if a virulently poisonous mixture is without warning to the public or any notice whatever substituted for coal-gas." At the inquest in question Professor Paul of University College, Liverpool, who had made a post-mortem examination of the deceased Swedish emigrant, stated that he found no smell of coal-gas about the body. The whole of the body was of a bright pink colour and there was no blueness or lividity. The colour was due to the effect o carbonic oxide poisoning, to which also he ascribed death which was confirmed by an examination of the blood. In view of fatalities that have occurred a departmental inquiry is at the present time being held into the use of water-gas, and Dr. Hope intimates that, pending the results of this inquiry, it is desirable that carburetted water-gas should not be sent into dwelling-houses, &c., without ample notice being given for the protection of the consumers.

The New Principal of University College, Liverpool.

Mr. Richard Tetley Glazebrook, M.A., F.R.S., Fellow and Senior Bursar of Trinity College, Cambridge, has been appointed to the post of Principal of University College, rendered vacant by the election of Dr. Rendall to the head-mastership of the Charterhouse School. Mr. Glazebrook has had a distinguished university career. He graduated in 1876 as fourth wrangler in the mathematical tripos and was elected Fellow of his College in 1877. He was elected a Fellow of the Royal Society in 1882. He is chairman of the Physics and Chemistry Committee of the Royal Society. Mr. Glazebrook is a Liverpool man and is the son of Mr. Nicholas Glazebrook, an esteemed medical practitioner in West Derby, near Liverpool.

A Cremation Society for Liverpool.

A local branch of the Cremation Society of England has recently been formed here. Mr. William Rathbone has been elected the first president. Among the members of the committee are Sir John Brunner, Bart., M.P.; Dr. William Carter, Dr. Hope, the medical officer of health; the Rev. J. P. Baynes (Church of England), the Rev. Dr. Klein (Unitarian), &c. Cremation is slowly but steadily making headway in Liverpool and, if the clergy of the Church of England could see their way to encourage the practice somewhat, there is no doubt that many timid people would be induced to look more favourably on this healthy mode of disposal of the dead.

The New Gynæcologist to the Liverpool Royal Infirmary.

Dr. T. B. Grimsdale, junior surgeon to the Women's Hospital, Shaw-street, has been elected Gynæcologist to the Liverpool Royal Infirmary in the room of Dr. John Wallace, who has been appointed consulting gynæcological surgeon.

March 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Munificent Bequests to the Edinburgh University.

BY the will of Sir William Fraser, K.C.B., LL.D., formerly Deputy Keeper of the Records, a large sum of money has been bequeathed to the University of Edinburgh. The distribution of the money is as follows: the sum of £25,000 is to be devoted for the establishment of a chair to be called the "Sir William Fraser Professorship of Ancient History and Palæography." The arrangements for this chair are left in the hands of the Senatus Academicus, while the nominations to it are vested in the University Court. A sum of £10,000 is left so that the annual income therefrom may be applied for the purposes of the University Library, but not less than two-thirds of the annual income must be applied to augment the salaries of the librarians and other officers connected with the library. The residue of his estate, which includes a sum of £15,000 and may amount in all to between £18,000 and £20,000, is divided into two equal parts, one of which goes to the Edinburgh Royal Infirmary and the other to the University for the general purposes of the University, but more particularly, if it can be arranged, for the foundation of bursaries or studentships for promoting research in historical subjects.

University of Glasgow.

Dr. Snodgrass, who has for some years been Muirhead Demonstrator of Physiology in the University and also Lecturer on Physiology in Queen Margaret College, has intimated his intention to resign these offices.

University of St. Andrews.

The University Court has by a majority sanctioned the proposal to establish a chair of anthropology and anatomy and also a chair of physiology and has instructed the Finance Committee to prepare a scheme for this purpose. The Court has also agreed to institute twelve bursaries of £20 each, tenable for two years, to be awarded to those male medical students who stand highest in the medical preliminary examination in October next. The lectures of Dr. Charles Templeman, University College, Dundee, in Medical Jurisprudence and Public Health have been recognised by the Court as qualifying for graduation in medicine. The Marquis of Bute has intimated his willingness to pay the salary of Miss Umpherston, L.R.C.P. Edin., as Lecturer on Physiology for an additional period of two years in the event of the Court being unable to provide the money from the University funds. "If siller will dae't" St. Andrews may even yet establish a medical school.

The Muirhead Bequest.

It may be remembered that some years ago Dr. Henry Muirhead of Cambuslang, Glasgow, left the sum of £25,000 in trust for the purpose of founding a college for the instruction of women in physical, biological, and medical science. The trustees entered into negotiations with Glasgow University, with Queen Margaret College, also with the directors of the Victoria Infirmary, but from none of these did any practical issue ensue largely because of certain conditions by which the trustees regarded themselves as bound. More recently the trustees have presented a petition to the Court of Session in connexion with a scheme for the establishment of a residential women's college in the immediate neighbourhood of the Victoria Infirmary. Another scheme submitted to the Court contemplates a more limited application of Dr. Muirhead's bequest and the establishment, not of a complete medical school, but of a school of gynæcology open only to women students and associated either with the Samaritan Infirmary or the Victoria Hospital, it being urged on behalf of this proposal that it would conform to the spirit of Dr. Muirhead's will and that the existing arrangements in Glasgow already fully meet the demand for the medical and scientific training of women. The Court has, however, decided that it is the duty of the trustees to found an institution for the instruction of women in physical and biological science and has remitted to Mr. H. Johnstone, Q.C., the duty of making a report upon the scheme proposed in the petition of the trustees.

Scottish Medico-Psychological Association.

A meeting of this association was held in the hall of the Faculty of Physicians and Surgeons, Glasgow, on March 10th, when Mr. Carswell, Lecturer on Mental Diseases in Anderson's College Medical School, read a paper on the Relation of Imbecile Children to Pauper Lunacy, in which he advocated the training and education of feeble-minded children in special schools under the authority of school boards. He contended that such children should be regarded and dealt with as a class entirely distinct from the imbecile and idiot group. In the discussion which ensued Dr. Yellowlees, Dr. Ireland, Dr. Alexander Robertson, and Dr. Hamilton Marr took part, and general and cordial approval was expressed of the decision of the Barony Parish Council to erect a special home for the reception of idiot children. The meeting was presided over by Dr. T. W. M'Dowall of the Morpeth Asylum.

Paisley Convalescent Homes.

The report for the past year intimates that the cost of the extension of the homes now in progress will be upwards of £4000 and thankfully acknowledges the following donations towards the building fund: Mr. James Coats of Ferguslie, £1500; Mrs. Arthur of Bowshaw, £1000; and Mr. Stewart Clark of Kilnside, £500. Mr. Coats has also announced his intention to erect several shelters and verandahs for the comfort of the patients.

March 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Public Health Department of the Dublin Corporation.

AT a meeting of the Dublin Corporation, which was held on March 21st, Sir Charles Cameron gave details as to the recent examination of candidates for the office of sanitary sub-inspector carried out by the Irish Branch of the Royal Institute of Public Health. Certificates were then presented by the Lord Mayor to the twelve successful candidates.

One of the inspectors in the scavenging department of the Dublin Corporation, a general overseer with a salary of £167 per annum, was recently arrested by the Liverpool police and charged at the Southern Divisional Police-court of Dublin on March 18th with having obtained money from his employers by false pretences. After some investigation and the examination of witnesses the prisoner was remanded, bail being refused.

The Auxiliary Asylum at Portrane.

The largest establishment which has ever been contemplated in Ireland for the accommodation of lunacy patients is now in course of erection at Portrane, an elevated site on the seashore about fifteen miles to the north of Dublin. The mass of buildings, which will cost £170,000, covers an area of 150 acres and displays a frontage towards the south of about one-third of a mile. The buildings are joined together by corridors, so that all parts of the establishment will be accessible from any other part by covered way. This fine structure is being built of red bricks, of which no less than 8,000,000 have been purchased, and it already presents a very imposing appearance surrounded by its domain of 400 acres. In addition to the permanent buildings other erections of a more temporary character were commenced in 1896 in order to relieve with as little delay as possible the congested and overcrowded condition of the Richmond Asylum. These "temporary" buildings are, moreover, of a very substantial character being constructed—at a cost of £20,000—of concrete, brick, and partly of wood. They have been partially occupied for a considerable time and accommodate at present 300 patients (60 females and 240 males) under the charge of the resident medical superintendent, Mr. J. O'C. Donelan. These so-called temporary premises will be retained after the completion of the permanent establishment and will serve in many ways to supplement it.

The Apothecaries' Hall of Ireland.

At a meeting of the Governors and Court of the Apothecaries' Hall held on March 18th the following resolution was passed:—

> That the Governor and Court of the Apothecaries' Hall, having heard with great regret of the death of the distinguished Irishman, Sir R. Quain, Bart., M.D., F.R.S., President of the General Medical Council, resolve that a letter be forwarded to the family expressing their deepest sympathy with them in their bereavement and also regretting the loss that the country has sustained in the death of this distinguished physician and apothecary, who has uniformly assisted their body (Apothecaries' Hall) with his advice and support.

The County Infirmaries of Ireland.

One of the most serious omissions from the new Local Government Bill is any reference to the county infirmaries. At present these institutions are supported by grants made half-yearly by the grand juries of the counties in which they are situated and patients are sent from all parts of the county to them. The city of Londonderry, together with five other cities in Ireland, will be constituted a county within itself and will be entirely separate from the county of Londonderry, so that where now there is only one county authority there will in the future be two. At present there is an infirmary in Derry for the county and with a grant from the grand jury, but the number of patients entering it from Londonderry and its neighbourhood, as compared with all the rest of the county, is as 300 to 50. No arrangement is mentioned in the Bill as to whether in future the infirmary will be under the city or county management or under both, nor indeed is there any reference to the other infirmaries of Ireland. The matter, however, is engaging the attention of those most concerned.

Dinner of Trinity College Graduates in Belfast.

The graduates of Trinity College, Dublin, resident in Belfast and Ulster, held their first annual dinner in the Grand Central Hotel, Belfast, on the evening of St. Patrick's Day. The chair was very appropriately occupied by the Lord Mayor of Belfast (Alderman Henderson, J.P.) who is an M.A. of Trinity. The dinner was in every way a great success, except for the speech of Professor Mahaffy. Coming a complete stranger to Belfast, knowing it as little as he is known to the inhabitants of that place, his attack on it was peculiar. He said "he saw no dangers or difficulties in speaking the truth and he thought that great city of Belfast might profit greatly if they cultivated greater freedom of speech. He seldom heard any question mooted in that city but he was told 'this is a very dangerous thing to say. Oh, this will offend somebody, better not tread upon that subject.'" Again, in referring to the vexed university question Professor Mahaffy said, "But if there was to be a Roman Catholic university for Ireland, for what purpose would it be? Was it to educate paupers in the arts? There might be countries such as Scotland in which very poor people learned the arts and became professional men. He (the Professor) had now lived forty years in Ireland and he could say conscientiously that any system of education in the form of a Roman Catholic university which took the poor classes and educated them to leave their own condition in life and become professional men would be not only not to benefit that class of their population but a great mischief. They had to teach their people that it was a much more honourable and respectable thing for a ploughman or a farmer to be a first-rate ploughman or farmer than for him to become a fifth-rate lawyer or parson." In reading such statements, to which another speaker, Mr. James Campbell, Q.C., M.P., objected, one rubs one's eyes and asks, Are we living in the dark ages or near the close of the nineteenth century. No wonder one of the leading Belfast papers suggests that if there is another dinner of Trinity College graduates in Belfast Professor Mahaffy had better be kept away.

The Coroner and the Harbour Commissioners of Belfast.

At an inquest held on March 14th on the body of an iron turner, aged twenty-eight years, whose decomposed body was found in the Clarendon Dock, Belfast, the coroner made some strong remarks on the Harbour Commissioners of Belfast. He said the body was the second yielded up by the Clarendon Dock within a week and he asked how long was this state of things to continue. How long were the Harbour Commissioners to leave their death-traps unprotected? They cared nothing, he said, for the many verdicts of juries condemning their negligence or for public opinion. They had nothing to fear from the Government, for on March 11th in the House of Commons, when attention was called to the last verdict in his court, the Secretary of the Board of Trade stated that his Board had no control over the Harbour Commissioners. If a person were injured on a railway, continued the coroner, the whole paraphernalia of the Board of Trade would be set in motion to inquire whether the railway company had been negligent or not; yet the Harbour Commissioners were allowed with impunity to contribute to the deaths of hundreds. For one death investigated by him from the three railways of Belfast there were twenty from the death-traps of the Harbour Commissioners. The foreman of the jury said the jury were agreed that the cause of death was drowning and also that the Harbour Commissioners were responsible for the death of this man in not listening to the advice of the coroner or that of the juries which had preceded that jury. He added that every person who had any business in the docks could not close his eyes to the fact that at any time men, whether sober or drunk, would be liable to trip and fall into the water. There was no protection of any kind, he said, and they agreed in the verdict that the Harbour Commissioners were responsible. The jury requested the coroner to forward their verdict to the proper quarter.

Queen's College, Belfast.

The winter session in the medical faculty will come to a close at the end of next week, when the class examinations will begin, and on April 26th the first medical examinations of the Royal University will commence in Dublin and go on until the middle of May.

March 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Epithelioma of the Face Successfully Treated by Swabbing with Arsenious Acid.

AT the meeting of the Society of Dermatology held on March 10th M. Hermet showed a patient who in October, 1897, was found to have epithelioma of the face. Arsenious acid was applied, the surface of the ulcer being left exposed to the air after the method of Czerny. The new growth was destroyed by the early days of January, 1898, and cicatrisation was completed by February. The patient had previously been treated by chlorate of potassium without the slightest benefit. Czerny's method employed by M. Hermet consists in using three solutions of arsenious acid in equal parts of water and ethylic alcohol. The first solution, of the strength of 1 in 150, is applied to the ulcerated surface. The second and third, which are stronger, are applied to the scab. The ulcer is swabbed with the solution every day and excessive pain is kept in abeyance by a hypodermic injection of morphia. When the scab falls off the raw surface is treated as an ordinary wound.

The Exhibition and Medical Congress of 1900.

The President of the Board of Trade has at the request of the Commissary-General just signed the document authorising the congresses which will be held during the exhibition of 1900. They will be divided into twelve sections, of which number six will be entirely devoted to the various medical sciences. A special committee, whose members will be nominated by the Minister concerned, will look after the organisation of the congresses and study the questions to be discussed by them. Their decisions will be laid before another and superior committee in whose hands will lie the general direction of the congresses conjointly with the head of the organising body of the exhibition. The programme of questions to be submitted to the congress or recommendations as to subjects upon which they can most usefully report, the names of the chairmen of the various sections, some idea as to how many sittings will be held, the proposed date of the congress, and a provisional account of the space which will be required for meetings and the like must be sent in to the Administration Office at the latest by Oct. 1st, 1899. A special building within the grounds of the exhibition of 1900 will be reserved for the congress and the various meetings which will grow out of it, so that there will be no repetition of the inconvenience felt in the last congress and exhibition, when, although the greater part of the meetings were held in Paris itself, there were at the same time a number of meetings being held at the Trocadéro.

The Case of Dr. Laporte.

In honour of the happy termination of the case of Dr Laporte the committee of the Syndicate of Medical Men of. the Department of the Seine invited the whole *corps médical* to be present at a grand banquet which took place on Monday, March 21st, at the Bonceray Restaurant.

The New Medical School at the Hospital of St. Antoine.

These new buildings, recently designed by M. Renard, the architect to the Assistance Publique, have just been opened but will not be altogether completed for some time. In the theatre of this new clinic Professor Hayent will henceforth hold his classes. The new buildings, the entrance to which is in the Boulevard Diderot, are connected with the old ones by a gallery which opens out of the Moieno block, and it has been erected by a subvention of 250,000 francs levied on the funds of the Paris Mutuel. The medical school is made up of one building thirty-five metres in length and one story high only. The architect has arranged for accommodation of the different departments in accordance with the very latest requirements of science and hygiene. The theatre, which is the largest part of the building, has seating accommodation for 150 students and extends through two stories. The patients are brought in by means of a lift. The amount of light in the theatre can be easily graduated by means of a system of screens. On the ground floor there are provided a room for radiography and electro-therapeutics, a dark room and a chemical laboratory, and on the first floor is a dark room for the examination of cases of diseases of the eye, a gynæcological room, a pathological room, and a bacteriological laboratory. Finally, plenty of space is reserved for museum and other specimens and drawings, so that the students can consult all notes and other documents relating to interesting cases treated in the clinic.

March 22nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Actinomycosis of the Lungs.

AT the last meeting of the Berlin Medical Society Dr. Karowski read a paper on Actinomycosis of the Lungs. The disease, he said, appeared in two forms. One of these, the catarrhal form, was due to the germs establishing themselves on the surface of the bronchial mucous membrane, the result being a chronic catarrh of the bronchi with actinomyces present in the sputum. The other form, the destructive one, was of a much more serious character and presented three distinct stages, in the first of which the germs entered into the deeper strata of the bronchi, producing there a destructive peribronchitis. At first the illness is not attended by any well-marked symptoms and it may often be taken for tuberculous phthisis, but the absence of tubercle bacilli and the appearance of actinomycosis fungi in the sputum may establish the diagnosis. Moreover, the area of dulness on percussion is not at the apex of the lung, as in tuberculosis, but is below the clavicle. In the second stage the fungi have come from the lungs to the pleura, producing there an hæmorrhagic exudation. A swelling of the thoracic wall as in empyema is very characteristic. The purulent accumulation may discharge itself either through the skin or through the diaphragm. In the third stage there are metastatic formations in different parts of the body, together with symptoms of general septicæmia. These cases are hopeless. Dr. Karowski then showed a patient who had been sent to him for an alleged sarcoma of the pleura. There was well-marked dulness of the right side and by puncture the presence of actinomycosis was ascertained. An incision was made in the fifth intercostal space, a portion of the sixth rib was resected, the affected skin and muscles were freely removed, and the resulting large cavity was cauterised with Paquelin's thermo-cautery and dressed with iodoform gauze. The patient was profoundly collapsed after the operation but eventually recovered. At the present time, three months after the operation, he still has a fistula, but actinomycosis fungi are no longer found in the discharge; the cough is only very slight and the patient has increased in weight 5 kilos. (11 lb.). Cases of pulmonary actinomycosis which have been successfully operated on are very rare, but would certainly become more frequent if an early diagnosis were possible.

Meteorological Conditions of Epidemics.

At the same meeting of the Berlin Medical Society Dr. Ruhemann discussed the influence of Meteorological Phenomena on Epidemics. With the help of numerous statistical tables he endeavoured to prove that there is an evident connexion between the incidence of certain infectious diseases and the duration of sunshine within a given period. This is especially the case with influenza, which usually prevails in winter. Dr. Ruhemann has compared the number of cases of influenza under his care with the duration of sunshine observed by the Royal Meteorological Institution and he has found that in the winter of 1894–95 with 1854 hours of sunshine there were 221 cases of influenza in his practice, while in 1895–96 with 3226 hours of sunshine there were only 140 cases, and in 1896–67 with 1617 hours of sunshine there were 252 cases. Dr. Ruhemann alleges that a similar connexion exists in some other diseases—such as measles, scarlet fever, and diphtheria—whilst in pneumonia and rheumatic and puerperal fevers the connexion is less marked.

The Public Health Service.

The anticipated reform of the Public Health Service in Prussia, the principal points of which were described in THE LANCET of April 24th, 1897, p. 1179, seems to be again postponed. In the last sitting of the Prussian Diet the Minister of Public Instruction, Dr. Bosse, said that the Government had abstained from a fundamental remodelling as proposed by the Royal Commission, but that the salary of the medical officers of health will be augmented and the Government medical department, which has hitherto been under the control of the Minister of Public Instruction, will in future be a department of the Home Office. This measure has met with the disapproval of nearly the whole medical press, mainly on the ground that if the public health service ceases to be connected with the universities it will lose its scientific character and that control by the Home Office will have the effect of reducing it to a mere police department. It is remarkable that Professor Virchow, who is a Member of Parliament, recently spoke in favour of the Government proposals.

The Health of Sewing-Machine Workers.

At a recent meeting of the Berlin Society of Public Health Dr. Strassmann, who is a physician to the women's department in the Charité Hospital, read a paper in which he stated that many diseases of the sexual organs were due to over-exertion in the use of the sewing-machine and he recommended that clauses should be inserted in the factory laws limiting the duration of work to ten hours a day and prohibiting machine work being done during the puerperal and menstrual periods or by girls under sixteen years of age. In the subsequent discussion several of the members expressed an opinion that the ill-effects described by Dr. Strassmann might be ascribed to other causes than the sewing-machine. Dr. Schäffer said that he had observed the same diseases in women who did hard work of a different kind, such as washerwomen, shop girls, &c. The bad health of the majority of sewing-machine workers was in his opinion due not so much to this special work as to the impoverished condition of this class of working women, who are paid from 12 to 14 marks a week for working ten hours a day. Dr. Falk agreed with Dr. Schäffer and mentioned the interesting fact that the statistics of the largest linen factory in Berlin show that the average morbidity of sewing-machine workers was much beneath the average of all the other sick clubs for working people in the city. It was generally agreed that the ill-health of this class of working-women was caused by too long hours of labour, ill-ventilated workrooms, inability to provide themselves with proper food, and want of recreation. All these conditions, although experienced by other classes of working women, pressed especially on sewing-machine workers.

March 22nd.

ROME.

(From our own Correspondent.)

Dr. Sanarelli's Instructions for the Use of his Serum in Yellow Fever.

By way of preparation for the "conferenza" at the Madrid Congress next month on the "Bacillus Icteroides and the Sero-therapy of Yellow Fever" Professor Sanarelli has gone to the Brazilian centres of the disease and, at San Paulo in particular, has experimented before a committee composed exclusively of Brazilian pathologists and consultants with his "serum anti-amaryl" (as he calls it) on a *catena* of typical cases. Besides these he will at the "conferenza" in Madrid set forth the results obtained by Dr. Seidl in the San Sebastiano Hospital at Rio Janeiro, where 200 *tubetti* (little tubes) of the "serum anti-amaryl" were put at Dr. Seidl's disposal. Meanwhile I am in a position to give a somewhat detailed report of the instructions Dr. Sanarelli addressed at San Paolo to the Brazilian committee as to the method of using the serum and as to the response to be expected from it. "Good results," he premises, "are difficult to obtain if the treatment be applied when the disease is already advanced, when the 'amaryllic' poison largely accumulated in the organism has already induced those grave anatomical and functional changes which the serum cannot undo and which of themselves suffice to cause death. We must for the present, therefore, restrict our application of the serum exclusively to the first period of the malady." It will be much if good results can be obtained by this early treatment (*trattamento precoce*), from the moment that the practitioner—the diagnosis being complete and no time lost or complications induced by remedies recognised as useless—can intervene immediately and definitely by energetic sero-therapeutic action. It will be still more if the indications then observed will enable us to utilise with success the "serum anti-amaryl" in further stages of the malady. Yet again the serum of animals on which the vaccination has been practised is in no respect hurtful; it can be injected into patients in the desired quantity up to the moment when all hope of success is not yet definitively abandoned. These considerations premised, we begin with a dose of 20 c.c., and if appreciable improvement fail to set in we may inject a second, a third, and even further doses, always being guided by the patient's resisting power, or his general condition, or the "period" of the malady, or the complications, and so on. The injections must be practised subcutaneously in the region of the thighs or nates, but in urgent cases it is preferable to introduce the serum directly into the veins. The veins of the forearm, rendered prominent by a bandage placed below the elbow, are well seen—above all, in lean subjects—and penetration into their cavity is easy with an ordinary "siringa da siero." It is needless to add that these injections must be practised under antiseptic safeguards of the most stringent kind (*sotto la salvaguardia della più severa antisettica*). Dr. Sanarelli is anxious to establish the efficacy of the "sieroterapia anti-amaryllica" on statistics as carefully sifted as they are copious, and with the view of avoiding premature controversy at once disconcerting and useless he begs his Brazilian brethren carefully to observe the above directions in employing this "serum anti-amaryl," which he places at their disposal in any quantity desired. So far as the experiments initiated by the instructions just given have had effect in the zone of yellow fever referred to the results hitherto obtained, I am informed, have been these: it has been shown that the serum is fatal to the microbe which produces the yellow fever, while it is impotent against the diffused poisoning which multiplies that microbe in the human subject. If previously to that diffusion the microbe can on its earliest appearance be met by a good injection of the anti-amaryllic serum it is at once destroyed and the patient put out of danger. To hit the opportune stage at which injection is efficacious, to surprise the organism at the period when incubation is not yet mature, and to kill the microbe before its proper nidus has attained the diffusion by which the poison becomes general, such should be the practitioner's aim if the serum is to be successful in his hands. But there is no time to lose, yellow fever often running to a final issue in less than two days.

March 18th.

CONSTANTINOPLE.

(From our own Correspondent.)

The New Professor of Medicine.

The Turkish Government having asked for a professor of medicine from Germany the Emperor has granted the necessary authorisation to Dr. Rieder of the University of Bonn. The newly-appointed professor is to receive 30,000 francs (£1200) a year. He will also have an assistant, who is likewise a German. The latter is to have a salary of 15,000 francs (£600) a year. Dr. Rieder is charged with the reorganisation of the medical school. Besides their services at the school these gentlemen will also inspect the military hospitals of the city.

Leprosy in the Balkan Peninsula.

Dr. Ehlers, of Copenhagen, states that leprosy is widely diffused in the Balkan Peninsula. This region has long since been reputed as a centre for leprosy, but precise information has not hitherto been obtained on account of the lack of trustworthy statistics. Roumania alone has been noted for correct information and systematic investigation with regard to this question. Dr. Ehlers in the course of a long journey in the Balkans has come across lepers almost everywhere throughout the peninsula. Crete also seems to abound with them. The Cretan lepers, he says, present all the ordinary symptoms of leprosy as seen elsewhere, but the disease is less severe there than it is in the countries of the north. This difference is undoubtedly due to the climate.

Sanitary Mission.

A special sanitary mission, consisting of five medical men, who are already nominated, will soon leave here for Mecca. The object of the mission is to examine the sanitary condition of the pilgrims who will be gathering at the holy places of Islam.

The Congress at Madrid.

The Imperial Government has decided to send delegates to represent Turkey at the Ninth International Congress of Hygiene and Demography to be held at Madrid during next month. The Turkish representatives will be Dr. Mahmoud Pacha and Dr. Djelal Bey. An Imperial Iradé orders their travelling expenses to be paid by the Treasury.

The Imperial Society of Medicine.

Dr. Khorassandjian, who was unanimously elected president of the above society, has resigned. Dr. Bitlis has now been elected to fill that post for the current year.

March 14th.

Exeter Dispensary.—The annual meeting of the Devon and Exeter Dispensary was held on Feb. 12th under the presidency of Lieutenant-General Garratt. The financial statement showed a deficiency of £207.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In March the following candidates passed in the under-mentioned subjects:—

Surgery.—F. Atthill (Section I.), Charing Cross Hospital; A. L. Bartram, Cambridge and Westminster Hospital; W. A. Clement, Bombay; F. Golding-Bird, Guy's Hospital; S. R. Hallam, St. Thomas's Hospital; H. L. Heath (Section I.), Toronto and Cambridge; J. H. Jones, Edinburgh; W. Lloyd, London Hospital; and S. H. Longhurst, Guy's Hospital.

Medicine.—T. H. Bailey, King's College Hospital; H. W. Graham, Guy's Hospital; H. L. Heath (Section I.), Toronto and Cambridge; and B. Hogan and W. J. Schuller (Section I.), London Hospital.

Forensic Medicine.—F. G. Aldrich, Charing-cross Hospital; H. W. Graham, Guy's Hospital; H. L. Heath, Toronto and Cambridge; and B. Hogan and W. J. Schuller, London Hospital.

Midwifery.—A. L. Bartram, Cambridge and Westminster Hospital; W. H. I. Bathurst, London Hospital; G. F. M. Clarke, Charing-cross Hospital; H. W. Graham, Guy's Hospital; H. L. Heath, Toronto and Cambridge; A. R. Henchley, Middlesex Hospital; B. Lewitt, St. Mary's Hospital; S. H. Longhurst, Guy's Hospital; P. C. Maitland, Middlesex Hospital; E. Morris, St. Bartholomew's Hospital; H. Munro, Guy's Hospital; and W. J. Schuller, London Hospital.

The diploma of the Society was granted to the following candidates:—Messrs. T. H. Bailey, A. L. Bartram, H. W. Graham, J. H. Jones, W. Lloyd, P. C. Maitland, and H. Munro.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentleman, having previously passed the necessary examinations, and having now attained the legal age of twenty-five years, has been admitted a Fellow of the College:—

Madden, Frank Cole, M.B. Melb., L.R.C.P. Lond., Melbourne University and St. Mary's Hospital.

WESTERN DISPENSARY, BATH.—The annual meeting of the governors of, and subscribers to, the Western Dispensary, Bath, was held on Jan. 25th under the presidency of the mayor. The medical report stated that 892 patients had been attended during 1897; 197 of these were visited at their own homes, necessitating 1304 visits.

CLEVEDON CONVALESCENT HOMES.—The annual report for 1897 shows that the homes now contain 50 beds (28 for women and 22 for men). During the year the Victoria Home for men and boys was opened, leaving the former home, Belmont, for women and children. There were 503 patients admitted in the course of the year. The income was £954 and the expenditure £941.

THE PLAGUE IN BOMBAY.—At a large meeting of Justices held at Bombay on March 15th the Governor delivered a speech on the subject of the proposed new measures for dealing with the plague. He stated that search parties were to be abolished experimentally and all suspicious cases were to be reported by the head men of the various communities. There would be no inspection of corpses or measures entailing delay in the performance of funeral rites.

THE LATE MR. F. W. HANHAM.—Mr. Frederick William Hanham, of Widcombe, Bath, died at Jersey on March 13th, aged sixty years. He received his medical education at Edinburgh and took the qualifications of L.R.C.P. Edin. and L.F.P.S. and L.M. Glasg. in 1864. Mr. Hanham was highly respected at Widcombe. He was senior surgeon to the Bath Lying-in Charity and surgeon to the Southern Dispensary, Bath, being also medical officer for one of the largest districts of the Bath Union. The deceased had recently removed to the Channel Islands for the benefit of his health.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on March 10th, Dr. Macnaughton Jones, President, being in the chair. After some interesting specimens had been shown a demonstration on Micro-Organisms in Relation to the Female Pelvic Organs was given by Dr. George Newman, Lecturer on Bacteriology in King's College. This was illustrated by a series of lantern slides and twenty microscopic specimens under $\frac{1}{12}$ (oil-immersion) lenses.—A paper on Enucleation of Uterine Fibroids, illustrated by lantern slides showing methods of operation and tumours removed, was then read by Dr. W. Alexander of Liverpool.

TAVISTOCK COTTAGE HOSPITAL.—The annual meeting of the Tavistock Cottage Hospital was held on Jan. 25th. The annual report showed that 111 patients had been admitted during 1897, being an increase of 31 on the previous year; 508 out-patients had been treated during the year. The treasurer reported a balance in hand of £58.

PENALTIES FOR OCCUPYING UNCERTIFIED HOUSES.—At Aberdare police-court on March 8th ten occupiers of some new houses at Aberaman were summoned at the instance of the Aberdare District Council for inhabiting the premises prior to their being certified by the local authorities and a penalty of 10*s*. and costs was imposed upon each defendant.

ROYAL INSTITUTION.—Among the lectures announced for delivery after Easter are the following: three lectures on Natural Philosophy, by the Right Hon. Lord Rayleigh, F.R.S., and two lectures on Modern Methods and their Achievements in Bacteriology, by Dr. E. E. Klein. The Friday evening meetings of the members will be resumed on April 22nd, when Mr. W. H. M. Christie, the Astronomer Royal, will deliver a discourse on the Recent Eclipse.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The monthly meeting of the South-West London Medical Society was held at the town-hall, Wandsworth, on March 9th, under the presidency of Mr. T. A. I. Howell, when Mr. C. B. Lockwood read a paper on the "Surgical Treatment of Acute Septic Peritonitis, Localised and Diffused." His remarks were chiefly directed to a consideration of the results of disease of the appendix, and after a careful review of the symptomatology the importance of an early recognition of the disease with a view to prompt surgical interference was strongly urged. The lecture was listened to with much attention, and was followed by a discussion in which the President, Dr. Caldwell Smith, Surgeon-Major Mark Robinson, Dr. Hillstead, Mr. Gay, and others took part. A unanimous vote of thanks was accorded to the lecturer.

FALMOUTH HOSPITAL AND DISPENSARY.—The annual meeting of subscribers and governors of the Falmouth Hospital and Dispensary was held on Feb. 28th. The report showed that the hospital was re-opened to in-patients at the end of March, 1897, after repairs. From that time to the end of 1897 there were 62 admissions of patients; 526 out-patients had been treated, 125 of whom were visited at their homes. The accounts showed that the receipts for 1897 amounted to £452. The expenditure was £415. The report added that in response to a resolution passed at the last annual meeting, inviting all members of the medical profession practising in the borough to become members of the medical staff, acceptances were received from Mr. Barrett, Mr. Jones, Dr. Knuthsen, and Mr. Lidiard. Dr. Knuthsen was appointed to act as surgeon on duty for the year. The committee regretted to state that the medical staff, Dr. Harris, Dr. Banks, Dr. Lanyon, Mr. Moore, and Mr. Owen had resigned. On the motion of Judge Granger it was unanimously decided that these gentlemen should be invited to come back on the staff.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—At a meeting of this society held on March 11th, Dr. E. Seaton, President, being in the chair, Dr. J. Wright Mason read a paper on Secondary and Return Cases of Scarlet Fever. The conditions which give rise to return cases were: (1) imperfect disinfection of clothing; (2) the retention of the poison in the skin, throat, nose, or most often in discharges from the ears of the returning patient; and (3) infection contracted in the hospital just before leaving by patients admitted for other diseases. Those only occurring within fourteen days after the return of the first case should be so described. Direct infection usually showed itself within two or three days, but the more severe the attack the longer was a patient infectious and return cases after home treatment were generally worse than when the first patient had been in a hospital. They appeared to be more frequent in the autumn, perhaps from premature discharge when the wards were most crowded and they certainly were so when the period of detention did not exceed six weeks and were very rare when it was extended to eight or ten.—An interesting debate followed.

NEWTON ABBOT COTTAGE HOSPITAL AND DISPENSARY.—The annual meeting of subscribers and governors of the Newton Abbot Cottage Hospital and Dispensary was held on Jan. 27th. The report showed that the receipts were £545 and after paying expenses there was a balance in hand of £82. There were 152 admissions of in-patients and 662 out-patients had been treated. The committee had hoped that the new hospital founded by the late Mrs. Fisher would have been completed in 1897 as a memorial of the Queen's long reign, but circumstances prevented the work being finished and the hospital will be opened during the current year. The inhabitants of Newton Abbot and district have subscribed £956 to be invested and called "the Queen Victoria Fund," the income derived from which is to be devoted to the maintenance of the hospital.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—At a meeting of this society held on March 4th Dr. Braithwaite, President, being in the chair, many interesting card specimens were shown by Dr. Barrs, Dr. Trevelyan, Mr. C. J. Wright, Dr. Chadwick, Mr. H. Littlewood, Dr. T. Wardrop Griffith, Mr. R. L. Knaggs, and Mr. E. Ward.—Mr. Knaggs then read a paper on four Unusual Cases of Hernia. In one the contents of an umbilical sac had been strangled by a volvulus.—Dr. Wear described and showed specimens of two cases of Blighted Ovum due to Hæmorrhage.—Mr. E. Solly read the notes of a case of Carcinoma of the Kidney in which abdominal nephrectomy had been successfully performed. The effect of the operation upon the urine was interesting; before the operation this was almost pure blood, but after the operation it at once became quite clear, although for the first four days it contained a trace of albumin apparently from a temporary congestion of the remaining kidney.

THE FREE HOME FOR THE DYING, CLAPHAM.—A noteworthy feature of the report of this institution for the past year is the statement that the charity has in no way suffered a serious diminution of funds in consequence of the special Jubilee appeals. This, however, is not so surprising when we consider the nature of the work in which the institution is engaged, for its objects must appeal to everyone. The home is absolutely free and the only passport to admission is a medical certificate to the effect that the applicant is believed to be in a dying condition. No distinction as to nationality, sex, age, or creed is made. During the year 1897 48 patients were admitted to the home, being an increase of 13 over the previous year; of these 30 died, 9 were discharged, and 9 remain. It is unnecessary to state that in such an institution as this the want of room must always be felt, as the number of applications for admission necessarily exceeds the number of beds vacant. Financial help is therefore urgently needed in order that a new and larger home may be built.

NEW YORK SKIN AND CANCER HOSPITAL.—On March 5th the work of the New York Skin and Cancer Hospital was transferred from the dwelling house which has done duty for a hospital for fifteen years to the new buildings at the corner of Second Avenue and Nineteenth-street. As pointed out in the address which was delivered by Dr. L. Duncan Bulkley at the opening ceremony the old city of New York has grown at the rate of 50,000 inhabitants a year for the past ten years but the hospital accommodation had not kept pace with the growth of the city. During the fifteen years the hospital has treated 25,031 patients, of whom 22,159 have been out-patients who have made 118,154 visits to the hospital and for whom 132,263 prescriptions have been written and filled. The 2872 in-patients have spent 165,077 days in the hospital. The new building is a modern fire-proof structure of four storeys and basement, containing about 60 beds for patients; of these 7 are in private rooms. In the basement there is a complete set of baths, including Turkish, Russian, needle, and plunge baths.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Plumbers' Registration Bill.

THE Bill to establish a national system of registration for plumbers has been introduced again this session in the House of Commons by Mr. Knowles.

Money Lending to Medical Men.

The proceedings of the Money-lending Committee on Thursday, March 17th, had a special interest for medical men. On that occasion there was examined Mr. Edward Shuckburgh, money-lender, Bristol, Bath, and Exeter, who told the committee that he is the sole proprietor of the Clerical and Medical Bank. Mr. Shuckburgh was good enough to say that medical men are his best and most frequent customers, that he has a special application form for them, and that before parting with any money to them he takes care to ascertain the extent of their practice and the general state of their affairs. When pressed as to the extent of his business he said he did not think he could have more than £20,000 invested in it.

General Medical Council Accounts.

The accounts for 1897 of the General Council of Medical Education and Registration and its Branch Councils and of the Dental Registration Fund were presented to Parliament on Tuesday, March 22nd, and were ordered to lie on the table.

HOUSE OF COMMONS.

THURSDAY, MARCH 17TH.

Midwives in Ireland.

Mr. Patrick O'Brien asked the Chief Secretary to the Lord-Lieutenant of Ireland whether the Irish Local Government Board still issue an official query list which gives the members of a dispensary committee a loophole to appoint as a district midwife an untrained woman if the medical officer of the district is satisfied as to her fitness; if he would take steps to have this query list withdrawn at once; and, in order to protect the lives of poor lying-in women against the dangers of puerperal fever, if he would secure that in future no dispensary midwife shall be appointed unless she has been properly trained and certificated in the methods provided by modern science.—Mr. Gerald Balfour replied: The query in the form of particulars to which the hon. Member refers inquires whether, if the candidate is not provided with a certificate of competency from a lying-in hospital, the medical officer is satisfied as to her competency and fitness for the appointment. The Local Government Board are most anxious that properly qualified midwives should be appointed in every case and in a circular addressed to dispensary committees in August, 1896, the Board suggested that midwives who had not already undergone a course of instruction in some public lying-in hospital should be afforded facilities for obtaining such instruction. The salaries attaching to the office of dispensary midwife are not sufficient in many instances to attract certificated candidates and I cannot see my way to withdraw the query referred to. I may add it is by no means certain that a sufficient number of certificated candidates would be forthcoming even if the query were withdrawn.

Tuberculosis Commission.

Mr. Balfour, answering a question as to the probable date of the issue of the report of the Royal Commission on Tuberculosis, said that he understood that there was to be a final meeting of the Commission on March 23rd and the report would be signed at no long time after that date. Of course he had no control over the Commission and could only give the best information in his power.

Cigarette Smoking by Children.

Mr. Lough asked the Chancellor of the Exchequer whether he was aware that at many general shops in which tobacco was sold it was customary to give children of nine or ten years of age who bought other goods free cigarettes and whether a regulation could be introduced which would make the licence of any tobacconist liable to forfeiture who gave tobacco in any form without receiving direct money payment to children under sixteen years of age.—The Chancellor of the Exchequer replied that he was not aware of the practice, that there was no provision in the law for attaching such a condition as the hon. Member suggested to the grant of a tobacco-dealer's licence, and that he saw no ground for legislating on the subject.

FRIDAY, MARCH 18TH.

Prosecutions for Food Adulteration.

Mr. Duckworth asked the President of the Local Government Board whether he was aware that in the course of a fortnight three separate analyses of the analyst of the Islington Vestry were proved to be inaccurate when the samples dealt with were referred to Somerset House and whether the Local Government Board would take any steps to inquire into mistakes which so seriously affect the tradesmen against whom summonses were issued upon such mistaken certificates.—Mr. Chaplin replied: I have already taken steps to inquire into the cases referred to and I find that the analyses by the public analyst of these cases did not accord with those made at the Government Laboratory and the cases were dismissed, the defendants being awarded costs. It would be impossible to go into the details of these cases as represented by the vestry and the chief officer of the Government Laboratory within the limits permissible in an answer to a question. Under the existing law the court in any case where proceedings are instituted in respect of alleged adulteration can on the application of either party refer the sample to the officers of the Board of Inland

Revenue with a view to its being analysed and reported on by them, and in the cases in question the defendants had the benefit of this provision, but I have no authority to give any directions whatever in the matter. I understand that in one case there will be an appeal to the High Court.

Sending Children to Canada.

Dr. Farquharson, on behalf of Sir Charles Cameron, asked the Secretary of State for the Colonies whether he had made any representations to the Government of the Dominion of Canada respecting a law recently passed by the Government of Ontario forbidding the bringing of young persons under eighteen years of age into that province with a view of finding homes or situations for them, under a penalty of $100 or three months' imprisonment; and whether he had asked for any legal opinion as to the legality of the prohibition, in view of the fact that Dominion law permitted girls from twelve years of age and boys from fourteen to select their own place of residence.—Mr. Chamberlain replied: The law referred to in the hon. Member's question does not forbid bringing into the province young persons under eighteen years of age unless from physical or mental defects they are unable to follow any trade or calling, or unless they are of known vicious tendencies, habitual criminals, or have been reared or have resided amongst habitual criminals, or are the offspring of habitual criminals, lunatics, or confirmed paupers. I have forwarded to the Dominion Government representations on the subject of the law from various philanthropic agencies engaged in emigrating children to Canada. The matter, including the question whether the law conflicts with the Dominion law, is entirely one for them to consider.

MONDAY MARCH 21ST.

Medical Expert for the Prisons Board.

Mr. Pickersgill asked the Home Secretary with reference to the statement of the Prison Commissioners dissenting from a recommendation of the Prisons Committee on the ground that the presence of a medical expert on the Board would not facilitate the work of the other Commissioners and would seriously hinder his own, whether he was aware that the Irish Prisons Board included a medical expert, and whether the Commissioners have made inquiry as to the effect of this constitution of the Irish Prisons Board.—Sir M. White Ridley replied: Yes. I was aware of the constitution of the Irish Prisons Board. I may say that every aspect of the question was very carefully considered by me before I decided against adopting the recommendation of the Committee.

TUESDAY, MARCH 22ND.

Drunkenness among London Children.

Mr. Pickersgill asked the Home Secretary whether his attention had been drawn to the fact that 500 children under ten years of age and 1500 children under fourteen years of age were arrested in one year in London for drunkenness; and would he state what information the Metropolitan Police possess respecting the extent of drunkenness among children during the year 1897.—Sir M. White Ridley said he was afraid that the hon. member had been very much misinformed as to his figures. During the four years 1893–96 no children were taken into custody in the Metropolitan Police District who were under the age of twelve and only 73 who were under the age of sixteen years. The figures for 1897 were not yet available.

The Notification of Infectious Diseases.

Sir John Brunner asked the President of the Local Government Board how many local authorities had adopted the Notification of Infectious Diseases Act and what proportion that number was of the whole number empowered to do so.—Mr. Chaplin replied: The number of districts in which the system of notification is in force is 1649, with a population of nearly 28,000,000, out of 1821 districts, with a population of 29,000,000.

River Pollution.

Sir John Brunner asked the President of the Local Government Board whether the Scottish county councils immediately north of the border were unable to act with the English county councils immediately south of the border for the purpose of the formation of joint committees for the prevention of the pollution of rivers; and if so whether he proposed to introduce a Bill of one clause or whether he would favour the introduction of a Bill of one clause to enable them to do so.—Mr. Chaplin replied: I am aware of the question which has been raised with regard to certain counties. I do not propose to introduce a Bill on behalf of the Government, but I should favour the introduction of such a Bill, or if in committee on the Rivers Pollution Bill a clause were moved with a view of providing for the appointment of a Joint Committee I would raise no difficulties if the terms of the clause appear to be free from objection.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BENSON, H. T., L.R.C.P. Lond., has been re-appointed a District Medical Officer by the Spalding Board of Guardians.

BENNETT, ROBERT A., M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Resident Medical Officer to the Manchester Hospital for Consumption and Diseases of the Chest.

CHURCH, W. S., M.D. Oxon., F.R.C.P. Lond., has been appointed a Consulting Physician to the Royal General Dispensary, Bartholomew-close, London.

DEANESLY, E., M.D., B.Sc. Lond., F.R.C.S., has been appointed an Assistant Surgeon to the Wolverhampton General Hospital.

DUCKWORTH, SIR DYCE, M.D. Edin., F.R.C.P. Lond., has been appointed a Consulting Physician to the Royal General Dispensary, Bartholomew-close, London.

DYBALL, BRENNAN, M.B., B.Sc. Lond., F.R.C.S., L.R.C.P. Lond., has been appointed Resident Surgical Officer to the General Infirmary, Leeds.

FAIRWEATHER, W. B., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Assistant House Surgeon to the Rotherham Hospital.

FINCH, H. J., L.R.C.P. Lond., M.R.C.S., has been re-appointed an Honorary Medical Officer for the St. Leonard's Hospital, Sudbury, Suffolk.

GAIRDNER, J. FRANCIS R., M.B., C.M. Glasg., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Resident Casualty Officer to the General Infirmary, Leeds.

GRIMSDALE, T. B., M.B. Cantab., M.R.C.S., has been appointed Gynæcologist to the Liverpool Royal Infirmary.

GROVES, E. W. H., M.B. Lond., B.Sc., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Chewton Mendip Sanitary District of the Wells Union.

HARVEY, GEO., L.R.C.P., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Matlock Bath Urban District Council.

HAWTHORN, FRANK, M.D., B.S., M.R.C.S., L.R.C.P., has been appointed Teacher and Examiner of Vaccination at Newcastle-upon-Tyne Educational Vaccination Station by the Local Government Board, vice John Hawthorn, deceased.

HOLDEN, J. S., M.D. Irel., L.R.C.S. Edin., has been re-appointed a Medical Officer for the St. Leonards Hospital, Sudbury, Suffolk.

HUNT, A. H. W., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Surgeon to the Wolverhampton General Hospital.

INNES, J. C., L.R.C.S. Edin., has been re-appointed Medical Officer of Health by the Bonsall Urban District Council.

JELLY, G. AUBREY, M.R.C.S., L.R.C.P., L.S.A., has been appointed House Surgeon to the Sunderland and North Durham Eye Infirmary.

JEROME, E. J., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health for the Camelford Sanitary District of the Camelford Union.

KING, H. D., M.D., B.Sc. Edin., has been re-appointed a Medical Officer for the St. Leonard's Hospital, Sudbury, Suffolk.

MCGRATH, M., L.R.C.P., L.R.C.S. Irel., has been appointed a House Surgeon for the Barrington's Hospital, Limerick, vice J. A. Harin, resigned.

RISDON, G. O., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Second Sanitary District of the Wells Union.

SCATTERTY, W., M.D. Aberd., has been re-appointed Medical Officer of Health by the Keighley Town Council.

SMITH, SIR THOMAS, Bart., F.R.C.S. Eng., has been appointed a Consulting Surgeon to the Royal General Dispensary, Bartholomew-close, London.

SMYTH, E. J., M.D. Lond., B.Sc., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the No. 4 District and the Buckingham Palace-road Workhouse of the St. George's Union, London.

STANTON, W. E., B.A. Camb., L.S.A., has been re-appointed a District Medical Officer by the Spalding Board of Guardians.

STILES, A. J., M.D. Edin., M.R.C.S., has been re-appointed a District Medical Officer by the Spalding Board of Guardians.

TUCKETT, W. R., M.R.C.S., has been re-appointed Medical Officer for the Charnwood Forest Convalescent Home.

UPPLEBY, J. G., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer of Health for Port Elizabeth, South Africa.

VAWDREY, GEO., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Farnborough Urban District Council.

VOELCKER, DR., has been re-appointed a District Analyst under the Fertilizers and Feeding Stuffs Act, 1893, by the Berkshire County Council.

WALLACE, JOHN, M.D. Edin., L.R.C.S., has been appointed Consulting Gynæcological Surgeon to the Liverpool Royal Infirmary.

WAY, MONTAGUE H., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to Guy's Hospital, London.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary £150 per annum, with an allowance of £30 per annum for cab-hire and furnished rooms, fire, light, and attendance.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's-inn-road.—Assistant Registrar, for twelve months.

CHELSEA WORKHOUSE AND INFIRMARY.—Assistant Medical Officer, male or female, for one year. Salary £70 a year, with furnished apartments, rations, washing, coals and gas, and £3 10s. a year in lieu of beer, subject to statutory deduction. Applications to the Clerk to the Guardians, 250, King's-road, Chelsea.

Derby County Asylum.—Second Assistant Medical Officer, unmarried Salary £100 per annum, rising to £120, with board, lodging, and washing. Applications to B. S. Currey, Esq., St. Michael's Churchyard, Derby.

East London Hospital for Children, Glamis-road, Shadwell, E.—Resident Medical Officer for two years. Salary £80 per annum, with board, residence, and laundry. Also Medical Officer for the Casualty Department, for six months. Salary at the rate of £100 per annum.

Govan District Asylum, Crookston, near Paisley.—Senior Assistant Medical Officer. Salary £150 a year, with board. Applications to the Medical Superintendent, Hawkhead Asylum, Paisley.

Hospital for Consumption and Diseases of the Chest, Brompton.—Resident House Physicians.

Liverpool Stanley Hospital.—Honorary Surgeon.

Metropolitan Hospital, Kingsland-road, N.E.—Assistant Physician and also House Physician. Salary of the latter at the rate of £40 a year, with board and residence.

Queen Charlotte's Lying-in Hospital, Marylebone-road, London, N.W.—Assistant Resident Medical Officer, for four months. Salary at the rate of £50 per annum, with board, residence, and washing.

Rochdale Infirmary and Dispensary.—House Surgeon, unmarried. Salary £80 per annum, with board and residence.

Royal Cornwall Infirmary, Truro.—House Surgeon, unmarried. Salary, first year, £120, increasing by £10 a year to £150, with furnished apartments, fire, light, and attendance.

Royal Hospital for Diseases of the Chest, City-road, London.—Resident Medical Officer for six months. Salary at the rate of £100 per annum, with furnished apartments, board, and washing. Also House Physician for six months. Salary at the rate of £40 per annum, with board, lodging, and washing.

Royal National Hospital for Consumption, Ventnor, Isle of Wight.—Assistant Resident Medical Officer, unmarried. Salary £80 per annum, with board and lodging in the hospital. Applications to the Board of Management, London Office, 34, Craven-street, Charing-cross.

Seamen's Hospital, Cronstadt.—Resident Medical Officer. Salary £180 per annum, free lodging, lights, fuel, and attendance. Bachelor or widower without children. Applications to the Chairman of Hospital Committee, British Consulate-General, St. Petersburg.

Surrey Dispensary.—Surgeon. Applications to the Secretary, 53, Borough High-street, Southwark, S.E.

Three Counties Asylum, near Hitchin.—Second Assistant Medical Officer, unmarried. Salary commencing at £100 a year, with board, apartments, washing, and attendance.

Victoria Hospital, Folkestone.—House Surgeon. Salary £80 per annum, rising to £100, with board, residence, and washing.

Wolverhampton and Staffordshire General Hospital.—Two Honorary Assistant Physicians.

Worcester General Infirmary.—Surgeon.

Births, Marriages, and Deaths.

BIRTHS.

Braine.—On March 18th, at Wimpole-street, W., the wife of Charles Carter Braine, F.R.C.S. Eng., of a son.

Ellison.—On March 17th, at Eton, the wife of W. A. Ellison, M.A., M.D. Oxon., of a son.

Garlick.—On March 19th, at 3, Gordon-square, W.C., the wife of George Garlick, M.D., of a daughter.

King.—On March 11th, at 63, Harford-street, Mile End, the wife of Thos. G. King, L.S.A. Lond., of a daughter.

Murphy.—On March 15th, at The Barons, Twickenham, the wife of H. Howard Murphy, M.D., of a daughter.

Pollard.—On March 18th, at Parsonage House, St. Margaret-at-Cliffe near Dover, the wife of J. Ellery Pollard, L.R.C.P., of a son.

Sinclair.—On March 15th, at New King's-road, Parson's-green, S.W., the wife of A. M. R. Sinclair, M.B., C.M., of a daughter.

Turrell.—On March 16th, at Cherwell Lodge, Oxford, the wife of Walter J. Turrell, M.A., M.D., of a son.

MARRIAGE.

Murray—Bray.—On March 16th, at St. Paul's Church, Princes'-park, Liverpool, J. J. Geodlatte Murray, F.R.C.S.Ed., of "Eblana," Liscard-road, Egremont, Cheshire, to Isabel, fourth daughter of the late Samuel Bray, Esq., of Alsager.

DEATHS.

Davenport.—On March 16th, at Norfolk Lodge, Guernsey, James Davenport, M.D., late I.M.S., aged 91 years.

West.—On March 19th, Charles West, M.D., Founder of the Children's Hospital, Great Ormond-street, aged 81 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

The Lancet Office, March 24th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 18	29 96	W.	...	95	61	48	51	53	Overcast
" 19	29 85	W.	0·16	67	58	51	49	53	Cloudy
" 20	30 09	N.E.	...	76	50	39	39	41	Cloudy
" 21	30·21	S.W.	...	83	52	33	35	37	Hazy
" 22	30·16	S.W.		58	51	36	37	38	Foggy
" 23	29 81	W.	0·09	64	51	36	37	39	Cloudy
" 24	29 75	N.	...	81	42	36	37	38	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (30th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (31st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (28th).—**Medical Society of London.**—8.30 P.M. Dr. E. Kingscote: The Vagus Origin of Asthma and its Treatment.—Mr. W. H. Battle: Unusual Cases of Renal Calculus.

Society of Arts.—8 P.M. Prof. W. N. Hartley: The Thermo-Chemistry of the Bessemer Process. (Cantor Lecture.)

WEDNESDAY (30th).—**Society of Arts.**—8 P.M. Prof. S. P. Thompson: Telegraphy across Space.

THURSDAY (31st).—**Harveian Society of London** (Stafford Rooms, Titchborne-street, W.).—8.30 P.M. Mr. J. J. Clarke: The Treatment of Spinal Caries.

FRIDAY (1st).—**West London Medico-Chirurgical Society.**—Ordinary Meeting. Papers will be read by Dr. S. Eccles, Dr. Bontor, and Mr. Tubby.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (28th).—**The Sanitary Institute** (Parkes Museum, Margaret-street, W.).—8 P.M. Dr. J. Priestley: Ventilation, Warming, and Lighting.

London Post-Graduate Course.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. H. Tilley: Demonstration of Selected Cases (Ear, Throat, and Nose).

Association of Asylum Workers (Medical Society's Rooms, 11, Chandos-street, Cavendish-square, W.).—Annual Meeting.

TUESDAY (29th).—**Royal College of Physicians**—5 P.M. Sir R. Douglas Powell: On the Principles which govern Treatment in Diseases and Disorders of the Heart. (Lumleian Lecture.)

London Post-Graduate Course.—Bethlem Hospital, 2 P.M., Dr. Craig: Puerperal, Lactational, and Climacteric Insanities.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Eczema.

WEDNESDAY (30th).—**London Post-graduate Course.**—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Infectious Diseases.

Hospital for Consumption and Diseases of the Chest (Brompton).—4 P.M. Dr. Acland: Bronchiectasis.

Evelina Hospital (Southwark-bridge-road, S.E.).—4.30 P.M. Dr. W. S. Fenwick: The Causes and Treatment of Diarrhœa in Children. (Post-Graduate Course.)

THURSDAY (31st).—ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Sir R. Douglas Powell: On the Principles which govern Treatment in Diseases and Disorders of the Heart. (Lumleian Lectures.)

LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Mr. Watson Cheyne: Clinical Lecture.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—Mr. R. T. Hall: Sanitary Building Construction.

FRIDAY (1st). — LONDON POST-GRADUATE COURSE. — King's College, 3 to 5 P.M., Prof. Crookshank: Erysipelas and Suppuration.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

***Lectures, original articles, and reports should be written on one side of the paper only*, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.**

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of* THE LANCET *should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

THE PRUDENTIAL ASSURANCE COMPANY.

IN our notice of the report of this society published in THE LANCET of March 12th we commented upon the sum of £100,000 which was to be divided among the members of the out- and in-door staff and expressed a desire to know whether or not the medical referees were included in these bodies, for we considered that the medical men ought to share in the profits of the company on account of its success being in great measure due to the careful way in which they performed their work. Since the publication of this notice we have received information to the effect that the medical referees do not have any share in the distribution of profits. This, we consider, is an injustice that should be remedied at once.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

To the Editors of THE LANCET.

SIRS,—Some time ago I attended a patient who suffered from septicæmia after abortion (of which I knew nothing except from my own personal judgment of the case). The patient subsequently developed abscesses in various parts and one particularly of the fascia above the annular ligament of the left wrist. In consultation with another medical gentleman of this town I operated and gave vent to some deep-seated matter about the flexor tendons. A second operation opening the palmar fascia also became necessary and also a third one over the thenar eminence. In each instance the gentleman above referred to helped me both by giving chloroform and also in holding open the wound during the introduction of the drainage-tube and during the dissection. I sent in my bill when I heard that the husband was about to leave here. He came up, abused me furiously, so much so that I had to restrain myself from putting him out. I then put the matter in the hands of the solicitor who acts as my debt-collector. This gentleman found that the house occupied by my recent patient was vacant. At length his address was ascertained. I sent in my bill with a county-court summons. The ex-patient's husband's solicitor said he would defend this. When the date arrived an adjournment was requested, which my solicitor granted. Meanwhile the husband took an action against me in the High Court, London. At once I instructed my solicitor to apply to the London and Counties Medical Protection Society, fully explaining the case. The society took up the defence for me. When next the county-court occurred there was no defendant to my claim. A judgment summons was issued but could not be served. When the High Court action came on there was no plaintiff and after waiting for weeks and weeks my solicitor wrote to the plaintiff's solicitor asking to have the action against me in the High Court discharged, which was done.

I am only too pleased to be able to publicly record my feeling of thanks and gratitude to the society for their help. Even now there is no payment for my own out-of-pocket expenses or my bill, or for my solicitor, who up to the present is unable to distrain (not that I myself by any means desire this, but simply as a matter of justice and equity). What makes the case worse is that the husband went about this town spreading all sorts of evil reports about my treatment of the case, much to my annoyance and detriment. He insulted me in my own house in such a manner as almost to lead to a breach of the peace, and he has gone away leaving me out of pocket into the bargain. I may mention that I have witnesses who are ready to come forward to prove every word I have written, and I hope that the narration of my own experience will lead other members of the profession to join such an admirable association as the London and Counties Medical Protection Society.

I remain, Sirs, yours faithfully,
March 1st, 1898. J. A. R.

AN ODD ADVERTISEMENT.

THE *Western Mail* of Jan. 20th, 1898, contains the following advertisement under the heading "Medical":—

> WANTED immediately, Unqualified Assistant (out-door) in Colliery District, to Visit and Dispense.—Apply, Medicus, care of Mr. Jenkins, Chemist, Wyndham-street, Bridgend.

If Medicus is a medical man he must know that to employ an unqualified assistant to visit his patients has been forbidden by the General Medical Council and will inevitably lead to the removal of his name from the Medical Register. Therefore we describe the advertisement as "odd."

"TWO QUERIES."

To the Editors of THE LANCET.

SIRS,—In reply to the inquiry of "M.R.C.S." in THE LANCET of March 19th about the best bicycle saddle, he will find that there is no absolute best in saddles, but that a man of his weight (18 st.) will probably be suited by the Woods woven wire saddle, made by the Longford Steel Company, Warrington.

As to your correspondent's second question, pure wool underwear suitable for cyclists and rheumatic folks is manufactured by Harrison and Co., Castle Donington, near Derby.

I am, Sirs, yours faithfully,
March 21st, 1898. F.R.C.P.

DR. HADWEN THE PHYSICIAN AND MR. CLAYTON THE HERBALIST.

OUR attention has been called to the following two extracts from a provincial newspaper:—

I.

> THE VACCINATION QUESTION.—DR. HADWEN, L.R.C.P., M.R.C.S., L.S.A., of Gloucester, has promised to come. Those that are willing to help please meet at Mallaby's, Victoria Coffee Palace, Linthorpe-road, on Monday evening, at 8.30 P.M. Names can be given at once to Mr. Clayton, 135, Newport-road, Middlesbrough.

II.

A HERBALIST'S DEFENCE.

(To the Editor of the North-Eastern Daily Gazette.)

> SIR,—It is not fair to tackle a man in the Council Chamber when the said medical herbalist cannot reply to them. I take full responsibility of all diseases; give sick certificates, death certificates, and have done so for many years. Besides, I have a large practice all over the country. I notify very few deaths, because it is not necessary to go to the cemetery; they go to work. Many men have three doctors, but still I have to get them better. I might say that I have spent some hundreds of pounds on food reform, health reform, social reform, temperance reform, municipal and political reform, and helped with a lot of time many Town Councillors and Aldermen to get into their present position. The drink traffic is killing nine people to one caused by small-pox.
>
> Yours truly, J. CLAYTON.
> 135, Newport-road, Middlesbrough, March 17th, 1898.

Our correspondent suggests that what is required now is "A Physician's Defence," for he considers that the whipping-up of persons to support Dr. Hadwen by Mr. J. Clayton, a herbalist who "gives death certificates," constitutes an affront to the profession. We think so, too.

DETERMINATION OF SEX.

IT has been claimed—we put it this way advisedly, for we do not fancy he made the claim himself—that Dr. Schenck could enable a man and woman to have a child of whichever sex was preferred and his "method" was said to lie in some particular way of feeding the woman. In the *Farmer and Stock Breeder* for Feb. 14th—appropriately enough the day of St. Valentine—is a long article by Mr. C. T. Fields Clarke. He claims to be able to regulate the sex of offspring and his method and rule are most simple. Here they are. Every mammalian female has two ovaries, and as a rule mares and cows give off one ovum at every menstruation alternately from the right and left ovary. The left ovary contains female ova and the right ovary male ova. The first ovum given off at puberty is from the right ovary and therefore a male, and at each succeeding menstruation the sex alters. Therefore all the breeder has to do is to watch carefully for the first menstruation or, to be more certain, to wait for the first calf or foal. Suppose it is a male. If a female is wished for the mother must be served at an odd-numbered menstruation after the birth—i.e., at the first, third, fifth, or seventh. If another male is desired serving must be done at the second, fourth, sixth, and so on. Mr. Clarke claims that long-continued experiments have convinced him that this is one of nature's unerring laws. We should like to know whether he has experimented in the following way. Let him take fifty cow calves, from twenty-five of these let the *right* ovary be completely removed. Then if his theory be right these calves when of an age to have calves of their own will have nothing but cow calves or will not conceive at whatever time they are served. From the other twenty-five let the *left* ovary be removed. Conversely these ought to bring forth nothing but bull calves. We do not say that Mr. Fields Clarke is not correct in his theory, but we cannot agree that his evidence is convincing.

LADY HENRY SOMERSET'S INDUSTRIAL FARM COLONY FOR INEBRIATES.

WE have received the report for 1897 of this excellent foundation. The question of the treatment of inebriates is manifestly a most difficult one and, in our opinion, the best method is the one here adopted. Fresh air, the quiet of the country, and, above all, restraint, exercised in great measure by the patients themselves, are potent remedies for good. The cottage system makes for good in that it shows women who have given way to drink what a comfortable home should be, and the outdoor employment—namely, horticulture in all its forms—gives them an interest in life and brings about a feeling that they can be of use in the world. More cottages are needed, for in 1896 3000 applications had to be refused for want of room. The medical officer, Mr. A. R. Walters, in his report lays stress upon the futility of friends removing patients as soon as they show signs of improvement. This is too soon, for when they get back to their old surroundings they break down, the new habits not being sufficiently established. In connexion with the farm colony is a holiday home for children. Subscriptions and donations may be sent to Lady Henry Somerset, Eastnor Castle, Ledbury, and we may add that the minimum fee for a patient in a cottage is 5*s.* per week.

AN APPEAL.

IN answer to the appeal (published in our issues of Dec. 18th, 1897, and March 12th, 1898) on behalf of the Misses C. and J. J. Ireland, daughters of a deceased medical man, the following contributions, we are requested to state, have been received:—

	£	*s.*	*d.*
The Proprietors of THE LANCET	5	5	0
Mr. C. Terry	5	0	0
Dr. Goddard	2	2	0
Dr. T. D. Savill	1	1	0
Dr. Domett Stone	1	1	0

Other sums received from friends not connected with the medical profession bring up the total amount to £208 6*s.* It is desired to raise a sum of money sufficient to give the Misses Ireland a small fixed income either by investment or annuity. Further donations will be thankfully received and acknowledged by Mr. Stanley Brown, Cypress House, Dulwich Common, or by Mrs. John Ireland, Bourne End, Bucks.

ADJUSTABLE X RAY TUBES.

IN an interesting paper read before the Roentgen Society Mr. A. A. Campbell Swinton recorded the results of his researches into the construction of x ray tubes, with especial reference to the production of x rays of maximum penetrative value. Adjustable tubes have been constructed enabling the principle to be acted upon that the greater the distance between cathode and anti-cathode the less penetrative and the less the distance the more penetrative are the rays. Mr. Swinton was the first to construct an adjustable tube, but this, he says, has now been superseded by others which have a greater range of adjustment and are consequently to be preferred. Such tubes may now be obtained of most makers of scientific apparatus.

AN ALKALINE DUST STORM.

THE extraordinary dust storm which last month enveloped the Royal Mail steamer *Roslin Castle* some distance off the coast of Africa on her homeward voyage has recently been analysed with some remarkable results. The dust was found to consist chiefly of the chlorides and sulphates and silicates of iron, calcium, magnesium, potassium, and sodium. The dust yielded up alkaline carbonate when treated with water. The solution thus obtained exhibited all the reactions of carbonate of soda. This fact amply accounts for the great discomfort to the eyes and the respiratory passages, apart altogether from the mechanical effects which the passengers, officers, and men on board were so unlucky as to experience.

J. J., M.D.—We comment elsewhere upon the first of the three advertisements sent us. The third received our attention in the last issue of THE LANCET on its appearance in the *Times*. (See THE LANCET, March 19th, p. 835.) The second one is capable of explanation, otherwise we may presume that the medical man would not have put his name to it. The duties to be discharged by the qualified assistant would probably be different from those to be discharged by the unqualified assistant.

H. G. T.—We take the same view of his visits and services as our correspondent does and regard the fee as reasonable. He does not mention the number of his visits or the length of the attendance, but supposing these points to involve nothing unusual we think he is justified in his charges. Litigation is to be avoided if possible. Surely the friend for whom our correspondent was acting can adjust the dispute.

Practitioner.—The medical officer of health must discharge his public duties and we see nothing in what our correspondent tells us that would indicate that those duties have been exceeded or discharged in an officious manner. A pamphlet entitled "Difficulties under the Infectious Diseases Notification Act," which gives full information on such points, can be obtained from THE LANCET Office, price 1*s.*

Dr. W. T. Greene.—The treatment of neuralgia by chloride of ammonium has been known and practised for many years past. How the drug acts is not well understood, but that it does succeed in many cases is indisputable. The late Sir Thomas Watson was a firm believer in this treatment, *vide* his "Lectures on Medicine," fifth edition, vol. i., p. 753.

Geometry.—The climate is very bad, although the risks have undoubtedly been often exaggerated. Our correspondent's temperate habits and sound bill of health are greatly in his favour. We cannot take the responsibility of actually advising him to go, but many who have gone under less favourable auspices have come to no harm.

Tooma is recommended to continue to refer the agents to the registrar. There is no illegality in signing forms of statement the accuracy of which he knows, but there is no reason why he should take the responsibility upon himself save for consideration received.

Aberdeen.—The intention of the quarterly payments seems to us to have been that they should constitute an agreement terminable with quarterly notice on either side. The matter is one for amicable arrangement.

Mr. Frederick W. Collingwood will find the question thoroughly discussed in our columns. The points made in his letter have all been made before—some of them repeatedly.

Alchemist.—We understand that Sir William Crookes is to be the depository of the secret. We have no information whatever as to the company or the inventor.

G. A. M.—We agree with much that our correspondent says. But domiciliary visits have as a matter of fact been tried and found to work well.

J. T. can obtain the book from any circulating library or from the publishers, Messrs. Longmans, Green, and Co., Paternoster-row.

Mr. R. Varley is thanked for his interesting letter, the bearing of which is not, however, sufficiently medical for our columns.

Student.—The Students' Number of THE LANCET for 1897 gives very full information on the point.

Dr. C. Patterson is thanked for his communication. The enclosure will receive attention.

Juniper.—We do not prescribe or recommend medical treatment or medical practitioners.

Mrs. G. V.—The child should be taken to a medical man.

Cinctus.—We regret that we have no information.

During the week marked copies of the following newspapers have been received: *Halifax Guardian, Oban Times, Poole Herald, Rochdale Observer, Northampton Herald, Westmeath Examiner, Times of India, Pioneer Mail, Ayrshire Post, Wolverhampton Chronicle, Royal Cornwall Gazette, Walsall Advertiser, Yorkshire Post, Salisbury Journal, Architect, Wimbledon Herald, Newcastle Journal, Derbyshire Times, East Anglian Daily News, Builder, Dundee Courier, East Sussex News, Leeds Mercury, Banbury Guardian, Lynn News, Ulverston Advertiser, Devon Gazette, Bromley Telegraph, Western Press, Bristol Mercury, Manchester Courier, Sheffield Telegraph, Torquay Times, Liverpool Daily Post, Leicester Post, Herald of Wales, Carmarthen Weekly Reporter, Sussex Daily News, Cambridge Express, Lowestoft Standard, North British Daily Mail, Hampshire Telegraph, Warwickshire Times, Daily Mail, Grantham Times. Chester Chronicle, Brighton Gazette, Glasgow Evening Times, Leinster Express, Sanitary Record, Vectis, Mining Journal, Hertfordshire Mercury, Local Government Chronicle, Reading Mercury, City Press, Weekly Free Press and Aberdeen Herald, Lincoln Leader, Surrey Advertiser, Local Government Journal, Dentist, Shrewsbury Chronicle, Le Courrier de la Presse, Manchester Guardian, Goole Weekly Herald, The High Peak News, Buckinghamshire Express, Falkirk Herald, Keighley News, Prescot Reporter, Launceston Weekly News, Kelso Mail, West Middlesex Herald, Birmingham Mail, &c., &c.*

Communications, Letters, &c., have been received from—

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"It possesses all the aroma of the fruit, and is not only astringent where diarrhœa exists, but possesses the singular property of being aperient if the bowels be irregular or costive."

"Messrs. SQUIRE's preparation is all that can be wished."—THE LANCET.

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For an Adult, one Tablespoonful.

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It has been shown clinically that "Liquid Peptonoids" is a most useful dietetic aid, as it is frequently taken and assimilated in cases where other nutriment was not tolerated, or not being properly assimilated, failed to nourish the patient.

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"Liquid Peptonoids" has the stimulating property of a pleasantly mild cordial, and so renders useful service in conditions of debility, exhaustion, "brain fag," and general and nervous depression. It possesses this great advantage over other stimulants: that, containing nourishing, easily-digested food, the stimulation it affords is not followed by any reaction. *The system is fed at the same time that it is toned and braced up.*

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The value of Coca as a nerve stimulant is now very generally recognised, and it has taken its place as a useful adjunct in the treatment of many conditions such as insomnia, despondency, and as a heart and general tonic. Its property of strengthening the voice, due to its being a tensor of the vocal chord, makes it very useful for the singer and public speaker. One of the most efficient and elegant media for its exhibition is the preparation "LIQUID PEPTONOIDS WITH COCA." No disagreeable reaction has been found to result from the use of Coca when combined with a fluid-digested food, and this combination is more useful in many cases than a mere coca wine. LIQUID PEPTONOIDS WITH COCA is a reliable tonic, and at the same time is extremely palatable, very nutritious, and aids digestion.

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Acid. Arseniosi ..*aa* gr. 1/30

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With PHOSPHATE IRON, QUINIA, & STRYCHNIA.

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☞ In this preparation the powerful tonic effects of Phosphate of Iron, Quinia, and Strychnia are aided and reinforced by the highly digestive and nourishing qualities of "MALTINE," while the bitter taste of the tonic principles, so often objectionable to weakened stomachs, is almost completely removed. It is of uniform strength and efficiency, prompt in its action, free from the irritation induced by certain forms of iron, and from any of the danger of the cumulative effect of strychnia when administered in the form of pills.

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ON

THE PRINCIPLES WHICH GOVERN TREATMENT IN DISEASES AND DISORDERS OF THE HEART.

Delivered before the Royal College of Physicians of London on March 24th, 29th, and 31st, 1898,

BY SIR RICHARD DOUGLAS POWELL, BART., M.D. LOND.,

FELLOW OF THE COLLEGE; PHYSICIAN EXTRAORDINARY TO HER MAJESTY THE QUEEN; AND PHYSICIAN TO THE MIDDLESEX HOSPITAL.

LECTURE II.[1]

Delivered on March 29th.

MR. PRESIDENT AND FELLOWS, — The general line of treatment of acute inflammatory diseases of the heart is the same in the vast majority of cases. We might, after recognising the presence of heart disease, so far as treatment is concerned, keep our stethoscope in our pockets, for we have chiefly to consider the fundamental complaint of which the cardiac affection is in most cases a part, and this disease is, in the majority of instances, acute rheumatism. Now, from the heart point of view and, indeed from any point of view, I think all authorities are now agreed that the right treatment of acute rheumatism is absolute rest in bed in woollen wrappings, a free relief of the bowels, and the administration of salicylate of soda in efficient doses in combination with such alkaline remedies as the condition of the urine may suggest. It was shown very emphatically by the late Dr. Sibson[2] that the difference between absolute and incomplete rest in the treatment of acute rheumatism was an exemption from heart complication of 71 per cent. as contrasted with 44 per cent. We never see now those cases of acute rheumatism involving from three to six weeks' acute suffering so little influenced by treatment as to render possible the warm discussions of not thirty years ago at our clinical societies respecting the relative merits of alkaline drenches, multiple blisters, or mint-water drinks and dry cotton-wool applications in that disease. But few cases now endure more than five days' suffering under the salicylate treatment, and a treatment of the general disease thus successful can scarcely fail with due care and foresight to prove in some degree preventive of cardiac lesions, which are true manifestations of the rheumatic poison usually of somewhat later appearance than the joint phenomena. The earlier statistics, both with regard to the influence of salicylates and of other drug treatments in lessening the tendency to heart disease in rheumatism, are for the most part valueless, being based on hospital cases, the previous existence of heart affection not being certified and the treatment before entering hospital not given. It can scarcely be doubted, however, that the current view that salicylates do not lessen the liability to cardiac lesions is founded on the fallacy that cases early relieved of pain and fever by salicylates are often allowed to get up too soon. The so-called relapses are rightly described by Dr. R. P. Howard as rather "recrudescences of a disease not yet terminated." The average time spent in hospital for acute rheumatism, thirty days, is nearly the same under all treatments, the full alkaline treatment having a slight advantage, and during the greater part of this time the patient must remain in bed under strict treatment by warmth and rest and appropriate drugs. If, therefore, on the relief of pain and reduction of temperature the patient be regarded as convalescent and be allowed out of bed he assumes the position of one with acute rheumatism still upon him treated with incomplete rest and so becomes doubly liable to cardiac manifestations.

I may pass by the local treatment of cardiac disease in rheumatism with the remark that it varies according to the views of particular physicians. Some prefer to keep the heart, like the joints, warm; others to endeavour to render it, unlike the joints, cold. There is no doubt that a certain few cases are wisely treated variously at the physician's discretion by cold or warmth, by blisters or leeches, according to particular indications. It cannot be said that any one plan of treatment is to be recommended as superior in all cases. Whilst the treatment of acute cardiac diseases in rheumatism is not guided by stethoscopic indications it is, of course, quite different with diagnosis and prognosis and I need not in this place remark that in any febrile illness in an infant or child until its nature be fully declared the heart must be especially scrutinised again and again. For cardiac rheumatism is in the young child frequently associated with little or no joint manifestations. Dr. Barlow and Dr. Cheadle have drawn special attention to the presence of painless superficial fibrous rheumatic nodules in young subjects and Dr. Cheadle regards these as especially apt to be associated with severe cardiac affection. My point of view with regard to children's rheumatism is that the frequency with which it is overlooked in the early days of the disease is responsible for much of the peculiar gravity and frequency of cardiac lesions in the young child. Such cases come indeed into the category of those incompletely treated by rest and therefore especially liable to heart implication. And why should rest, absolute recumbency, be so important in acute heart affections? We cannot still the heart, but we can lighten its burdens and lessen its restlessness. The mere difference between lying down and standing up to the healthy heart is 10 beats a minute or 600 beats an hour. How much greater may it not be to the heart irritated by acute disease? The pulse naturally quickens as the temperature rises. Hence by mitigating pyrexia we *cæteris paribus* rest the heart. It is generally held by pathologists that pyrexia lowers arterial pressure, but the conditions that attend rheumatic pyrexia, multiple joint inflammation and excessive metabolism with high density of urine would favour heightened arterial tension. Our alkaline and salicylate remedies reduce arterial pressure both directly and indirectly by stimulating skin and kidney function. So that the general remedies most applicable to the fundamental disease are at the same time specially suitable for the requirements of the local malady.

Are there any special remedies to be employed for the heart condition? There are but few. The group of heart medicines is not, as a rule, applicable until the case has fully emerged from the general disease and has become a single organ malady. It may be said, generally speaking, that digitalis and its class are useless in acute inflammatory heart affections and that aconite, with certain exceptions, is harmful. Mercury has long been abandoned with venesection and other violent measures. There are two forms of cardiac lesion, however, which may frequently be treated by moderate doses of opium with great advantage. They are peri- and myo-carditis, conditions often conjoined, the especial indications being pain particularly manifested in some (not all) cases of pericarditis and irregularity of rhythm, tending to tumultuous action with failing power, characteristic of myocarditis. The pain of myocarditis is never acute unless there be also pericarditis; it is rather a restlessness and an indefinable oppression written in the face and movements of children and described by adults. Small doses of opium at frequent intervals are of very great service in such cases, calming nerve irritation, lessening general restlessness, and so securing more rest to the heart.

Endocarditis in rheumatic fever affects the mitral valve most commonly, the aortic orifice much less frequently; the more complex mitral flaps stiffened, and with their opposed surfaces thickened by vegetations, permit of regurgitation, whilst the aortic valves, losing their flaccidity and being roughened by vegetation, are unduly salient during systole and so cause obstructive murmurs. Neither of these conditions call for, or respond to, at this stage any treatment additional to that already laid down for the dominant complaint. It is somewhat inadequately argued that salicylate of soda does not influence heart affections in rheumatic fever. This view is founded upon a double misconception. In the first place, the murmur or pericardial friction audible is a result of altered mechanism rather than an evidence of activity of lesion. Their continued presence does not show unchecked activity of lesion nor could they be expected to disappear like the fading blush over the rheumatic joint. More than this, cardiac rheumatism affects a part in constant functional activity, to which the term rest is only relatively applicable, and, further, the mild degree of daily pyrexia, which is often prolonged in endocarditis, is probably partly due to contamination of the blood-stream by sero-fibrinous material exuded from inflamed surfaces, which, although not septic, has yet become foreign through alteration by products of cell proliferation. After the third or fourth week the salicylates may be replaced by quinine and arsenic as remedies better suited to combat this phase of the malady. There are various considerations which emphasise the importance of more prolonged rest in cases of acute rheumatism accompanied by cardiac lesions. The difference is a striking one between ephemeral results of other inflammations in a joint or even in a fascial membrane and the same affection of a cardiac valve, the pericardial sac, or even the pleura. But this different result is well accounted for by the condition of unrest that in different degrees obtains in each of the three latter parts. This condition depends on automatic mechanism happily beyond our control, but, as pointed out in speaking of the acute phase, we can very materially lighten the labour of the heart and lessen the strain upon the valves by maintaining the body in recumbent repose. It is true that in the milder cases of endocarditis the inflammation may be mainly seated at, or even limited to, the lines of contact of the valves, the points of greatest strain, as has been pointed out by Moxon, Sibson and other authors, but in more severe cases the whole valve partakes in the inflammatory hyperæmia and is the more liable to become so involved the more it be subjected to premature functional strain. But for a considerable time after active inflammation has passed, a time varying much in different cases, a smouldering endocarditis goes on attended with a slight daily rise of temperature, so slight sometimes as to be ignored by the attendants, and yet during and beyond all this time absolute rest is necessary. The valves are softened and thickened by nuclear granulation tissue and new fibrous formation. They readily yield and become distorted under any increase of blood-pressure, whilst the nuclear tissue further develops into hard and contractile cicatricial tissue which fixes and further distorts the valves.

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[1] Lecture I. was published in THE LANCET of March 26th, 189

[2] Collected Works, vol. iv., p. 347

It occasionally, but not often, happens that after the lapse of a considerable time in severe cases of aortic or mitral endocarditis a slight affix or prefix to the systolic sounds may begin to appear. But it is much more common for patients to return to the hospital with a second attack of rheumatism, or for some other cause, and to then present evidence of a stenosis at the mitral orifice or an incompetence of the aortic valves which did not exist before. No doubt in some instances this may be an inevitable occurrence from natural changes of a cicatricial and deforming kind occurring in the new tissue of the valve consequent upon the primary endocarditis. But it is always aggravated by, and often entirely due to, premature strain upon valves softened and impaired by inflammatory change. The infrequency with which aortic regurgitation and mitral stenosis are met with in primary cases of rheumatic fever cannot fail to have impressed clinical observers, but the lesson to be received from this fact has not been duly learned. Dr. Sibson[3] points out that of 24 cases of acute rheumatism with primary endocarditis treated by a rigid system of rest only 1 gave evidence of aortic as well as mitral disease, whereas in 19 instances out of 127, or 1 in 6·7 cases, not so rigidly treated in this respect aortic regurgitation was present. But even Dr. Sibson did not point the lesson, for he only insisted upon the importance of maintaining rest for "a period of several days after the complete disappearance of the local inflammation of the joints." If it be true that aortic regurgitation and mitral stenosis, rarely met with in primary rheumatism, are the results of secondary changes in the valves caused by (1) strain upon the softened valves; and (2) by cicatricial deforming changes in them, the first of these can be to a great extent prevented and the second to a great extent lessened and modified by maintaining the patient quiescent for a sufficient length of time. The exigencies of hospital routine, the pressure of perhaps more urgent cases, and the natural anxiety of the patients themselves to get home result in the discharge of rheumatic fever cases, even with heart complications, within a month or five weeks when perhaps another month's rest would add many years to the life estimate. A very bad lesson is thus taught to students. In private practice, in dealing with children and young people especially (and they are numerically by far the most important cases), it is not difficult with sufficient firmness in explaining the position to secure an adequate period of rest to allow of a complete subsidence of inflammatory change and a restoration of due resisting power in the weakened valve. At least two months after an attack of rheumatism involving the heart, and in some severe cases from four to six months, is necessary for this purpose. A minute attention to the temperature chart and pulse and careful investigation of the cardiac sounds will be the chief guides in regulating the rest treatment of these cases. For a further ill-defined period of months very gradual and careful return to an amount of activity suitable to the case must be permitted. Under this system of management very striking results—in many instances practically complete cure—will be obtained, especially in children and young people. It was taught in my student times by the greatest of living clinical teachers that children grew into rather than out of heart disease. I have been surprised since to meet with many instances to the contrary, and I venture to think that the opinion was based largely upon the experience of the Children's Hospital dealing with poor children who were not maintained long enough at rest and who returned later with the results of the deforming endarteritis.

It would be tedious were I to do more than mention that in the subject of a severe peri- or myo-carditis allowed to move about too soon the softened heart walls yield and the fibro-nuclear changes proceeding tend to render such yielding permanent. I have restricted my remarks so far to rheumatic cases since they constitute the vast majority, if not all, of the cases that occur and at least of those that are under our control, and such other cases as may be met with from acute overstrain, scarlet fever, or other fevers would fall under the same lines of treatment. I have pointed out that the cardiac group of drugs is of little value in the early stages of heart disease. Our object is to promote resolution and the healing process. Our primary object is not at this stage to increase heart power, which would, indeed, only antagonise our views of easing valve function. As the acute rheumatic features fade general anæmia and cardiac fatigue often present themselves for consideration in treatment, and such drugs as arsenic, strychnine, and iron are strongly indicated. At this stage, particularly in pericardial and in some endocardial cases, the employment of moderate doses of iodide—e.g., a five-grain dose of combined iodides of soda, ammonia, and potash—three times a day has seemed to me to be of some advantage in helping the resolution of the inflammatory thickenings. A due regard would, however, be paid to the toleration of the iodide and it would in all cases be combined with some tonic, such as strychnia, arsenic, or iron. It is at this time, at the end of the pyrexial interval, that the question as to the usefulness of digitalis comes in. A quickened and irregular rhythm, one or both arising from want of power to deal with a valve defect, is the particular indication for the employment of digitalis. The drug is of little, if any, use and may do harm if the quickened action be the result of inflammatory irritation. Hence, where the irregularity is attributable to peri- or myo-carditis the drug is useless; when the soft low-pitched murmurs with raised temperature indicate active changes going on in the valves digitalis should be withheld unless positively demanded by a failing ventricle, the special signs of which would be congestion of the lungs, enlarging liver, œdema of the limbs and very scanty urine. But these symptoms are only present in very grave cases. In the majority of instances during active valve changes, as I have said, digitalis is not needed. I shall refer later to the digitalis class of drugs in speaking of chronic heart failure. In some cases when the patient begins to get about it may be necessary to combine for a time moderate doses of digitalis not exceeding 20 or 30 minims a day with the general tonic in order to maintain the tone of the newly acquired hypertrophy commensurate with the valve defect.

In the selection of change of air for convalescent cases of endocarditis the first consideration is freedom from wetness of subsoil. Seaside towns are generally preferable to country districts on account of the ground being well drained, the walks easy, the sunshine abundant, and facilities in the way of bathchair exercise, sunny balconies, &c., greater. I may here mention a matter of extreme importance to which I shall allude again in speaking of ulcerative endocarditis and that is the necessity of perfect sanitation bearing in mind the susceptibility of the recently inflamed valves to bacterial invasion. In cases in which the lesions are grave, the progress tedious, and the necessity for rest prolonged, general nutrition may be maintained by judicious massage such as to stimulate muscle nutrition and facilitate venous circulation.

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[3] Ibid., vol. iv., p. 384.

On being consulted about a case of valvular heart disease the physician has, of course, first to make an accurate diagnosis, not only as to the particular valve defect in the heart, for in that a diligent fourth-year student could equal the most experienced, but to form a just estimate of all the conditions present and to decide what are the essential factors in the diseased state, in what symptoms or group of symptoms is the objective for treatment to be found. Secondly, having arrived at this point the physician's further deliberations mainly turn upon whether (*a*) the case is a suitable one for the employment of remedies of the digitalis order and to what extent shall they be pushed; (*b*) does the case require complete rest? or (*c*) what degree and kind of exercise will be beneficial or may be permitted? and (*d*) the general state of the patient, his nervous system, condition of nutrition, blood state, &c., will have to be considered as well as those special functions of kidney and liver and the dropsical state which are a part of the perturbed circulatory condition. It is of course quite unnecessary for me here to discuss any points of physical diagnosis and I will at once pass on to a brief consideration of the properties of digitalis upon which we have to rely in practical therapeutics. There is no drug so familiar to us as digitalis and there is no one drug which has added so many years to the sum of human life. It may also be said that the difference between the effects upon the heart of digitalis in skilful and unskilful hands is as great as the difference in the effect of the curb rein on a restive horse under the same circumstances. And although most that one can say about the drug and about the small group which it represents is but trite and commonplace, and must especially appear so to so experienced an audience as I now address, there are one or two points about the action of the drug an imperfect knowledge of which for the moment rather embarrasses than strengthens the hands of the practitioner in its use.

What are the attributes of digitalis upon which we rely in our daily practice? 1. Digitalis slows the heart's action concentrating the force expended upon fewer and more efficient contractions. 2. It is stated that digitalis also directly stimulates the heart's action (Williams).[4] The more obvious effect clinically is rather a concentration of force and gathering of small, irregular beats into efficient contractions. 3. It is generally agreed that the drug affects the cardio-vascular muscles directly. Although the ultimate plasmic distribution of the vagus in the heart is presumably the special sphere of its influence it is highly probable that its effects extend also to the nerve centres. It is difficult otherwise to explain the secondary effects of digitalis, especially its vaso-motor effects and the peculiar nausea, resembling that of sea-sickness, which often proves so important a result of its continued use. 4. Digitalis contracts the arterioles and this effect, in combination with the increase in the contractile force of the heart, raises the blood-pressure in the arteries. 5. The effect of the contraction of the arterioles is to maintain the blood-pressure between the cardiac beats. This effect of digitalis in contracting the arterioles has been known for thirty years, and as Dr. Lauder Brunton was amongst the first to experimentally prove it so he has by a series of experiments made with Dr. Tunnicliffe quite recently maintained the importance of arteriole contraction in sustaining the blood-pressure between the beats of the heart.

Some timidity has arisen in the use of the drug lest by increasing arterial resistance and at the same time stimulating ventricle action it should lead to cardiac overstrain and exhaustion. The possible occurrence of such strain and the detrimental effects arising from it must, of course, be taken into consideration in prescribing digitalis in certain cardiac conditions, but its action on the vessels is really one of the most valuable attributes of the drug supplementary to its cardiac effect. It must be remembered, as shown in both series of Dr. Brunton's admirable experiments, that the blood-pressure is maintained in the arteries in the intervals of systole; that is to say, that under digitalis influence, after closure of the aortic valves, the aortic resilience more gradually effects the emptying of the arteries through the capillaries. Now this effect is of great clinical importance. 1. It maintains the blood longer in the arteries and hence favours the more effectual irrigation of organs, particularly of the secreting organs. 2. By the better distribution of the ventricle force venous congestion is avoided and the venous current more sustained, the heart has less immediately to overcome venous inertia, and the less bulky and stagnant venous stream is more readily respondent to *vis a fronte* influences. 3. Provided always, however, that corresponding with a longer maintained arterial pressure the digitalis produces a slower heart beat. For it is obvious that if with increased slowness of distribution of cardiac force we have no corresponding diminution in frequency of the cardiac contractions we may get the resistance mounting up to a dangerous pitch. From clinical observation I should have said that in medicinal doses digitalis affects the heart before the vessels, and so the proportionate conditions of its effective and beneficial action are in suitable cases secured, although experimentally with the drug introduced directly into the circulation in full physiological doses the vessels have been found to react sooner than the heart. 6. Pushed beyond its therapeutic limits digitalis appears to paralyse the cardiac vagus, the heart's action becomes rapid, peristaltic and finally stops in systole. The failure in heart power seems to arise from inefficient and finally extinguished diastole and the arterioles generally maintain their contraction to the end.

In considering the cases of cardiac disease, and for the moment speaking of valvular disease of the heart, the first thing to remark is that there are to be observed a type of pulse and heart rhythm adapted to, and characteristic of, each form of valvular disease of the heart which may be regarded as normal to that lesion, and it should be the object of the physician to consider whether the rhythm of beat and the result of estimated cardiac force as registered by the pulse are in full accord with the altered circumstances produced by the valve defect. How far the pulse varies from that of health is a preliminary part of the diagnosis, but, the diagnosis made, the question for treatment is whether the character of the pulse is normal to the lesion found, or does it vary from what it ought to be under the circumstances, and to what is the variation due. On thinking the matter over in this light we perceive that in the therapeutics of cardiac affections after the acute stage we do not treat the valve defect, but we treat the heart, whilst it will be remembered that in thinking over the treatment of cardiac affections in the acute stage we found that our measures were not directed to the heart so much as to the affected valves or pericardium, and incidentally in this latter section of acute cardiac affections we found but little employment for drugs of the digitalis order and that in many cases their employment was positively to be avoided.

There has been much dispute as to whether digitalis—and in mentioning digitalis I speak for the whole therapeutic group—should be used in the treatment of aortic regurgitation. But in the most typical cases of aortic regurgitation the patients are very well, they may be quite unconscious that they have anything the matter with them, they lead active, even athletic, lives and will be shocked, on presenting themselves before an insurance society, at being refused or very greatly surcharged. Except for accidents in the way of functional disturbances of reflex origin, vaso-motor angina, to which they are very liable, and sudden or gradual overstrain, to which their unguided energies tend to lead them, these patients, if they follow rationally prescribed lines of conduct, may go on very well until the degeneration period of life. They may, like other people, require a tonic from time to time, but so long as they present the most characteristic marks of their special lesion they do not require digitalis. Now the conditions of good compensation are steady, regular, forcible ventricle beats—an increase in the capacity of the left ventricle to accommodate a larger measure of blood in diastole and a vigorous and truly muscular hypertrophy to enable the ventricle with little supplementary support from the aortic valves to propel the blood through the capillaries and maintain the venous current. Under these conditions, which are faithfully recorded in the steady, regular pulse, with a strong, abrupt beat, rapid subsidence and low tension of artery, digitalis is not wanted and a powerful drug when there is no indication for it cannot but be harmful. In all cases, however, of aortic regurgitation which are not interrupted in mid-career by some of the accidents to which I have alluded the time comes when the employment of digitalis is of the greatest value. What are the indications for its use? In one word, they are the symptoms of commencing failure of the left ventricle fully to respond to the heavy call upon it, provided that failure be under conditions otherwise normal to the disease. It may be, for instance, that the ventricle is temporarily overburdened by the results of some nervous, dyspeptic, or gouty storm reflected upon the small vessels and causing a measure of high tension to supervene upon that relaxed condition of the arterial system which is normal to aortic regurgitation and which is probably a natural compensatory effect, induced by the relaxing influence of the depressor nerve in response to the increased pressure within the ventricle. Under the conditions of high arterial tension thus induced it would be very faulty practice to give digitalis; any result it might have in forcing increased work out of the already willing muscle would be necessarily at the expense of later exhaustion, apart from the tendency of the drug itself to increase tension. Obviously under these conditions a mercurial and saline or such other treatment as may especially meet the cause of the increased arterial resistance is the first measure in combination with a little extra quietude and to be followed by a tonic calculated to restore the fatigued heart. I have already dealt with the treatment of acute high tension accompanied by anginal symptoms in aortic disease. It has been said that the heart in aortic regurgitation is sometimes too vigorous, its hypertrophy excessive, and that it is necessary to use drugs of the aconite order to lessen ventricular expenditure. I confess I have never recognised a case of the kind and that in my experience unduly laboured heart's action in this disease is always to be explained by reflected functional disturbance or increased arterial resistance. The one thing we have to look to in aortic regurgitation is the maintenance of heart power, and any sign of over struggle is rather to be met by measures calculated to diminish peripheral resistance. Irregularity in the heart's action, a want of precision and sharpness in the character of the pulse, increased displacement of the apex beat to the left, and extended impulse upwards, the occurrence of irregular smaller beats as marked in the pulse and appreciated at the heart, the supervention of a soft systolic bruit over the mitral area, extension of the cardiac dulness to the right, and finally the almost complete replacement of the normal, regular, strong, slow, collapsing pulse and simple hypertrophic heart's action, normal to aortic regurgitation by a rapid heart's action irregular in force and frequency, with a corresponding small pulse, having the characters of mitral rather than of aortic disease,—such are in gradation the ingravescent signs of ventricle failure in aortic regurgitant disease and the increasingly imperative indications for the employment of digitalis in its treatment. As the above signs develop we observe important symptoms of the changed arena of struggle from the left to the right heart territories of the circulation. Congestion râles appear at the bases of the lungs, fulness to enlargement of the liver, œdema of the extremities, and scantiness of the urine. There is no doubt that the symptomatology of failing heart in aortic regurgitation concentres round the fact that with a yielding ventricle systole becomes incomplete and an increasing amount of residual blood is left behind in the ventricle, necessitating presently a supplementary intermediate contraction, until finally little better than a disordered cardiac peristalsis ensues incapable of maintaining due arterial pressure, the blood gathers on the venous side, and the right ventricle embarrassed by the counter blast through the relaxed mitral orifice and unassisted by any aspiratory influence on the part of the left ventricle in its turn begins to fail.

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[4] Quoted with acceptance by Lauder Brunton, Journal of Physiology, vol. xx., 1893, p. 357.

Under these conditions the peculiar effects of digitalis are precisely called for to slow the action of the heart, to render its contractions more complete and regular, and thus to check the gathering of residual blood in the ventricle and restore the efficient application of the mitral flaps by approximating their attachments. I have before remarked that clinically digitalis appears to influence the heart before the vessels. There is, indeed, in all probability proportionate relationship between its effects upon these two sections of the circulation. If as we believe the drug acts directly upon the cardio-vascular muscle we may safely infer that the bulk of the muscle concentred in the heart being more than equal to that of the muscle distributed in the vessels the predominant effect should remain with the heart. We must not, of course, push this argument too far, it is at least in favour of what I believe to be an observed fact in aortic regurgitant heart failure—viz., that digitalis rarely affects the vessels prematurely or disproportionately, but on the contrary by improving arterial tone it does no more than prevent that rapid emptying of the arteries, which although normal to aortic regurgitant disease requires a corresponding rapidity or suddenness of ventricle contraction to maintain a sufficient arterial pressure for vital functions which is very exhausting to the enervated and failing hearts under consideration. The maintenance of a strict recumbency is of course essential in the grave cases I have described and with a suitable dietary the heart soon begins to respond to a steady daily administration of from thirty to ninety or more minims of tincture of digitalis or an equivalent preparation with proper adjuncts in the form of an occasional mercurial and saline. With the increasing efficiency of the *vis a tergo* the blood-pressure in the arteries rises and with the similarly increased efficiency of the *vis a fronte*—for the drug not only indirectly helps but directly stimulates the right heart as the left—the venous current is hastened, the pulse will begin to steady, and at about the third day the urine will increase in quantity, the signs of venous congestion begin to diminish, the pulse to assume more and more its proper aortic characters, and the patient gradually recovers to a point short, however, of that degree of health and heart-power he before enjoyed.

Thus again and even again have we most of us seen patients with heart failure in aortic regurgitation restored, put on their legs by the action of digitalis. Having once passed through this ordeal they can never be said to be entirely independent of the drug. I have put the extreme case, but it is needless to say that by watchfulness in recognising the earlier phenomena of heart failure, which I enumerated as nearly as possible in chronological order, and by the timely employment of an occasional course of digitalis, the more desperate symptoms may be long postponed. One of the greatest difficulties in practical medicine is to decide when to omit treatment, and this difficulty is particularly felt by many in regard to digitalis. I shall allude perhaps more fittingly to this point later and will content myself now with the remark that the general condition of the patient, his anæmia or otherwise, his general nerve tone, the due activity of his other functions must be carefully watched and regarded and the use of other remedies accordingly employed with a mitigation or suspension as the case requires of the digitalis treatment. The final word with regard to the treatment of aortic regurgitation would seem then to be—await the distinct indication of altered pulse characters, even ascertain whether there are not general conditions of over-fatigue or strain or impaired general tone from anæmia or other debility before giving digitalis, and having commenced with it pursue the treatment boldly and steadily and look under its influence and as a sign of its success for a return of the characters which are normal in the pulse of this disease.

With regard to aortic stenosis the same argument holds good—that is, that as soon as the normal pulse of this affection—a small, rather slow and regular pulse—becomes replaced by irregularity and frequency, accompanied by the usual signs of failing compensation, digitalis is needed. Aortic stenosis is, indeed, a rare form of cardiac disease, although so-called aortic constrictive murmur is one of the most common of the morbid sounds of the heart. Any roughening of the orifice, any want of proportion between the orifice and the calibre of the aorta beyond any undue salience or rigidity of the valves, even with a dilated orifice, will beget a systolic murmur. I do not think that with regard to the use of digitalis in this affection I have anything more to say. So long as the heart is beating quietly and regularly nothing but harm can come from the use of digitalis, with irregularity and disorder nothing but good, provided it be carefully watched and mitigated with returning regularity. An important principle underlying the whole question of treatment of cardiac diseases by digitalis is that laid down by the late Dr. Herbert Davies who, with the coöperation of Professor Haughton, established with at least approximate success the proposition that equal volumes of blood are synchronously propelled from the cavities on the two sides of the heart. We have seen that in aortic regurgitation a certain degree of dilatation of the left ventricle is normal; this is to accommodate a certain amount of residual blood equivalent to the back flow from the aorta which is an addition to, and has to be returned with, the normal output. When with increasing dilatation this residue accumulates (or if in unpreparedness of the ventricle as when surprised by a sudden injury to the valves it cannot be accommodated) embarrassment telling backwards on the pulmonary side commences.

In mitral stenosis the strain to effect this equilibrium of the two circulations falls upon the right ventricle, which, assisted by the left auricle, has to supply the left ventricle with sufficient blood notwithstanding the narrowed mitral orifice. In the pure funnel form of mitral stenosis, a disease which is, I am convinced, often of congenital origin, the right ventricle and left auricle undergo corresponding hypertrophy and increase of capacity and are able without artificial aid to maintain the circulation, sometimes for the first forty or five-and-forty years of life. The features of mitral stenosis are a high pulmonary and a low systemic blood-pressure, a regular, slow pulse, a tendency to pulmonary congestion, and systemic anæmia. Whilst these conditions are maintained digitalis can do no good; the right ventricle is in full work, the left has got scarcely work enough to do, the intra-pulmonary pressure is already near the point of strain, and the prolonged diastolic pause natural to the lesion is precisely adapted to the needs of the slowly filling left ventricle. Any constriction of the systemic arterioles would be disastrous under such conditions, as was seen in the case I related of mitral stenosis with vaso-motory constriction of vessels and pulmonary hæmorrhage. The first indication on cardiac distress arising in mitral stenosis would be to relieve the right heart by unloading the venous system by direct venesection or intestinal and hepatic derivatives and a restricted diet and treatment of pulmonary complications as the urgency of the symptoms might require. But when, these conditions being satisfied, the pulse still remains quick and irregular and the right heart embarrassed, the employment of digitalis is certainly indicated on the same principle as before. And in the presence of cardiac need we may, as a rule, disregard considerations of raised arterial tension, since, as I have urged, the first and predominating influence of the drug is upon the heart. The moment, however, the cardiac action is restored to regularity we must again remember the arterial effects of the drug and, endeavouring to maintain without increasing its effects upon the heart by greatly mitigated doses, to watch for and avoid any undue action on the vessels.

In mitral regurgitation with commencing or established heart failure we find all the conditions calling for the beneficent action of digitalis and the mere presence of a mitral murmur is often regarded as an indication for the use —it may be the very guarded use—of the drug. It must be remembered that I am not speaking of acute cases, nor would digitalis be suggested by the mere presence of a mitral regurgitation in the senile heart, of which it is almost a characteristic and often a very advantageous factor. Nor again in those cases in which the regurgitation occurs as a compensatory safeguard in overstrained ventricle from chronic high arterial tension is it often desirable—except with much caution—to prescribe digitalis. It is in commencing heart failure in chronic mitral lesion from rheumatic endocarditis that digitalis is so valuable. What are the features of this state? A quick, small pulse is normal to mitral regurgitation, and even some irregularity of rhythm or force is of no great moment, although even now short tonic courses of the drug may be useful. But when irregularity is a marked feature, when a few beats are large and turbulent, to be followed by several small beats, when the pulse no longer corresponds in number with the cardiac contraction, when the heart itself shows signs of hypertrophy and extending dilatation of both ventricles with dulness extending upwards over the conus and left auricle, when the neck veins become full, fill from below and pulsate, the liver enlarges, the cellular tissue becomes dropsical, the lungs congested, and the urine scanty. With these symptoms and signs we have with increasing urgency the conditions calling for digitalis. These conditions begin, it will be observed, with the pulse and heart characters which replace those which are normal to other forms of cardiac disease when failure is commencing and digitalis is called for. This fact about mitral disease is to be noted in prognosis. Whilst symptoms of heart failure are earlier in appearance in mitral disease of any gravity they are perhaps longer amenable to treatment, the considerable reserve capacity of the left auricle and the relative shortness of the pulmonary circulation being favourable for a longer struggle against the valve defect, but that struggle begins to be serious at an earlier date. On the other hand the accidents of mitral disease are fewer than those of any other cardiac disease, sudden death from syncope, angina, or cerebral embolism being common both in aortic regurgitation and mitral stenosis, very rare in mitral regurgitation, but with these two diseases and with aortic stenosis it is—with equal relative gravity—longer before the heart mechanism fails. A congestion of the pulmonary and venous system and an anæmia of the arterial system are the underlying factors in this condition as in mitral stenosis. But the difference is that in mitral regurgitation the congestion is all backward, each blood-thrust of the right ventricle is met by a counterblast from the left, the left auricle is not protected by its valve from invasion backwards, and cannot therefore efficiently coöperate with the right ventricle, and the cusps of the pulmonary valve have to take up in part the function of the mitral valve. Of course, there are cases and cases of mitral regurgitation. In some the leakage is so slight as to cause no inconvenience. The skilled practitioner can discriminate to a nicety as to the gravity of the case by the degree with which the first sound is replaced by murmur and by estimating the relation between expenditure of force by the heart and the result affected in the pulse showing the degree of waste in the mechanism.

I cannot, Sir, but here recall the heroic assiduity of our late Fellow and Vice-President, my illustrious colleague, Sir Richard Quain, who when mortally ill brought his last work before the Royal Society in an endeavour to explain the much-debated mechanism of the first sound of the heart. Any conclusion arrived at by so acute and thoughtful an observer must command our reverent respect. It is difficult, however, except on the hypothesis that the closure of the mitral valve contributes to the first sound, to explain the great value in diagnosis of the degree of replacement of that sound by murmur as an estimate of the degree of imperfection of the valve and the consequent gravity of the lesion.

The most common mistake that one observes in the use of digitalis is that too large a dose is prescribed at first, which tends to premature arterial contraction and cumulative effects. Then with the appearance of these physiological symptoms the drug is stopped and some other medicine substituted until the pulse again calls for its administration. In this haphazard way of using digitalis the heart is never held in good control. In exceptional cases, where there is urgent need to push the drug, digitaline is best used subcutaneously. In ordinary cases a dose of 10 minims of the tincture every four hours, or 15 minims every eight hours, or 5 minims every waking hour is sufficient. Thus given, the patient being at rest, it generally takes about three days before the pulse is under control and the urine begins to increase. When its decided effects are thus gradually developed the drug should be steadily continued in doses calculated to maintain its effect. With ordinary watchfulness there is no risk whatever, timely warning of excess is given by the pulse, which having become slow begins to exhibit small intermediate beats and especially a tendency to go in couples. This is always a sign to reduce the doses or to omit for a few hours. The sickness that occasionally too often supervenes with digitalis is most troublesome. An occasional mercurial will sometimes prevent it, a change to digitaline in equivalent doses may be tried, or a tumbler of very hot water taken occasionally. In some cases it is not to be overcome except by omitting the drug; the patient is usually well under the influence of the drug before this symptom appears, in which case a small dose of digitaline by the mouth or hypodermically may be sufficient to maintain its effects on the heart.

In speaking of digitalis I have regarded that drug as representing the whole therapeutic group. Digitalis is to my mind so far in front of all the others in efficacy that in critical cases I should never think of prescribing any other member of the group before it. Strophanthus comes next to it in usefulness and in physiological experiment is even more powerful. Clinically one is not so well satisfied with it, and this may possibly be prejudice, but I have had doubts about its stability in prescriptions. It causes the same troublesome nausea. The one reason for its use is that it affects the small vessels less; this gives it an advantage in some cases, particularly, perhaps, in carrying on the effects of digitalis in convalescent aortic regurgitant and mitral stenosis cases. But, as I have endeavoured to point out, under most conditions calling for its use this very action upon the arterioles is one of the valuable attributes of digitalis and explains possibly its superiority over strophanthus. I frequently, however, combine the two drugs when I want to secure an increased cardiac effect without using digitalis in doses large enough to contract the vessels too much. Convallaria comes next as a cardiac tonic in mild cases, useful for timid women who are terrified at foxglove and arrow poison, but take kindly to the humble lily of the valley; I have only very occasionally used sparteine. One may observe that the earliest sign of amendment in cardiac failure is an increased flow of urine. This rarely occurs until a perceptible influence has been obtained over the pulse and it corresponds with an increased fulness of the arterial system, an improved blood-pressure and a lessened venous stasis. A somewhat analogous relief of the stress of symptoms will often be observed with the commencement of dropsical effusion, provided that effusion of course be limited to the cellular tissue and peritoneum. The peculiar restlessness and discomfort that precedes the onset of dropsy is sometimes very remarkable and the dropsical effusion should rightly be regarded as one of those compromises of nature which enable the vital machinery to go on a little longer. Dropsy is primarily due to a leakage from the congested capillaries into the cellular tissue. It is also due to a retarded removal of the fluids by the lymphatic vessels.

From a therapeutic point of view the osmotic circulation in the cellular tissue and serous and mucous cavities is scarcely less important than the vessel circulation discovered by Harvey. The interchange between the two circulations amounts normally to many pints in the twenty-four hours and cellular tissue and lymphatic vessels conduct a considerable share of it. The current of lymph is of extremely low pressure and no doubt largely depends upon the aspirating effect of the blood stream in the veins into which the ducts enter as well as the *vis a tergo* derived from the blood-pressure in the capillaries. It is thus a result of the difference between the capillary blood-pressure and that of the veins near the heart and it is further promoted by contraction of muscles, respiratory aspiration, and contraction of muscular coats of lymphatics. A very slight backward pressure in the veins will embarrass it. In dropsy not only is there venous retardation in the capillaries encouraging excessive exudation, but the retarded current in the great veins is a further obstruction to removal by the lymphatic vessels. Hence a considerable collection of fluid, even many pints, may be removed from circulation. The immediate effect of this removal is often a very decided relief to the patient's distress. The occurrence of dropsy may thus sometimes afford time for the readjustment of the circulatory balance in the heart and vessels. But if with the help of remedies this does not take place and the dropsy advances the question comes when to interfere. The answer is not until it is estimated that the pressure in the cellular tissue becomes great enough to equal or exceed the pressure in the capillaries. At this point interference becomes imperative and the fluid should be removed by the employment of Southey's tubes, incisions, or simple punctures under the strictest antiseptic precautions. I can remember when they were from neglect of such measures invariably followed by erythematous or erysipelatous inflammation and more or less cellulitis. Very striking instances of long abiding relief are met with from time to time from this treatment. I might quote a very remarkable case in this connexion illustrating a point which I have observed—viz., that dropsy occurs in some cases in the absence of heart phenomena which would appear sufficient to produce it. A woman, of about fifty years of age, had been under my observation for some few years for most intense chronic asthma with emphysema and recurrent attacks of bronchitis. Her condition at many times seemed almost hopeless, but the one redeeming feature about her was the heart's action, which remained steady and well sustained through her worst attacks; although there was undoubtedly some dilatation and hypertrophy of the right side of the heart there was no sign of heart failure. Towards the end of a bad summer in 1896 her legs began to swell and as her distress increased with the cold weather they filled up and by December the thighs and abdominal walls were greatly distended. She was in other respects so ill at this time that I hesitated to tap the legs until they became too prominent a factor in her distress. Even now, although the heart's action was feeble, it was neither irregular nor very quick and there were no murmurs. She was placed in a chair and by means of four Southey's tubes 20 pints of fluid were withdrawn in the course of 52 hours. Now it is remarkable that there has never been any return of the dropsy although she has not been free from bronchitic attacks; the limbs are perfectly slim and natural, without a trace of œdema. The heart's action is as well maintained as before. It only partially failed for a few days after the removal of fluid. I may say that this patient has never been able to take digitalis or any drug of that series with advantage and it has never been prescribed for her except for short times at rare intervals and in very small doses. I should regard the retarded venous return from the great emphysema obstructing the lungs, in combination with an over-burdened right heart, as responsible for the dropsy, but the case is one of a few I have seen of the kind, difficult satisfactorily to explain. It is possible that this may be an unusually prominent example of the effect of a mechanism that has more to do with dropsy than has been generally allowed—viz., obstructed venous return in the chest from great emphysema and dilated right heart, telling upon the lymphatic current in such a manner as to lessen the readiness of its escape into the innominate vein and so to hold in abeyance the share taken by lymphatic absorption in the removal of dropsical fluids.

The Goulstonian Lectures:

OBSERVATIONS ON THE PATHOLOGY OF THE KIDNEYS.

Delivered before the Royal College of Physicians of London on March 15th, 17th, and 22nd, 1898,

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(*From the Laboratory of the Brown Institution.*)

LECTURE III.[1]

Delivered on March 22nd.

URÆMIA.

MR. PRESIDENT AND FELLOWS,—Having discussed in the last lecture the results of nephrectomy in animals (dogs) I propose to deal to-day with some of the phenomena of uræmia as seen clinically in renal diseases. Uræmia may perhaps be defined as a toxæmia which is apt to supervene either during the course of, or as a terminal phenomenon in, renal diseases or disorders. Although it may occur in any form of renal disease it is, as is well known, most frequently seen in the young and more especially, perhaps, in those forms of chronic renal disease, such as certain varieties of contracted kidney, where the quantity of kidney substance is very greatly reduced in amount. Although uræmia is sometimes seen in what may be called the ordinary granular kidney (the raspberry kidney) associated with general arterial degeneration, yet it is not the natural termination of this malady. The more characteristic mode of death is either from cerebral hæmorrhage or else from secondary cardiac disease, the heart failing as a result of the long-continued increased pressure to which it has been subjected. Although uræmia may occur in cases of granular kidney associated with extreme arterial disease in the middle-aged or elderly, uræmia, and more especially acute uræmia, is peculiarly associated, in my opinion, with the contracted white kidney, which may probably arise either as an independent renal affection or secondarily as the sequel of some other form of nephritis, acute or chronic, such as, for instance, the so-called large white kidney. It is probable that several forms of renal disease are included under the terms "small white," or "contracted white," kidney, and certainly different specimens of this form of kidney differ greatly in their microscopic if not in their macroscopic appearances. In all forms of this disease, however, the amount of kidney tissue, and more especially of cortical tissue, is very greatly diminished and, speaking broadly, there is frequently a greater reduction in the amount of kidney tissue in this form of renal disease than in most if not in all cases of the true granular kidney. Such kidneys are small, weighing together probably less than seven ounces, sometimes as little as five or even three ounces. The capsule is thickened and on stripping tears the kidney substance but little, and leaves an exceedingly granular surface, the granulations being large and prominent. The cortex is greatly diminished in width and is of a pale-yellow colour or may be mottled; this appearance is seen both on section and externally. The medulla varies but is usually red and congested. The fat in the renal sinus is prominent. The condition of the vessels varies; sometimes there is extensive endarteritis, at other times this is not so conspicuous. Such a kidney is familiar to all pathologists. It is remarkable that although the appearances just described are fairly constant yet the state of the cardio-vascular system in these cases varies; usually there is cardiac hypertrophy and the other well-known vascular lesions associated with high tension, but cases are seen where although the kidneys conform in all respects to the description just given, yet neither during life nor after death are there any marked and obvious signs of the usual accompanying cardiac and arterial changes. I have seen cases where the kidneys were quite small, weighing together but from five to six ounces, and where post mortem cardiac hypertrophy was either absent or very ill-marked. Usually, however, it is a marked phenomenon. The type of kidney just outlined can probably be recognised during life owing to both the clinical course and the composition of the urine being peculiar and distinctive. The urine is dilute, the specific gravity is low, and the quantity is either about the normal or it is increased. It is in my experience exceptional for it to be seriously diminished and it is most usually distinctly above the normal. These urines contain a considerable quantity of albumin, thus from one-sixth to one-third would probably be a fair estimate for the majority of cases. Clinically, I would say, such cases are characterised by the rarity of the occurrence of dropsy and the frequency of the presence of albuminuric retinitis, and most important of all by the fact that the patients die from uræmia, and usually from acute uræmia. I believe it is exceptional for cases presenting this clinical picture and characterised anatomically by the kidney lesion described above to terminate by the other complications of Bright's disease, such as dropsy, secondary inflammations, cerebral hæmorrhage, &c. These cases not only usually succumb to uræmia, but they tend to be associated with a particular variety of uræmia—namely, acute uræmia or even so-called fulminating uræmia, the *urémie foudroyante* of the French. Although this form of Bright's disease is, in my opinion, peculiarly associated with uræmia, yet acute uræmia occurs under other circumstances and more especially occasionally in acute Bright's disease and after the surgical exploration of the kidneys where these organs are diseased, as, for instance, where pyelitis is complicated by chronic Bright's disease or by waxy degeneration. Exploratory nephrotomy may, and not uncommonly does, under such circumstances lead to fatal uræmia.

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[1] Lectures I. and II. were published in THE LANCET of March 19th and 26th, 1898, respectively.

Eclampsia is a variety of acute uræmia, but in some ways this affection is quite different from the uræmia seen in renal cases and need not be further considered here.

Chronic or subacute uræmia or gastro-intestinal uræmia, as it is sometimes called, is probably more especially associated with that form of chronic Bright's disease which is accompanied by dropsy and where the kidneys are not only not greatly diminished in bulk but where these organs are larger than natural and come under the general description of large white kidneys. Chronic uræmia is also seen in other chronic destructive renal diseases, as, for instance, in cystic kidneys, and more especially perhaps in the so-called "consecutive nephritis" of the surgeon where the kidneys may be riddled with abscesses.

The form of uræmia described by Sir William Roberts as occurring in cases of obstructive suppression is so well known that little need be said as to its main features. It is undoubtedly very characteristic of cases of calculous suppression, but it is not, I believe, limited to these or even to cases of obstructive suppression, as I hope to show. The phenomenon seen in these cases of obstructive suppression may perhaps be termed "latent uræmia," as all the most obvious symptoms of uræmia are conspicuous by their absence, as pointed out by Sir William Roberts. Latent uræmia—that is to say, a condition where the patient remains for many days quite conscious, with no coma, convulsions, or dyspnœa, but where myosis, fall of temperature, occasional vomiting, and towards the end slight and rare twitchings of the voluntary muscles and perhaps slight drowsiness, may be present—has occurred in my experience in the following variety of cases: (1) calculous anuria and other varieties of obstructive suppression; (2) in the case already alluded to in Lecture II. and published in detail in the *Journal of Pathology*, where owing to endarteritis and thrombosis of the renal arterioles the entire cortex of both kidneys was necrotic; and (3) in a case where as the result of inflammation of a sacculus of the urinary bladder suppression ensued, and this notwithstanding the fact that the kidneys were not greatly diseased. It was most remarkable to see that in all these three different conditions the clinical symptoms were precisely similar and they were all regarded during life as typical examples of obstructive suppression. In the calculous cases this was the case but in the others the conditions were very different. In the one the patient practically had no kidneys, as, owing to the vascular lesion, thrombosis of the arterioles, the circulation must have been completely arrested, and in Case 3, although the kidneys were present and were apparently healthy and there was no obstruction to the ureters, yet there was complete suppression. It is unnecessary to describe the symptoms seen in the cases of calculous anuria as they are now so well known, and it will suffice to state that the longest duration of life was nine days and the shortest five. It will be, however, necessary to describe shortly the other two cases where the symptoms during life were characteristic of calculous anuria but where the post-mortem examination showed no such condition.

A woman, aged thirty-six years, was admitted into University College Hospital on March 3rd, 1896, owing to inability to pass urine. The patient was quite well until Feb. 28th, on which day she was delivered of a dead full-term child. After her confinement she was sick once and she complained of headache and a feeling of slight drowsiness which had remained much the same till the day of admission. There had been no fits and no muscular twitchings, and the patient stated that she had passed no urine since her confinement with the exception of two drachms drawn off by catheter on March 2nd. She had had no previous illness, and there was no history of any swelling of the legs or any attack of lumbar pain. On admission the patient was perfectly conscious and rational and could answer all questions clearly and intelligently; she had no headache or sickness but she complained of thirst; her temperature was 98° F. and there was no œdema. On March 4th the patient remained in the same condition; the temperature fell to 97·8° and no urine was passed. On the 5th she was weaker but quite conscious and intelligent and the temperature reached 95·4°, and one and a half drachms of urine containing a trace of albumin were drawn off. On the 6th the patient was still quite conscious, there had been no convulsions, and no vomiting; she was decidedly weaker and the highest temperature was 96·4°. No urine could be obtained on catheterisation. On the 7th she was still quite conscious and rational and she died suddenly and apparently from failure of respiration. On post-mortem examination no urine was found in the bladder or in the pelvis of either kidney and there was no obstruction to the ureters. The two kidneys presented the same appearance and weighed 7½ oz. each, and it will be sufficient to say here that the entire cortex of both kidneys was of a bright buff colour and necrotic. The convoluted tubules throughout the cortical substance were found to be necrotic and this necrosis depended upon endarteritis of the renal arteries and thrombosis of the interlobular arterioles; the medulla was normal and there was no cirrhosis.[3]

I must apologise for quoting this case at length, but inasmuch as the lesion was such as to practically deprive the patient of both kidneys the case is a near parallel to the experimental removal of both kidneys and is therefore of very great interest and tends to the conclusion that the destruction of all the secreting tissues of both kidneys in the human subject does not necessarily produce uræmia in the ordinary sense of the word, notwithstanding the production of complete anuria. The second case, in which symptoms characteristic of obstructive suppression were seen and in which the post mortem examination showed no obstruction, is also of sufficient interest to be quoted in some detail.

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[3] For full details see Endarteritis of the Renal Arteries Causing Necrosis of the Entire Cortex of Both Kidneys, Journal of Pathology, 1898.

A woman, aged thirty-eight years, was admitted to University College Hospital on Dec. 19th, 1897. The patient was a married woman, who was five months pregnant, and she said that she had had no previous illness except typhoid fever five years ago and that subsequently to this she had passed a gall-stone. She stated that she had been quite well until ten days before admission when she was seized with pain in the abdomen followed by vomiting and diarrhœa. The abdominal pain still persisted and there had been occasional vomiting. No urine had been passed since Dec. 18th, although she stated that up to that time she had had no difficulty and that she passed as far as she knew the usual quantity. She had never had any previous attack of abdominal pain or any similar difficulty with her urine. On admission on the evening of Dec. 19th the temperature was 97° F., the pulse was 116, and the respirations were 12 per minute. She vomited several times during the night; no urine was passed and none was found in the bladder on passing a catheter, and there was very slight œdema all over the trunk and especially on the sternum (this has been noted as an occasional phenomenon by Sir William Roberts in cases of calculous anuria, and as in the case described by him so in this case the œdema, which was of the slightest description, disappeared before death). On palpation the abdomen was especially tender in the right lumbar region and the right kidney could be felt and seemed tender. On the 20th the vomiting was slightly less severe, the patient was conscious and rational, and the highest temperature was 97·8°. Two drachms of putrid urine were drawn off, containing a trace of albumin and showing numerous pear-shaped cells but no blood corpuscles and no casts. At 11 P.M. the catheter was again passed and five drachms of ammoniacal urine were drawn off. There was no muscular twitching and the temperature was 97·5°. On the 21st the temperature was still 97°, the pupils were small, the tongue was coated with brown fur, and in the twenty-four hours eight and a half ounces of urine were passed of specific gravity 1012; it was alkaline in reaction and contained one-twelfth albumin. Vomiting was still present, the œdema was less, but an erythematous rash had appeared on the left arm and hand. On the 22nd the bright-red rash had spread all over the body and also on to the face; the pupils were very small and the œdema had practically disappeared. Vomiting was still present and the patient was slightly drowsy and about five ounces of urine were passed. On the 23rd no urine was passed and none was obtained by catheter. The rash was fading, the temperature was 96, and the patient was slightly drowsy. She aborted at 3 P.M. The weakness and prostration gradually increased and she died at 10 P.M. Post mortem all the organs seemed healthy with the exception of the urinary bladder. The bladder was small and the mucous membrane was of a dark grey colour; about half an inch above the opening of the right ureter there was a small sacculus and the mucous membrane of this was greyish black, swollen, and necrotic. There was a small patch of necrotic mucous membrane about one-third of an inch in diameter on the corresponding surface of the opposite side of the bladder. The kidneys were abnormal in shape and the lower half of the right kidney was partially separated from the upper part; and this kidney had two ureters which opened by separate orifices into the urinary bladder a quarter of an inch apart. The ureters were not dilated and there was no obstruction at the orifice of the ureters on either side. Microscopic examination of the kidney showed no signs of any gross disease; in fact the kidney seemed healthy. This case is also a remarkable one, and it would seem that the suppression must have arisen reflexly from the cystitis in the vesical sacculus. The patient lived nearly six days and secreted in that time some fourteen ounces of urine, so that the suppression was not quite complete, but it is quite comparable to what is seen in calculous anuria, as it is not at all uncommon for small quantities of dilute urine to be passed even in fatal cases. This patient, like the patient in the other case quoted above, did not present the usual clinical picture of ordinary uræmia, although vomiting was a slightly more prominent symptom than in many cases of calculous anuria, still it is not uncommon for severe vomiting to occur in some forms of calculous suppression and even for this symptom to be the most prominent and severe one.

I have quoted these two cases at length as showing what I think is a very important fact—that whether the functions of the kidney be arrested by blocking of the ureter or by destruction of the entire cortex or reflexly (even when the kidneys are apparently healthy) the resulting phenomena are those which we have been familiar with in calculous anuria or obstructive suppression and not those of acute uræmia seen in renal disease, although from the suddenness and the gravity of the lesions acute uræmia might well be expected to ensue in such cases. We may thus conclude that the train of symptoms which has been called above latent uræmia ensues not only when the ureters of more or less healthy kidneys are suddenly blocked but also when these kidneys are suddenly prevented from secreting by vascular or nervous disturbance. The results of clinical experience are thus in complete harmony with the experimental facts detailed in my last lecture and the train of symptoms produced experimentally and by disease are really precisely similar and in neither case are they the symptoms of acute uræmia. In disease we apparently meet with three rather than two forms of suppression of urine—that is, with obstructive suppression and two varieties of non-obstructive. One, as in the cases above described, where the activity of more or less healthy kidneys is suddenly completely abolished, and the other where suppression occurs during the course of acute or chronic renal disease and more especially perhaps in Bright's disease. It would seem as if it were not so much a question of the symptoms of suppression being different according as the suppression was obstructive or non-obstructive but rather according as the suppression occurred as a complication of acute and chronic renal disease on the one hand, or on the other hand whether it occurred with fairly healthy kidneys. This is a matter not only of theoretical importance with regard to the nature of acute uræmia and its relationship to lesions of the kidney but also of practical importance in our treatment of such cases. In cases of calculous anuria there can be but little doubt that operative interference should be resorted to very early, but if the typical clinical picture seen in this condition is also seen where the suppression arises independently of any obstruction, as in the cases described above, and where surgery can be of no avail, it introduces a very serious and difficult question of differential diagnosis in such cases. From the theoretical point of view I think we must conclude that complete suppression of sudden origin and dependent either upon the obstruction of the ureters or upon certain acute lesions of the kidney causing entire cessation of the renal activities (such as the cases described above) does not produce acute uræmia. Having thus described at some length the conclusions I have arrived at in reference to so-called latent uræmia and its relationship to sudden and complete cessation of the renal functions experimentally and clinically we will now consider shortly some observations on acute uræmia.

True acute uræmia has only been observed clinically. I have not as yet been able to reproduce it in the laboratory and I have only made observations on the acute uræmia seen as a complication or termination of chronic and insidious renal diseases, and more especially, as already mentioned, on the uræmia that occurs in a form of contracted kidney seen in young subjects and usually described as a variety of contracted white kidney. It may seem far-fetched to associate acute uræmia more especially with one form of kidney lesion, but all I can say is that I have not as yet seen a case of this form of renal disease fatal from any cause except acute uræmia, and I have watched for such cases for the last eight years. Acute uræmia is, of course, also seen as a terminal effect in several other forms of renal disease, acute and chronic, but for some reasons it is more convenient to study it when it supervenes on a chronic disorder than when it complicates such a malady as acute Bright's disease. Acute uræmia resembles diabetic coma in the rapidity with which it is apt to supervene in these cases of contracted kidney unaccompanied with dropsy.

URINE IN ACUTE URÆMIA.

In some cases the onset of acute uræmia in cases of chronic renal disease is heralded by a great and sudden diminution in the amount of urine excreted; but, speaking generally, complete suppression is rare and certainly acute, and rapidly fatal uræmia may occur in this form of Bright's disease whilst the patient is passing quite considerable quantities of urine and urea, as in the case quoted in my last lecture where a patient passed more than thirty-two ounces of urine containing more than twelve grammes of urea during the last twenty-four hours of life. This amount was recovered and an unknown amount of urine was passed unconsciously in the bed in addition. In this patient, at any rate, fatal acute uræmia occurred with little and perhaps with no suppression, and she had marked uræmic phenomena, such as twitchings and epileptiform seizures, at a time when the daily urine contained at least seventeen grammes of urea. Very little food was taken and some of this was rejected by vomiting. Post mortem the total amount of kidney present was less than four ounces. Such a case stands in great contrast to what is seen in the cases of suppression described above and demonstrates how fatal acute uræmia may occur without any obvious suppression, and, in fact, such a case is really the converse of the suppression series. In other cases quantities of urea up to ten grammes were recovered during the last twenty-four hours of life, but exact determinations could not be made owing to the great difficulties experienced in collecting the urine. It is often said that although such uræmic patients may pass quantities of urine not very much less than the normal, yet owing to its dilute character such urine must contain but little solid matter. This is, of course, true and is made much of by those who consider that uræmia is dependent upon the retention of the saline constituents of the urine. This view is, in my opinion, untenable in the light of the facts obtained from the consideration of the cases of complete suppression, where of course all urinary constituents were retained and yet ordinary uræmia did not ensue. It is sufficient, then, for our present purpose to admit that although a certain diminution in the amount of urine and of urea excreted is common in acute uræmia, yet this condition may supervene and be fatal without there being any great diminution in the urinary excretion. The urine of uræmia is almost invariably dilute, pale, and of low specific gravity, and I have met with only one exception to this statement. In a case of chronic Bright's disease without dropsy fatal uræmia occurred at a time when the patient was passing a dense, highly coloured urine, with a specific gravity of 1025, and here a serious error in diagnosis resulted, as it was thought that with such a urine the symptoms—e.g., the vomiting, &c.—were of gastric rather than of renal origin. Another important question is the relation of albuminuria to uræmia and I have notes of three cases where albuminuria was said to be absent at the time of the onset of uræmic symptoms. The absence of albumin from the urine has often been asserted to be an occasional occurrence in cases of ordinary granular kidney, but in none of the three cases alluded to here was the kidney lesion of this type. In two cases the kidney was of the contracted white variety, and in this particular specimen the urine was only examined once, in the other cases repeated examinations were made. In one of the cases alluded to above, where the specific gravity was 1025, there may have been a minute trace of albumin, but even this is doubtful, and in this case the patient had uræmic vomiting for many days, then muscular twitchings developed and finally coma. Post mortem the kidneys were rather large, the cortex was diminished in thickness and microscopically showed signs of considerable disease; the absence of albumin and the high specific gravity led to quite an erroneous diagnosis. The third case was one of a young man admitted for urgent dyspnœa and dry pericarditis. The dyspnœa was uræmic and was followed by other uræmic symptoms. Post mortem the kidneys were found to be very small, somewhat granular, and the urine, though dilute, was stated to be free from albumin.

The toxicity of the urine in uræmia is a subject that has attracted more attention abroad than here. I unfortunately have only made a very few observations on this point; one of these observations is of sufficient interest to quote here, as it was an experiment to compare the toxicity of the urine secreted by the uræmic patient and the toxicity of the blood serum in the same case. The urine and the blood were obtained on the same day, the patient having had venesection performed for the relief of uræmic coma. 20 c.c. of the urine filtered through porcelain and injected rapidly into the jugular vein killed a rabbit of 1·75 kilos., the pupils becoming contracted and the respiration ceasing. 22 c.c. injected very slowly killed another rabbit of 1 kilo. with convulsions. Thus this urine was certainly highly toxic, as 11 c.c. of urine per kilo. killed the animal when injected rapidly and 22 c.c. when injected slowly. 77 c.c. of blood serum from the same patient killed in a few minutes a rabbit of 1·15 kilos. causing coma and cessation of respiration. In another case of uræmia where venesection was also used 150 c.c. of serum injected into a dog weighing 5 kilos. caused arrest of respiration; the heart, however, continued to beat; after 100 c.c. had been injected the respiration became very irregular. Such observations would require to be greatly extended, but they tend to show that even in uræmia the urine is still toxic and that the blood serum is also highly toxic.

Although convulsions have not been seen experimentally after ligature of the ureters, nephrectomy, &c., yet the cerebral cortex is very excitable, as is shown by such experiments as the following. After the administration of ether the ureters were ligatured in a dog, and forty-eight hours afterwards the cortex cerebri was exposed again under ether and stimulated. Under these circumstances very weak electrical excitation of the motor area is liable to be followed by well-marked clonic spasms of the limbs.

The most striking post-mortem appearance of acute uræmia apart from the frequency of the presence of the small contracted white kidney is the occurrence of well-marked œdema of the lungs quite apart from the presence of general œdema and serous effusions. In the particular class of cases investigated dropsy and serous effusions were conspicuous by their absence. This pulmonary œdema is a well-known accompaniment of uræmic dyspnœa and is perhaps its cause, as it cannot very well be its result, since other varieties of dyspnœa are not accompanied by the well-marked œdema so common in uræmia. The so-called cerebral œdema is a very variable occurrence, but there can be no doubt that sometimes there is a very notable excess of cerebral spinal fluid, and a similar excess was noted in many cases of experimental partial nephrectomy.

THEORY OF URÆMIA.

All pathologists would probably admit that uræmia is a toxæmia and that it is not brought about by either cerebral anæmia or cerebral œdema. The old objections to a toxic source for this condition were mainly two-fold: first, that it was difficult to conceive of a poison circulating in the general blood-stream and producing more or less localised effects, since localised fits and even localised paralyses are not uncommon in uræmia; secondly, the manifestations of uræmia are so varied that it was thought difficult to conceive of a poison producing such diverse effects. Both of these propositions are probably untenable since such a poison as lead or arsenic can not only produce local effects but can even produce a palsy of a symmetrical function on only one side of the body, although both these metals more often produce symmetrical lesions, yet arsenic may produce unilateral herpes. Further lead may cause psychical disturbance or epileptiform seizures or degeneration of the spinal cord or more usually a palsy of peripheral origin. Thus one and the same metallic poison may produce the most varied effects, and therefore the argument against the toxic nature of uræmia, resting on the basis of the statement that it is impossible for the same poison to produce the varied effects seen, falls to the ground. At the same time it is, of course, possible that the poisons of uræmia are varied. Supposing that uræmia is dependent upon the circulation in the blood and tissues of a poison or poisons the next question that presents itself is whether these are substances formed by normal metabolism that ought to be excreted and are only toxic because they are retained and therefore present in increased amount, or whether these poisons are the products of an abnormal metabolism. Is uræmia dependent on the retention of some body? or is the condition due to the formation of a toxic substance or substances by the disordered metabolism? I think the consideration of the facts, experimental and clinical, that have been adduced will show that uræmia cannot be explained on the hypothesis of the retention of either one or many or all of the urinary constituents, products derived from a normal metabolism. The sudden and complete suppression of the functions of kidneys up to that time healthy produces a train of symptoms similar to those seen in obstructive suppression and, as already insisted on several times, a group of symptoms only resembling very distantly those of acute uræmia. If acute uræmia were dependent on the retention of some normal urine constituent or constituents this condition ought certainly to occur when the functions of the healthy kidney are suddenly suppressed, although it may perhaps be open to argument whether they ought to ensue when the suppression of urine is dependent merely on obstruction to the ureters. Formerly it was thought that obstructive suppression was in some way quite different in nature and produced different results to those seen in non-obstructive suppression and that although obstructive suppression was not followed by uræmia non-obstructive suppression certainly caused uræmia. The main conclusion that I hope I have established to your satisfaction is that both in the laboratory and in disease suppression of the activity of the kidneys up to that time healthy fails to produce acute uræmia whether the suppression be caused by obstruction or by vascular or nervous mechanism. In other words, the uræmia of the laboratory is the latent uræmia of the clinician. If the facts brought before you afford evidence against the view that uræmia is dependent on the mere retention of normal urinary constituents they also equally militate against the view that uræmia is dependent upon, or associated with, the arrest of a hypothetical internal renal secretion. As long as latent uræmia—i.e., the symptoms of obstructive suppression—was only known to occur in the condition of obstructive suppression the contrast between these effects and the acute uræmia of Bright's disease was so great as to suggest the view that uræmia might in some way be associated with the cessation of the action of an internal secretion. According to this view in obstructive suppression there was retention of urinary products, but the supposed internal secretion went on, whereas in Bright's disease and other renal diseases the internal secretion was arrested in addition to the occurrence of accumulation of the urinary products. If latent uræmia occurs equally well when the circulation through the kidneys is completely arrested and therefore when the kidney is practically absent this view in my opinion falls to the ground.

Although these are the principal reasons for not accepting the view that uræmia is dependent upon the retention of one or more normal urinary constituents there are certain subsidiary facts also pointing to the same conclusion. Death in acute uræmia usually supervenes much sooner than in cases of suppression even when this is complete, and further in the acute uræmia seen at any rate in chronic renal disease without dropsy complete suppression is rare, and this, after all, is the most frequent condition in which acute uræmia is seen. Further cases of acute uræmia are seen, as in a case quoted in these lectures where considerable quantities of urine not falling far short of those seen in health were passed. In addition there is the well-known fact that no observers are agreed as to which elements in the urine are to be considered the toxic ones. This, however, owing to chemical difficulties, is not an argument of much value. The analyses of the blood quoted in the last lecture showed that the blood in uræmia contains very large quantities of such urinary constituents as urea, and although in some cases the quantities were as great as, or greater than, those seen in cases of complete suppression, yet it will be remembered that in the great bulk of the uræmic cases the percentage of the urea in the blood was not so high as in the cases of complete suppression. This is, I think, a point of some importance, as it might be argued that the symptoms in the uræmic and suppression series were different owing to the fact that the accumulation of urinary products might have been more or less gradual in the former case and more sudden in the latter. Poisons, as is well known, often produce different effects according as to whether they are administered in gradual doses or suddenly; the fact that the majority of the cases of uræmia died with a lower percentage of urea in the blood than was found in the cases of complete suppression is, of course, only to be expected seeing that quantities of urine were passed during the last days of life in these cases, but it is surely another fact against the pure retention theory of uræmia inasmuch as almost all the cases of uræmia analysed were those in which this event terminated a chronic insidious disease. The argument would be fallacious if it applied to the analysis of the blood in such a condition as the uræmia accompanying the suppression of scarlatinal nephritis, where the conditions are more complicated than in the terminal acute uræmia of such a disease as contracted white kidney, where owing to the long duration of the illness one would imagine that the patient would if anything tolerate a larger accumulation of urinary products than in cases of complete suppression supervening during comparative or even complete good health. For all these reasons the retention theory of uræmia is, I venture to think, inadequate. If the uræmic poison is not a retained normal urinary constituent it is probable that it is an abnormal product of a disordered metabolism and there are a number of facts in favour of this view. The experimental facts brought before you in my first two lectures point strongly to the conclusion that the kidneys in some way control the metabolism of the tissues of the body and that when the kidney substance was greatly diminished in amount or entirely removed the blood not only contained a great excess of urea but the tissues, and especially the muscles, contained large quantities of urea and other nitrogenous bodies of the creatin class. I also adduced experimental evidence to show that both after partial and after complete nephrectomy this increase of nitrogenous extractives could not be explained on the hypothesis of simple retention and that there was clear evidence of the increased production of these bodies. In uræmia the extractives of muscles are enormously increased, but here one can only surmise, with great probability, it is true, that they accumulate as the result of increased production, since the condition of the patient has prevented me as yet from obtaining the exact information as to the amount of nitrogen ingested and excreted that can be obtained with comparative ease in the laboratory. The really very great quantities of extractives present in the muscles make it more than probable that these quantities are too great to be explained by retention. This conclusion is in harmony with the observations of Oppler, Perls, Schottin, and others, who held that in uræmia there was accumulation of creatin-like bodies. If we assume that in acute uræmia the toxic substances are derived from the products of a disordered tissue metabolism some of the many difficulties of the subject disappear; but still I must confess it is difficult to see why removal of the kidney does not produce acute uræmia unless it be that under these circumstances life is not maintained for a sufficient length of time for the disordered tissue metabolism to be in full swing.

There is a further possibility that as a result of the renal lesions the disordered tissue metabolism produces toxic substances, but that the kidney is able to excrete these products, and that then, as a result either of retention or of greater increased production, they again accumulate and destroy the patient. This may be thought rather fanciful, more espacially as I have no observation to detail to you as regards the actual nature of the uræmic poison, but my purpose is really to emphasise two points: (1) that uræmia cannot be held to be due to simple retention and (2) that in kidney disease and after experimental lesions of the kidney there is evidence of great tissue disintegration and that it is more than probable that uræmia is dependent upon this directly or indirectly. It might be thought that the tissue disintegration was itself dependent perhaps upon the retention of urinary products, but the experimental facts negative this, as in the cases of experimental partial nephrectomy there was never any evidence of the retention of urea, and, as already detailed, there was much evidence of the increased excretion of urea. It is to be hoped that further observations will throw much more and greatly needed light on the real nature of the toxic substance or substances found in uræmia.

It remains for me to express my best thanks to my colleagues at University College Hospital for the courtesy they have always shown to me in allowing me to make all use of their material, as without their constant aid I never could have observed the considerable number of cases of acute uræmia from which the above conclusions have been drawn. I have also to thank you, Sir, and the College most heartily for the honour you have done me in selecting me to deliver these Goulstonian Lectures, and although I fear I have by no means fulfilled literally the intentions of the founder, who laid down that the College "would annually appoint one of their four youngest doctors to read this lecture between Michaelmas and Easter, on three days together, both forenoon and afternoon, on some dead body if possibly it can be procured, which shall then and there be dissected for the diseases treated of and shall afterwards be buried," yet I hope I have not entirely missed the purpose of his action.

Mr. William Maunsell Collins, M.D. St. Andrews, a practitioner whose name has been removed from the Medical Register by the General Medical Council, was arrested on Monday night last on a warrant charging him with the performance of an illegal operation upon a young married woman since deceased. At the Westminster Police-court on Tuesday Mr. Marsham remanded the prisoner for a week, certified for the Public Prosecutor's aid and refused to take bail.

THE OPEN-AIR TREATMENT OF PHTHISIS IN ENGLAND.

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THE excellent papers by Dr. Burton-Fanning in THE LANCET of March 5th, 12th, and 26th, deal with the open-air treatment of phthisis as an adjunct to the work of an English general hospital. The subject is one which is so important to the whole medical profession and one upon which it is so often consulted by patients that I have thought it would be interesting to describe the details of a house and its appliances which have been specially prepared for carrying out the open-air treatment of phthisis on patients of the better classes in England—as an adjunct, in fact, to the work of private practice.

Every medical man experiences difficulty in finding places for the sojourn of his tuberculous patients in this country, with the result that it has become a routine practice with some physicians to throw their patients and their responsibilities upon our continental neighbours, whilst the patients themselves accept as an aphorism the dictum that they must "go abroad to get well." For poor patients there are, indeed, in England some, all too few, well-conducted sanatoria where a vacant bed may be fortunately found; for the richer there are "lodgings" or hotels at a health resort. This is not sufficient provision for needs that are obvious. For a phthisical patient to carry on a duly regulated open-air life requires an amount of self-denial on his part as well as a never-ceasing attention on the part of his physician which can alone be secured by constant encouragement, skilled attendance, and an environment specially arranged for its purposes. A phthisical patient arriving at a health resort has not only to encounter the difficulties of finding a suitable lodging but he may have now to meet the scare which has arisen concerning the communicability of his disease. At the moment when the most valuable therapy for his condition is comfortable surroundings and freedom from trouble he may find himself involved in a thousand and one dilemmas.

These considerations, together with encouragement from some leaders of our profession, recently decided me to acquire and adapt to its special purpose the house which is about to be described. This house is at Bournemouth, which town, as everyone knows, attracts a large number of phthisical patients, the porous soil, sunny cliffs, small rainfall, and free access of pure air marking it as a suitable locality. And before going further may I explain that I cannot describe the house without wearing the appearance of desiring to give myself an advertisement, for I live in the house and it is to my advantage that patients should live there also. But what I hope to show is that such provisions as I have been able to make have worked for the good of the sick, and I am greatly encouraged in that belief by my personal experience and by such papers as those from Dr. Burton-Fanning's pen which have been recently published in THE LANCET.

Originally a pair of large semi-detached houses, the building was knocked into one, so that by addition and re-arrangement the whole of the south frontage could be devoted to bedrooms for the patients. Behind these south bedrooms is a large corridor hall which is always kept warm, and off this hall open the dining-rooms. As the invalids only come into the house to eat or sleep they have no use for a drawing-room. The offices extend in wings at the back of the building. A deep and lofty verandah surmounted by a balcony is built into the recess formed by the projection of bays at each end of the south frontage; opening on to the verandah and balcony are French windows from the bedrooms. Many mechanical contrivances have been utilised to protect the occupants of the verandah from rain and wind, and no pains have been spared with respect to the furniture, &c., to make the occupants look upon it as their real home, and the house behind as simply a receptacle for their beds and their property. The furniture of the verandah includes couches, deck chairs, hammocks, and light spring bedsteads for the patients, with ordinary chairs for friends or visitors not requiring invalid attentions. Wooden boxes containing warm mats, into which out-door sitters can put their feet, are found very comfortable. There are occasional tables, bed-tables, reading-tables, hot bottles, cushions, back-rests, and all appliances we can think of which would be likely to assist invalids to pass the time in the open air comfortably and happily when once they have been weaned from the chimney-corner.

To pass from the verandah, on the lawns are small three-sided roofed huts of a pattern and lightness which allow them to be moved to any part of the grounds as the wind and the patient's fancy dictate. A hut contains space for a couch; its roof can be raised at will; in the sides are wooden windows which open to form tables, and by throwing back the adjoining sides of two huts they can be converted into one and thus allow communication between neighbours.

Of indoor life the patient is encouraged to have as little as possible, but indoors our arrangements all make for light, air, and cleanliness. The walls and ceilings, devoid of cornices or plaster-work, are covered with a silicate paint which allows of absolute cleansing with disinfectant solutions. The floors are painted a dark mahogany colour on which the least dirt shows up; they and the paint-work of the doors and windows are heavily varnished to allow of frequent cleansing. All round the room a three-inch strip of board is nailed to the floor; this effectually prevents furniture from being pushed close to the wall, and thus space is provided for cleaning behind heavy furniture and for a free air-current. There are no fixed carpets but rugs, each of a size to enable it to be rolled up and removed by a servant, are employed. To the back of the rugs strong loops of webbing are sewn, by which they may be suspended in the verandah as wind-screens—a plan which is admirable from the points of view of utility and hygiene but which shortens the life of the rug.

Every sash window-frame has a hinged board along the bottom; this is grooved for the reception of the lower edge of the sash. When the sash is shut down on this board a space is left at the meeting-place of the two sashes, giving ventilation on the Tobin tube system. This arrangement is convenient in the first stage of acclimatisation of patients who have previously been accustomed to closed-up rooms. Despite all the natty inventions of automatic fixers no remedy for rattling windows has been found to excel a plentiful supply of common wooden wedges. Doors and windows have no peculiar features further than that care has been taken that they fit accurately enough to obviate any rattling. The furniture is of polished wood, mostly mahogany. Each piece stands high from the floor, being raised, if necessary, on pyramidal blocks of wood—an arrangement which permits of the floor beneath being easily cleansed and easily seen.

To keep the house absolutely clean necessitates more than the ordinary flapping around with a broom and a "duster," both of which are taboo. The daily cleansing of the floors and cork carpet is done with an instrument, like a large croupier's rake, which is used to push about a damped cloth; this is in turn wrung out in a bucket of disinfectant. The gloss of the varnish is revived by a second rub round with a flannel damped with paraffin. Good paraffin leaves no smell. In place of dusters damped cloths are used. Thus all dust is removed, not merely shifted. When a room is vacated or changed a regular routine of cleaning is followed which embraces a free use of sublimate solution. Articles of furniture are polished outside with a sanitary polish containing a disinfectant, and they are cleaned within by damp cloths. No lining papers are used in drawers. Large quantities of unused clothes are not encouraged to stay.

The intelligent understanding exhibited by patients of education of the sense of these details is a great assistance to their execution. When the patients grasp the reason for the way their lives are ordered they willingly coöperate. This is well seen in the matter of the disposal of sputum. This presents no difficulty if the patient really understands the prime importance of guarding himself and others against microbic dangers. The spit-flask used is of pink glass of some four ounces capacity; a glass disc covers its mouth and across the disc a strip of tissue paper is pasted to the flask. Before using the flask the paper band must be broken—the torn paper indicates that the flask has been used. Every day a large number of freshly cleansed flasks containing a little disinfectant solution are put out about the house.

In lodgings and hotels open-air treatment is well-nigh impossible for even the most determined patient under the care of however skilled a physician and devoted nurse. In a house dedicated to the special purpose of the open-air treatment, where the possibility of cure is common knowledge, the invalid meets with the encouragement of example; routine is not overridden by the convenience of the moment, constant attention to detail does not slacken, and promising cases provide for the less fortunate that best of stimulants—hope. This, at least, is my own experience.

Bournemouth.

A SUGGESTION FOR THE OPEN METHOD OF SUTURE OF OLD FRACTURES OF THE PATELLA.

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THE knee-joint is now so frequently opened both for injury and disease that all the details of the operation appear to me to claim a very careful consideration. It is for this reason that I venture to suggest a method of opening the joint where we propose to wire the patella for *old* fractures, which appears to me to offer many advantages over other methods commonly in use. Among these may be named the single vertical cut over the front of the patella, the H-shaped incision and the semilunar with the curve downwards as perhaps most in vogue. Each of these has often seemed to me to have certain disadvantages, the chief of which are, I think, as follows. The single median vertical incision doubtless gives free access to the fragments, but unless it is made very long the latter cannot be easily manipulated through it. It is, therefore, difficult to freshen the old cicatrised faces on both the upper and lower fragments either with saw or chisel. Moreover, in those cases intermediate between recent and very old fractures, where, say, a fortnight or three weeks after the accident we are called on to suture a broken patella and where there is neither a fresh surface on the fragments nor as yet well-organised fibrous tissue but probably a quantity of half-organised blood and broken-down clot, we want more room for the removal of the latter and the cleansing of the cavity than we can secure through the vertical cut unless it be very long. But if it is extended the scar is in the line of pressure during kneeling and may be tender for an indefinite time. Besides this the scar lies directly over the wire and may not bear the pressure of the latter without pain or even destruction of the skin. Finally, the cicatrix being in the middle line and probably for a long time at all events adherent to the parts beneath, there is less free play of the skin over the patella than there should be. The H-shaped incision is not open to the first of these objections. It gives good access to all the parts involved both for wiring and removing blood, fibrous adhesions, &c., but the scar directly across the patella is as objectionable as that in its vertical axis in regard to adherence to the parts beneath and its relation to the wire, though it does not come so much in the way of kneeling. The semilunar cut with the curve across the ligamentum patellæ gives free access to the lower fragment but not to the upper unless made very freely. The scar, too, lies in a position sure to be pressed upon in kneeling.

These several objections to the hitherto recognised methods of opening the knee-joint have frequently occurred to me in former years and have led me in the last five or six cases in which I have been called upon to suture the patella for old fracture to adopt the practice now to be described, which I suggest is an improvement and which certainly has given me the best of results with much greater ease in operating than that found in the older methods. The aims of the procedure are to gain free access to the parts to be dealt with with a minimum amount of cutting, and in such a way as to place the resulting scar out of reach of pressure either from kneeling or from the knot of the wire; finally, to provide a good firm pad of tissue over the front of the patella and the uniting wire suture. The steps of the operation are as follows. In the first place the lower border of the upper fragment of the patella is made out by palpation as it is drawn down as far as possible by the thumb and fingers of the operator's left hand and steadied in the middle line of the limb. A curved incision in then made with its convexity *upwards* (Fig. 1), beginning just below the level of the broken surface of the lower fragment, thence curving upwards and crossing the middle of the upper fragment to end at a point on the opposite side of the joint corresponding with its point of origin. The tip of this flap is now dissected downwards to the broken surface of the upper fragment. The knife is then carried backwards across the face of the latter, clearing from it all fibrous tissue until the joint is open. Then the edge of the knife is turned forwards and placed on the posterior border of the broken surface of the lower fragment of the patella and the fibrous tissue is similarly cleared from it. In this way all the fibrous matter previously uniting the fractured pieces is left attached to the deep surface of the middle of the flap and the remains of the patellar bursa, but without disturbing the latter (Fig. 2). The edges of the bones are then freshened with saw or chisel, the joint being protected meanwhile with a small sponge. I then pass the silver suture as follows: a stout, handled needle with an eye near the point (the same as that devised for my subcutaneous method of patellar suture) is thrust through the skin immediately under the lower border of the distal fragment. (The skin may be previously punctured with a knife.) It is then thrust through the ligamentum patellæ, scraping the border of the fragment in the middle line and passing behind both it and the upper fragment. When the point has reached the upper border of the latter it is made to pierce the attached muscles in the middle line of the fragment. Here it is threaded with stout silver wire and the needle is withdrawn carrying, of course, the wire behind to the fragments; but when the point of the needle has cleared the lower edge of the lower fragment it is thrust in front of the latter under the flap until it can be unthreaded in the original wound. The wire now includes the broken fragments of the patella, the two free ends crossing in front of the gap between them (Fig. 3). Each end of the wire is now threaded through a bar of steel twice and with these bars in the hands a strong pull can be made upwards with the lower end and downwards with the upper, the latter being in the operator's right hand and furthest from him, the lower wire being in the left hand and nearest to him. By this strain the fractured surfaces are brought close together aided by the fingers of an assistant. When it is seen that the adjustment is correct a few twists of the wires fasten the fragments securely. Then the wires are cut about half an inch from the twist and the ends are flattened down transversely. All clots should, of course, have been previously removed from the joint with the small sponge. The flap containing the skin, the remains of the bursa patellæ, and the fibrous material from between the fragments is now laid down over the patella and forms a thick pad covering the wire. It is carefully stitched all round without any drainage unless there is decided oozing, when each angle may be left without a stitch. But as a rule if a soft elastic dressing is at once applied and firmly bandaged there is no accumulation of blood in the wound and no need for drains. No splint is required and the patient is encouraged to gently move the joint in bed from the first. After the removal of the stitches on the tenth day he should be urged to do so. Besides this massage should be employed daily all round the joint.

FIG. 1.

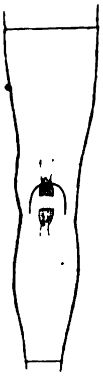


FIG. 2.

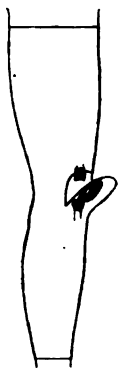
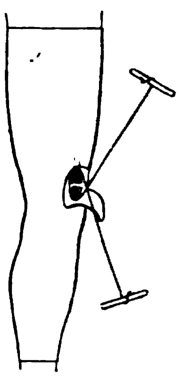


FIG. 3.



In the cases in which I have employed this method primary union has been invariable and the result has been more satisfactory than in those operated on by the other methods. In my first case—that of a powerful seaman—the strength of the bond of union between the fragment was so great that he returned to his calling and could do anything with the limb; and when about a year later he was put to a great strain in heavy weather the opposite patella broke, but that with the wire round it still held firm. It might be objected to this method that the wire on the articular aspect of the patella would give trouble, but so far this has not been found to be the case. And, indeed, being perfectly smooth and more or less buried in the bone by the strain put upon it this need hardly be expected. The saving of time effected by this method of throwing the wire round the fragments rather than by boring them is great. Moreover, to drill the bones exactly in the same places is very difficult and the danger of splitting them in the process is not imaginary. Both these difficulties are overcome by the above method, which of necessity brings the fragments into the same plane and does not weaken them in the least.

I shall be very much interested, if other surgeons should adopt this method, to hear their opinion in regard to its merits. I have hesitated to dub it "a new method," being rather sceptical about anything nowadays being "new" in surgery. But so far my reading or observation has not brought any similar method to my knowledge. For recent fractures of the patella I see no reason at present to depart from my method of subcutaneous suture, which I apply to every case I meet at once. This I have done between twenty and thirty times with good results, some of the cases having been already published.

Harley-street, W.

SOME REMARKS ON RECTAL SURGERY.

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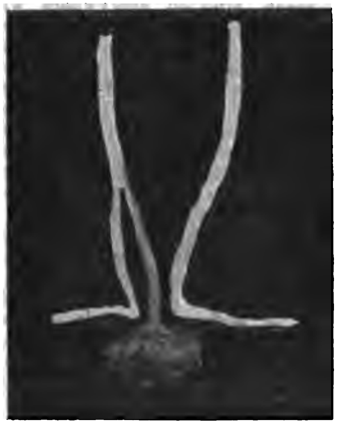
(Concluded from p. 657.)

ON VILLOUS GROWTHS AND POLYPI OF THE RECTUM.

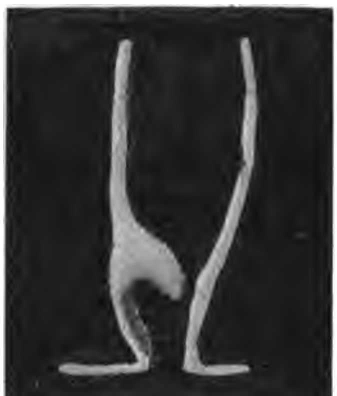
POLYPUS of the rectum in its different varieties is not so rare a disease as writers would lead us to believe. In the adult it is so, comparatively; but in the child it is *the principal cause of hæmorrhage from the bowel*, and from this fact cases of polypus have been doubtless wrongly put down as those of hæmorrhoids, which as an affection of child-life is almost unknown. In children and young adults polypi are chiefly of the mucous variety. In adults they are more fibrous and the graver kinds assume the form of a villous growth, the villi being composed of coarser or finer sessile dendriform structure, to which a distinct section of this paper will be bestowed. The mucous growths are generally found in children under ten years of age, and in male more commonly than in female subjects, since out of 35 consecutive cases 29 were in males; and 27 were in children under ten years of age, and 8 in adults. (Fig. 18.) These growths vary in size from that of a pea to that of a large cherry; they grow from the submucous tissue, and are covered by mucous membrane. When far beyond the reach of the sphincter and when small they probably do not cause any inconvenience, though when large they may give rise to straining or ulceration of the bowel, prolapsus recti, and even intussusception. In some cases a polypus is associated with ulceration of the rectum, the ulcer at one time existing below the polypus, in another on the wall of the bowel opposite its body. In Fig. 19 and Fig. 20 these conditions are illustrated. One of the worst examples of prolapsus recti I have ever been called upon to treat was due to the presence of a fibrous polypus situated some inches up the bowel of a man fifty years of age who had suffered from it for twenty years (Case 2). He was cured by the removal of the growth. When these growths are attached to the bowel near the sphincter local irritation and hæmorrhage are produced, the growth appearing often at the anus as a pink or red cherry. (Fig. 21 and Fig. 22.) Blood sometimes flows from the anus only during defecation, at other times quite independently of such an action. When the polypus is low down there is usually with the blood a free discharge of mucus.

FIG. 18.



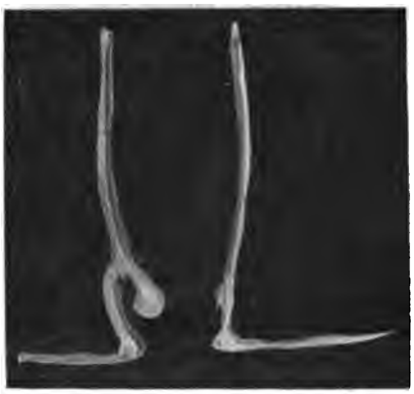
Vascular polypus of the rectum in a child.

FIG. 19.



Fissure of the anus with polypus above the fissure.

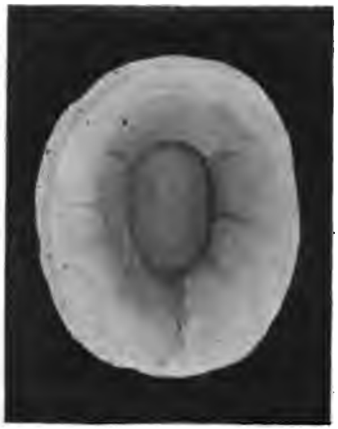
FIG. 20.



Fissure of the anus with polypus opposite the fissure.

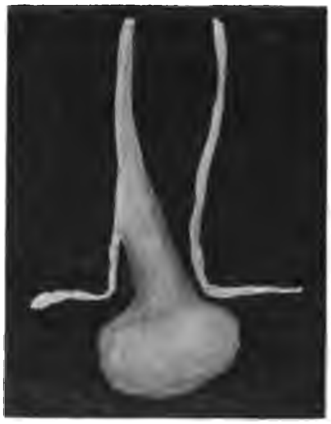
Whenever a child is brought to a surgeon with these symptoms a local examination should be made, and to do this efficiently the surgeon should sweep his finger introduced into the rectum completely round the walls of the bowel. By so doing the polypus will be dragged from its attachment and its pedicle made tense. Sometimes several polypi exist together. I have on one occasion removed three. They are made up of fibro-cellular tissue, being more or less fibrous, according to the age of the patient; in the adult the fibrous element predominates. In exceptional cases the fibrous polypi of adults are multiple. I shall later quote two examples of this kind, in one of which (Case 3) eventually the rectum even for a foot or more upwards became covered with sessile fibrous polypi varying from the size of a pea to that of a large almond, and in the other (Case 4) these sessile fibrous polypi followed the removal of a large villous growth some months previously. When a polypus has been discovered its removal is the only correct practice. In children, when I detect one with the finger, I generally manage to hook it down, and in so doing break it off from its attachment to the bowel. I have never seen any bleeding follow this measure. On several occasions when I have brought the growth external to the sphincter the action of the muscle has broken it away, and in this manner many cases of polypi are doubtless naturally cured. When they do not break off a ligature may be applied to the pedicle, and the growth cut off beyond the knot. In adults the ligature should always be employed.

FIG. 21.



Fibrous polypus of the rectum appearing at the anus.

FIG. 22.



Fibrous polypus of the rectum in an adult.

On the removal of the disease the symptoms disappear, but when they continue a second polypus will generally be found. In rare examples as already indicated multiple polypi are found. The following cases will illustrate the subject.

CASE 1. *Great prolapse of the rectum due to fibrous polypus; operation; recovery.*—A woman, aged thirty-three years, came to me in August, 1874, for a serious prolapse of the rectum associated with severe straining and loss of blood. The bowel had been down for many months and it protruded for at least six inches, but for some nine months before it had come down to stay it had occasionally protruded when the bowels had acted, but at that time there was but little bleeding. On making an examination I detected about three inches up the prolapsed bowel a sessile fibrous polypus of about the size of a small walnut, which I subsequently pulled down into view and removed by clamp and cautery after having dilated the external sphincter. The prolapsed bowel was readily returned but not so readily maintained *in situ*. This position was secured, however, by the introduction of my colotomy vulcanite plug and its retention for a few days, when a good convalescence followed.

CASE 2. *Prolapsus recti of twenty seven years' standing due to the presence of a fibrous polypus; removal of the polypus; recovery.*—(The following notes were taken by Mr. E. W. Deane) A man, aged forty-seven years, was admitted into Guy's Hospital under my care on March 1st, 1875. His family history was good excepting that his father and sister were subject to what were called "piles." He himself had tolerably good health, although when twenty years old he first noticed a pain when his bowels acted. Some seventeen years after this—that is, ten years before his admission—the pain had considerably increased and he noticed that there was something protruding from his anus when he had a motion which he used to put back. The protrusion occurred not only when he passed a motion, but subsequently when he walked. He consulted surgeons, who treated him with lotions and medicines. His complaint was supposed to be "piles," and he was advised to obtain admission to Guy's Hospital, where it was found that he had a prolapsed rectum. The bowel protruded for about three inches and the rectum was very loose. Upon examination a fibrous polypus was detected high up the bowel. This was seized by a pair of long forceps and brought into view, when a double-threaded needle was passed through its base which was tied in halves and the polypus removed with a pair of scissors. A morphia suppository was placed in the rectum and a subcutaneous injection was given, after which the patient passed a good night. His progress towards recovery was uninterrupted.

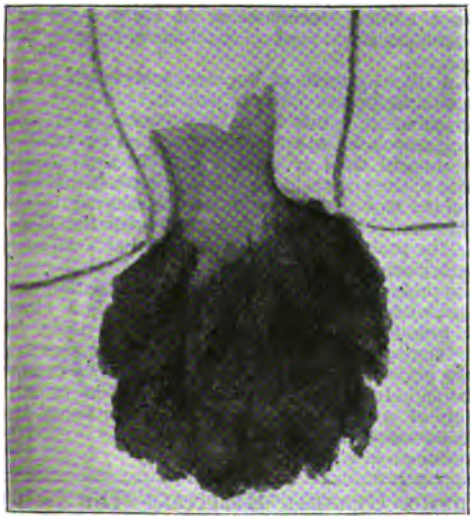
CASE 3. *Sessile polypus high up the bowel causing for six years tenesmus with bowel irritation; removal of the polypus with relief for one year; return of growths in numbers; lumbar colotomy with marked benefit; death six years later from pneumonia.*—In 1876 I was consulted by a man, aged forty-four years, who was said to have had dysentery some years previously, for great bowel irritation and tenesmus associated with the passage of a quantity of rice-water mucoid fluid. These attacks would come on every three or four hours during the day but were less frequent at night. They had gradually been coming for five or six years. Suspecting the presence of a polypus I consequently investigated the case with the patient anæsthetised, when after a careful examination my diagnosis was confirmed and I was able to draw a sessile fibrous outgrowth from its high position in the rectum down into the lower part, when I passed a needle through its base and cut it off. The growth was clearly fibrous and of about the size of an almond. The operation gave much relief, but in the course of months the symptoms returned with steadily increasing intensity, and at the end of a year I found the lower bowel as far as I could reach studded everywhere with the same fibrous outgrowths as I had before removed. Under these circumstances I performed left lumbar colotomy with marked immediate and indeed with permanent success, for although the lower portion of the bowel for the six years of life which were subsequently enjoyed, discharged upwards and downwards the same rice-water mucoid fluid there was no pain or even tenesmus, and had the patient not been attacked with an acute pneumonia there was nothing in the condition of his bowel to have shortened his life. It is much to be regretted that I am unable to give any account of the pathological condition of this patient's bowel, but he died away from London and I could not get a post-mortem examination.

CASE 4. *Removal of a villous rectal polypus followed by the growth of diffused multiple fibrous polypi.*—In April, 1872, I was consulted by a man, aged forty-five years, for the frequent discharge from the bowels, with and without motion, of watery mucous associated with much griping pain and tenesmus. These symptoms had existed for a year and had been gradually becoming worse. At times the rectal discharge was blood-stained when not blood. On examination I found high up the rectum a sessile villous growth which in May of the same year I was able to get hold of with fenestrated forceps and to bring down sufficiently low to allow me to place a ligature round its base in halves and to cut it off. Its base was of about the size of a shilling. Immediate relief followed this operation and the patient for some five years thought he was well, when the symptoms returned, although with much less severity. I then examined him again and found another sessile polypus, but of a fibrous form, not villous in character, of about the size of an almond, apparently growing near the spot whence the first one had been taken away. This also I removed in 1878. For a time the patient was again comfortable and it may have been a year or more before the old symptoms began to show themselves, but it was not till 1886 that I again saw him. I then found on making a rectal examination that the bowel was as far as I could reach absolutely studded all over its surface with sessile fibrous polypoid growths, similar to the second one I had removed eight years previously. As these could not be taken away, and it was a question how far they involved the bowel, I performed a lumbar colotomy in January, 1886. I was pleased to find that the intestine at the seat of operation was quite healthy in both directions as far as could be reached. Rapid recovery followed this measure and much comfort was given, but as time passed the rectal trouble increased so far as discharge was concerned and some of this came upwards and escaped through the lumbar anus and was at times mixed with much blood. Later the lower extremity of the bowel occasionally even worked its way out of the lumbar wound and presented the appearance of an inverted horn or cornucopia with its outer surface covered with the fibrous sessile outgrowths which I have described. The reduction of this was readily effected, but at times it would reappear. The question of further operative measures was discussed, for I thought it quite feasible to have removed the seat of disease now a healthy lumbar anal opening had been established and there was no evidence of any disease of the colon above, but neither the patient nor his friends would take this proposal into consideration, so the patient returned to his country home and made the best of matters until December, 1889, when he died, aged sixty-two years, from bronchitis and heart failure, seventeen years after the removal of the villous polypus to which I have alluded. The connexion between the villous rectal growth and the fibrous sessile polypus is well illustrated in this case. I have in no other found them to have been associated.

VILLOUS GROWTHS OF THE RECTUM.

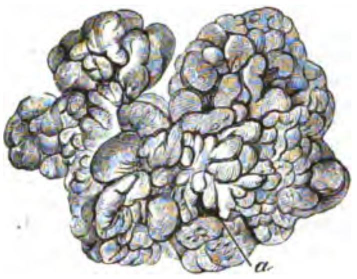
Villous or papillary growths are met with in the rectum more frequently than is generally believed, as they are in other parts of the large intestine. When high up these growths may give rise to intussusception; when low down to prolapse of the rectum. (Fig. 23) In 1894 I reported wo cases[1] of intussusception of the large intestine ue to the presence of a villous growth which I successully reduced by the introduction of my hand into the ectum after the removal of the growth. One (Case 5) was in a woman, eighty-four years of age; the second (Case 6) was also in a woman, aged fifty years. Both patients made excellent recoveries and neither had any further bowel trouble. In that communication I pointed out that prolapse of the rectum and invagination with intussusception of the large or small intestine are but different degrees of the same condition; and that both are brought about by the same causes—namely, local irritation. The surgeon is familiar with prolapse of the rectum in cases of piles and rectal polypi, as well as in those of ulceration of the rectum and of local irritation by worms, and he meets with the same condition in the rarer but not less marked cases of papilloma of the rectum. He recognises also a certain degree of invagination of the bowel in cases of annular stricture of the rectum, cancerous or otherwise, in which the orifice of the strictured bowel feels to the finger introduced into the rectum either like the exaggerated and patulous mouth of an elongated neck of the uterus or like a more complete example of intussusception—in the cases of prolapse of the rectum the bowel prolapsing through the anus and in the cases of stricture of the rectum the upper part of the bowel prolapsing as an invagination into the lumen of the canal below.

FIG. 23.



Villous tumour of the rectum in a female, aged sixty-four years.

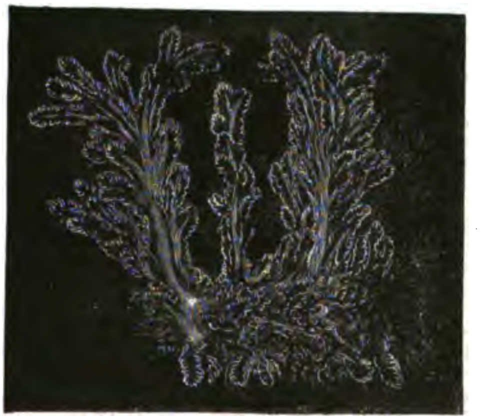
FIG. 24.



Villous polypus of the rectum.

I also indicated how local intestinal irritation of any kind when applied for a sufficient length of time to any part of the lumen of the intestinal tract is prone to be followed by prolapse, invagination, or intussusception, and that these results are most liable to occur when the local source of irritation is situated either above and within a few inches of the ileo-cæcal valve—where there is a narrowing of the bowel followed by an expansion—or within a few inches of the anus at which a like narrowing of the bowel exists. I also illustrated these points by specimens from the museum of Guy's Hospital of intussusception due to the presence of papillomata—polypi and cancerous and other growths—and pointed out how from the two cases I had related and the

FIG. 25.



The drawing was taken from vertical section of the villous growth illustrated above and showed vascular simple and compound villi covered with columnar epithelium, large vessels in the base on which the villi rested, and sections of the follicles of Lieberkühn. The section represents half the thickness of a lobule of the polypus by a 1½ inch power.

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[1] Transactions of the Royal Medical and Chirurgical Society of ondon, 1894.

preparations exhibited, it appeared, that a growth which involves only a segment of the circle of the intestinal lumen is more likely to be associated with a complete intussusception than an annular stricture, as it is certain that papillomata when they attack the rectum are attended with far more straining, tenesmus, discharge of serous fluid, and prolapse than any other growth whether cancerous or otherwise—these symptoms being the usual indications of intussusception.

I propose now to extend these remarks a little further and to demonstrate their truth by the quotation of seven additional examples of villous rectal growths associated with marked tenesmus and the discharge of much mucoid fluid, and, in many, of blood. These seven cases, with Case 4 already reported and Cases 5 and 6 briefly alluded to, make a total of ten cases of villous rectal growths, seven of which occurred in women and three in men. I have had three or four other cases of the same kind, but have not sufficient notes of them to record. The specimen removed from one of these may, however, be seen at Guy's Hospital museum, No. 1013. Others, I regret to say, for museum reasons have been thrown away. The growths removed in Cases 4 and 5 are in the museum of the Royal College of Surgeons of England.

CASE 7. *Prolapse of the rectum associated with much hæmorrhage due to a villous rectal growth; operation and recovery.*—A woman, aged forty-three years, came under my care at Guy's Hospital in June, 1867, for a severe prolapse of the rectum associated with loss of blood after every motion from which she had suffered for twenty years, the straining at times being most distressing. When I saw her the bowel was down for about nine inches; blood was then passing with her motions and the pain was great. I made a careful examination but failed to find anything. I reduced the prolapsus and prescribed rest. On my second visit, with the bowel only down a very little, I examined her again and with my finger could just touch a new growth. With a pair of long fenestrated forceps I took hold of it and brought it down, finding a splendid specimen of the coarse villous polypus. I put a ligature round its base at once and cut off the growth. No single unfavourable symptom subsequently appeared; all her former troubles at once vanished and a complete recovery ensued. Three years later this woman was still well. The growth is illustrated in Fig. 24 with its microscopical appearance as shown in the late Dr. Moxon's drawing (Fig. 25).

CASE 8. *Papilloma of the rectum with prolapse of the bowel; operation; recovery.*—In 1876 I was consulted by a woman, aged fifty-two years, for great prolapse of the rectum associated with the discharge of much blood-stained mucus and at times of blood accompanied with straining. The bowel had been down for some months but for at least a year before it had come down when straining at stool, and at these times there was a free discharge of watery fluid. An examination revealed the presence of a sessile villous polypus high up the rectum which was drawn down by means of forceps into view, ligatured, and removed, a rapid recovery taking place.

CASE 9. *Villous growth of the rectum; prolapse of the rectum; operation; recovery.*—In 1881 I was consulted by a woman, aged fifty-six years, for prolapse of the rectum of three months' standing, associated with tenesmus and the frequent discharge of blood-stained watery mucus. For about six months previously she had noticed the same mucous discharge, which was accompanied with diarrhœa. On examination a sessile papillomatous growth was found on the dorsal surface of the rectum, about three inches up, with a base an inch in diameter. This was drawn down and ligatured in halves at the base and cut off. A rapid and complete recovery followed.

CASE 10. *Villous growth of the rectum of twenty years' standing; loss of much blood; operation and recovery.*—In June, 1881, I was consulted by a man aged thirty-five years, who when only fifteen years of age passed blood at his stools accompanied by much straining. Since then at intervals varying from three days to a month the symptoms returned. He would for a week or two weeks together pass blood with every motion and the blood would generally flow from the bowel for ten or fifteen minutes after defecation, but sometimes he would pass no blood for three days. At these attacks there would be great straining but no prolapse of the anus. Much mucus would, however, at all times be passed with the motions. An examination made with the patient anæsthetised during one of these attacks revealed the presence of a papilloma attached to the orifice of an intussuscepted bowel, high up the rectum. This I pulled down by means of a long pair of fenestrated forceps and, having ligatured its base in halves, I removed it. The growth covered the area of a florin. Everything went on well subsequently and a rapid and permanent recovery ensued.

CASE 11. *Villous growths of the rectum; operation; cure.*—In April, 1883, I was consulted by a man, aged fifty-six years, for the discharge of much mucoid fluid from the rectum accompanied at times by straining and occasional prolapse of the rectum. These symptoms had been steadily becoming worse for six or more months, but for the last month the constant bearing-down pain and discharge had induced him to seek advice. On examination the external anal parts looked healthy, but internally about three inches up the rectum and on its dorsal aspect a villous growth was found. This was then dragged downwards by means of forceps and removed, after its base, which was of about the size of a shilling, had been ligatured in halves. A rapid convalescence ensued.

CASE 12 *Villous growth of the rectum; operation; cure.*—A woman aged fifty-six years, the mother of three children, consulted me in August, 1889, for severe tenesmus and the passage of much mucus from the bowels which for the last month was blood-stained. These symptoms had existed for more than two years and had been gradually becoming worse. On examination under an anæsthetic, a hard, papillomatous growth was detected high up the bowel, which was partly invaginated, and after some trouble this was seized and brought down, where it could be ligatured at its base and removed. The base was of about the size of a florin. A good recovery ensued and five years later this patient was quite well.

CASE 13. *Villous growth in the rectum; removal; recovery.*—In October, 1890. I saw, in consultation with Mr. G. Eastes, a woman, aged sixty-nine years, who for some months when at stool had suffered from abdominal straining and the passage of much mucus, which for the last month had been mixed with blood. During the last month something was forced through the sphincter of the anus so as to protrude externally, but this was reduced with ease by the application of external pressure. On examination of the rectum I detected a large cauliflower villous growth attached to the anterior wall of the rectum about three inches up, which I was able by means of forceps to draw down outside the anus and to remove after having ligatured its base in halves; a rapid recovery followed. This patient lived in comfort for six years after the operation and died on June 12th, 1896, from pernicious anæmia, at the age of seventy-five years.

From a careful consideration of these cases of villous rectal growths the following conclusions seem to be reasonable:—

That a villous growth of the large intestine is by no means uncommon, and particularly in women.

That when an adult is liable to attacks of abdominal straining associated with the passage from the bowel of rice-watery mucoid fluid or thick mucus in any quantity, the suspicion of the presence of a villous growth should be excited.

When the straining is persistent or relieved by only brief intervals, and blood becomes mixed with the mucous discharge, the probabilities of the presence of a villous growth are much strengthened.

When prolapse of the bowel becomes constant and this is attended with the discharge of bloody mucus or blood alone, careful search for a villous growth should be made.

The diagnosis becomes clear only when the growth appears with the prolapsed bowel at the anus or can be detected with the finger. In all cases of intussusception in adults the question of a villous or polypoid growth being the cause should be entertained.

Grosvenor-street, W.

BRISTOL GENERAL HOSPITAL.—The half-yearly meeting of the governors of the Bristol General Hospital was held on March 14th under the presidency of the mayor. The annual report for 1897 showed that the ordinary receipts were the same as those in 1896, being slightly over £9600. The expenditure amounted to £10,683, which shows no appreciable increase over the preceding year. The only increase recorded in subscriptions was that of the working men, the amount being £1711, against £1566 in 1896. The medical report showed that the working of the hospital had been very satisfactory. The out-patients treated numbered 31,858, against 30,166 in 1896.

CARDIAC PERISTALSIS: ITS NATURE AND EFFECTS.

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CHAUVEAU, Faivre, and Marey by their classical experiments on the horse have demonstrated once for all that the systole of the auricle precedes that of the ventricle. Unfortunately their graphic curves of pressure changes in the heart have left the impression that the auricular systole not only commences before that of the ventricle but is completed before the latter begins. Such a conclusion seems to have been admitted with far greater reserve by the above-mentioned observers than is commonly supposed; indeed, two at least of them have specially protested against its too general application. It is to this unfortunate and hasty assumption that a large proportion of the confusion which has arisen in the discussion of cardiac physics must be attributed, since in man at least it is exceedingly improbable that the contraction of the auricle has generally finished before that of the ventricle commences. The systole of the heart is a peristalsis, and the essential feature of a peristalsis is a contraction in sequence, wherein the contraction of a given segment is maintained till that of the adjacent segment is sufficiently developed to prevent regurgitation on the relaxation of the first. A cardiac cycle, as I understand it, commences by the contraction of the great veins near their junction with the auricles, which contraction is maintained during the auricular systole, thus shielding the blood in these veins from the rising intra-auricular blood-pressure. In a similar way the systole of the auricle both anticipates and overlaps that of the ventricle, being maintained until the closure of the auriculo-ventricular valves towards the end of the first phase of the ventricular systole prevents further possibility of regurgitation.

The contraction of the ventricle likewise does not readily cease, but apparently is continued for some time even after the ventricle has expelled its contents into the aorta. This peristaltic contraction in sequence, with the overlapping of the contractions of adjacent segments, which is characteristic of peristalsis, brings into harmony many carefully made observations which otherwise seem discordant. Roy and Adami, in the curves published by them,[1] have indicated the time relation of the principal elements which compose the heart-beat. In these curves the contraction of the auricular wall is figured as continuing throughout the first phase of the ventricular systole, and ceasing about the time of the opening of the aortic valves. Thus the systole of the auricle is a somewhat prolonged contraction which, like a peristaltic contraction elsewhere, does not cease when that of the next muscular segment commences. Many other curves, such as that by François Franck,[2] also indicate, without the writers being apparently aware of it, that the contraction of the ventricle may begin before that of the auricle has finished. Professor Potain[3] also maintains that the contraction of the auricle is by no means of insignificant duration; he writes: "On en peut attribuer d'une façon générale un tiers au repos, un tiers à la systole de l'oreillette, l'autre tiers à celle des ventricules." This auricular systole, Professor Potain considers, lasts till the apex-beat is well developed, to which, indeed, he attributes the latter. By graphically recording the apex-beat and simultaneously listening for the first sound Professor Potain has concluded that this sound occurs late in the upstroke produced by the beat. He attributes the sound to the closure of the mitral valves at the termination of the auricular systole and the commencement of the ventricular systole. It is unfortunate that he should have supposed, with so many other writers, that the closure of the auriculo-ventricular valves marks of necessity the commencement of the ventricular systole, as his consequent conclusions have largely spoiled the usefulness of his masterly writings on the heart.

In discussing the subject with Professor Potain some time ago I pointed out that the auriculo-ventricular valves might be kept open by the contraction of the auricle, in spite of the commencing contraction of the ventricle, if the two contractions overlapped; and that probably the contraction of the ventricle did begin as Marey, Galabin, Rolleston, and others have maintained, simultaneously with the apex-beat, though the auriculo-ventricular valves do not close then but later—when, in fact, the ventricular contraction can overcome that of the auricle or when the latter ceases. Thus is explained the difficulty which Rolleston has expressed in these words: "The notch which he (Marey) assumes to be caused by the closure of the auriculo-ventricular valves and which is situated about the junction of the middle and upper third of the ascending line is placed too high on the curve to be ascribable to any such cause [Galabin and Potain also place it high on this line]. It is indeed difficult for me to understand how Marey could conceive it possible for the intra-ventricular pressure to rise so high before the auriculo-ventricular valves are closed." The explanation is easy when one recognises that these valves are subject to pressure from both sides and close only when the pressure within the contracting ventricle rises above that in the contracting auricle. Thus, too, is explained why the time of closure of these valves is variable, depending as it does on the relative pressures within the ventricle and auricle. Had Barclay[4] and Dickinson[5] conceived that the events composing the cardiac cycle did not form a distinct but a superposed sequence they would probably have been saved from the error of supposing that the so-called presystolic murmur of mitral stenosis was really ventricular systolic and regurgitant. If the auricular systole precedes and overlaps the first part of the ventricular it at least lasts long enough to be simultaneous with the whole duration of the presystolic murmur; hence the objection that the auricular systole is not sufficiently prolonged to account for the murmur would disappear.

Moreover, I have indicated in several papers[6] that the auricle towards the latter part of its contraction, enclosing then a small chamber, can exert a greatly increased pressure on its contents, a pressure roughly varying inversely as the cube of the radius of the chamber. The auricle, therefore, towards the end of its contraction, in virtue of its smallness and thickness, may be more than a match for the full ventricle opposed to it, and the "auricular-systolic" murmur in mitral stenosis may precede, run up to, *and into* the time of ventricular systole, with the blood passing from the auricle into the ventricle all the while. As one contemplates the delicate valves of the heart, and thinks of the shocks and strains to which physiological theories would subject them, one's faith in much of one's physiological teaching ebbs away. I am thankful to have been led to believe that the aortic and mitral valves have acquired their positions of rest before the support in the one case of the ventricle and in the other of the auricle is withdrawn from them. I can understand also how a stenosed and incompetent mitral valve may be present and regurgitation with its accompanying systolic murmur be absent, as is so frequently found, since the auricle itself by its prolonged contraction in these cases defends the orifice, and I anticipate that with the progress of cardiac surgery some of the severest cases of mitral stenosis will be relieved by slightly notching the mitral orifice and trusting to the auricle to continue its defence.

Mentone, France.

A CASE OF

NEUROMIMESIS SIMULATING PERFORATED GASTRIC ULCERATION.

BY T. WILSON PARRY, M.A., M.B., B.C. CANTAB.

ON Jan. 2nd of this year I was summoned urgently to attend a case that had been under my previous notice on and off for the past three years. The patient in question was a young woman, twenty-one years of age, who had suffered about four years altogether from chronic gastric ulceration with two acute and several slight subacute attacks. She was of a highly neurotic disposition, which made one all the more careful and discriminating in making a diagnosis at these times. On the day mentioned above I found her to be in violent pain. Her mother had given her some chicken jelly, which she had immediately vomited, and complained of excruciating pain in the stomach which did not leave her. The muscles of her abdomen were tightly contracted, so that any special examination of that region was extremely difficult. There did not appear to be much abdominal distension. Her pulse was quick and small, but not, to my mind, typically "peritonitic." I explained to the patient's parents the dangerous significance of the symptoms and told them that probably nothing but an operation would save her life. Mr. William Thorburn of Manchester, who happened to be in the immediate neighbourhood at the time, kindly met me in consultation over the case. He confirmed my diagnosis of perforation and on summing up the case we told the parents that if left alone she would most probably die in about three days; if operated upon (stitching up the perforation) the probability would be that she might also die, as the percentage of the mortality after operation in these cases was also very high, but that operation would, on the whole, give her the best chance. After some reflection the parents decided not to have her operated upon. We accordingly followed the usual principles of treatment in these cases—viz., (1) injected morphia subcutaneously at stated times; (2) applied hot, light belladonna stupes to the abdomen frequently; (3) gave nothing but a little ice by the mouth; and (4) fed the patient entirely per rectum. Happily for her an adhesion took place, probably to the liver, and after seventeen days the muscular rigidity of the abdominal walls had entirely disappeared. As things were going on so well I decided to miss seeing her on Jan. 20th, intending to call in as usual on the 21st, but this little detail I omitted to mention to both the mother and daughter. I left the village on the 20th without seeing her and proceeded on my usual round. On reaching another village where they knew I would call I found a telegram awaiting me telling me to return immediately as the case had again assumed a dangerous aspect. Although in my own mind I was convinced there was nothing very seriously amiss, as the patient was still having very little by the mouth and everything she did have in that way was carefully peptonised, I hurried home as quickly as I could. I found the patient lying in bed with her knees drawn up making agonising noises; her face was contracted as if in great pain and on examining her abdomen she made an attempt to wince as if she could not bear it to be touched. During the examination, however, she partially arched her back so that her attempt to simulate abdominal tenderness was completely frustrated as she pressed her abdominal wall against the examining hand. The abdominal wall was perfectly flaccid, being free from every trace of rigidity. One of her drawn-up legs was shaking and on being commanded to put her legs down she did so at once and the shaking ceased. I ordered her a rectal injection of bromide of potassium and chloral and soon after she fell into a comfortable sleep. I found on questioning the mother that the attack had commenced suddenly, as on the previous occasion, but not after taking food. It commenced immediately her mother told her I had left the village so probably would not be calling that day. The interesting points of this case, therefore, seem to be—firstly, the attack commenced directly she was told I was probably not going to call, showing that I considered she was getting better, and this undoubtedly led her to think she would as a consequence be deprived of that extra sympathy she had been having from all her friends during the time she was really in danger; and secondly, she as nearly as possible imitated the onset of her previous dangerous attack when actual perforation was indisputably present. The value of the various symptoms she fully understood as I had explained the reason of each of them to her mother at various times during the previous eighteen days. This I had, perhaps, rather foolishly done before the patient. The two important points, however, which she failed to simulate were (*a*) rigidity of the abdominal walls and (*b*) sickness, both of which omissions helped me in no small way in deciding between "perforation" and its neuromimetic semblance.

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[1] The Practitioner, vol. xliv., p. 251.

[2] Marey: Circulation du Sang, 1881, Fig. 43.

[3] Clinique Médicale de la Charité, p. 542.

[4] Dr. Barclay: THE LANCET, March 16th, 1872.

[5] Dr. Dickinson: THE LANCET, Oct. 1st and 8th and Nov. 12th, 1887.

[6] Archives de Médecine Expérimentale, No. 5, 1er Sept., 1896; Brit. Med. Jour., Jan. 23rd, 1897, and March 13th, 1897, p. 703; and Le Rôle de l'Oreillette Gauche, Thèse de Paris, 1896.

Youlgreave.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ACQUIRED NYSTAGMUS.

By A. S. PERCIVAL, M.B., B.C. CANTAB.,
OPHTHALMIC SURGEON TO THE CHILDREN'S HOSPITAL, NEWCASTLE-UPON-TYNE.

THOSE who are interested in the subject of "miner's nystagmus" will know that two main reasons have been assigned for its causation — deficient illumination and fatigue of the ocular muscles. The latter view as to its essential cause has been ably supported by Snell, Nieden, Dransart, and others. I bring forward this case as it tends to corroborate this view.

A man came to me at the beginning of this year complaining of dimness of sight. On ophthalmoscopic examination no abnormality was discovered; there was no refractive error, and with test types he read $\frac{6}{6}$ with each eye; his sight was made worse by giving him weak convex glasses. I questioned him as to his work and learnt that he was a railway clerk engaged in adding up figures in a large folio account book in a well-lighted room. I then got him to elevate his eyes to see if that movement induced nystagmus. No nystagmus was seen. On putting a large book in front of him and directing him to adopt the attitude which he usually assumed when at work he bent his head over the book and keeping it fixed raised his eyes slowly, examining the edges of the page from below upwards. A vertical nystagmus was manifest as soon as his eyes were rotated upwards, increasing in extent as his eyes assumed a more strained position. He then complained that what he looked at appeared to dance up and down and that what he meant by dimness of sight was the dancing of the figures during his daily work. On inquiry as to the occurrence of any night-blindness he said he did not think he saw quite as well as other people when the light was defective. I took him therefore into the dark room and on gradually turning down the gas I found that when I could just discern "brilliant" type he could only read "pearl" type at the same distance. My light-sense is presumably normal, so it is fair to assert the presence of some degree of hemeralopia in this case. As I have no photometric apparatus I was unable to say whether his hemeralopia had the peculiar features which are said to be characteristic of that form of it associated with "miner's nystagmus." I assured him that if he gave up his work and got some other employment which did not involve similar ocular fatigue that all his troublesome symptoms would disappear.

The case is interesting as showing what little reliance can be placed on the unconfirmed complaints of patients, and also for the fact that in this case nystagmus only appeared when the patient put himself in the position ordinarily assumed by him when at his daily work. It seems not improbable that many cases of asthenopia in which glasses are of no service may be due to a "muscular asthenopia" or to a nystagmus that has never been detected.

Newcastle-upon-Tyne.

NOTES ON A CASE OF EXTRADURAL CEREBRAL ABSCESS OF AURAL ORIGIN WITH THROMBOSIS OF THE LATERAL SINUS, IN WHICH THE SINUS WAS NOT OPENED; OPERATION; RECOVERY.

By ADOLPH BRONNER, M.D., M.R.C.S.,
SURGEON TO THE BRADFORD EYE AND EAR HOSPITAL; LARYNGOLOGIST TO THE BRADFORD ROYAL INFIRMARY.

A BOY, aged fourteen years, saw me on Nov. 18th, 1897. There had been an occasional discharge from the right ear for several years, but for the last seven months the discharge had been constant. Six days previously the ear became painful and a swelling appeared behind the ear. The boy felt very ill and had been in bed for four days. When I saw him his face was flushed, he was partially comatose and he complained of severe pains in the head. He felt very giddy and could not sit up in bed. The neck was slightly stiff on the right side. The temperature was 101° F. and the pulse was 65. The optic discs were congested. Behind the right ear there was a soft red swelling, very painful on pressure. The right membrana tympani was perforated and there was a purulent discharge. It was decided to operate at once. A large incision was made behind the ear extending over the top of the auricle. The ear was then pulled forwards and downwards and the cutaneous external meatus was cut through. The mastoid antrum was opened and was found to be only slightly diseased. The attic, however, was full of granulation tissue and fœtid pus. The basilar groove was laid open with the chisel and a fair quantity of pus escaped. This, however, was not very offensive. The dura mater was grey and thickened. The lateral sinus was hard and evidently thrombosed. As there were no urgent symptoms and the thrombus was possibly non-septic I did not puncture or slit it open. The cutaneous external meatus was incised horizontally and the edges were stitched to the external wound. The wound and the meatus were then plugged with iodoform gauze and dressed daily. On the third day the pulse and temperature were nearly normal and on the fifth day the outer wound was closed and the parts dressed through the external meatus. The boy made an uninterrupted recovery.

This case seems to be interesting from several points of view. The gravity of the symptoms pointed to some serious intracranial lesion, apparently to cerebral abscess. There can be no doubt that there was thrombosis of the lateral sinus and during the operation the question naturally arose whether we should explore and if necessary open up the sinus. It is, I know, customary to explore the sinus whenever it has been exposed, but this procedure seems to be contrary to the most elementary rules of surgery. No surgeon would think lightly of exploring a vein which was surrounded by septic material in any other part of the body. It certainly is a remarkable fact that the healthy lateral sinus is so frequently opened in these cases and without many fatal or even bad results. It was impossible in this case to know if the thrombus was septic or not, and I therefore abstained from exploring it. Had I known it to be septic I should not have opened it up unless there had been any signs of septic poisoning or of pyæmia. If any of these symptoms had been present I should have first tied the jugular vein and then removed the thrombus and the diseased walls of the sinus as far as possible. The outer wound was left open for several days so that the parts and symptoms could be carefully watched and so that any further operative interference could, if necessary, have been readily carried out.

Bradford, Yorks.

UNLOOKED-FOR SOURCES OF POISONING.

By CLEMENT DUKES, M.D., M.R.C.P. LOND.,
PHYSICIAN TO RUGBY SCHOOL AND SENIOR PHYSICIAN TO RUGBY HOSPITAL.

IN the course of every-day life one comes across puzzling cases which require all one's ingenuity to unravel and amongst this class none are more difficult than those of poisoning. Some years ago I was called in consultation to see a case of illness which after a very close investigation could only be interpreted as one of lead poisoning.

The patient was a gardener, and I minutely searched every possible source of poisoning in his house without discovering the cause. Failing in this I then inquired into his habits from rising to retiring to bed and I traced the cause to this. He breakfasted early, went to work, and between 8 and 9 A.M. visited a certain "house of call" to have a glass of beer, where he was usually the first customer. As the beer was drawn by the beer-pump from the barrel in the cellar through a lead pipe he evidently imbibed with his, often probably *hard*, beer his daily dose of lead. This visit was at once given up, he recovered from his poisoning, which has never recurred, and he allows others to have the first glass.

A few weeks ago a young woman called to consult me who evidently had something on her mind and was suffering considerably, which manifestly arose from morphism. After a few visits I elicited these facts. Some years since she had suffered from a painful rectal trouble for which morphia suppositories had been prescribed, which not only relieved her local pain but doubtless produced other general peaceful effects. Feeling very wretched from too long a ride on her bicycle, which made her quite ill, she remembered her suppositories and resumed them, using several daily for a considerable time with the result I have stated.

Rugby.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

> Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

A CASE OF HIATUS VESICÆ; OPERATION.

(Under the care of Mr. EDMUND OWEN.)

So far as the operation itself is concerned the result in Mr. Owen's case is a perfect success, but the decomposition of the urine is likely to prove a very troublesome complication. In some cases where a bladder has been closed in it has been possible to keep the urine sweet by syringing frequently with weak acid lotions. Mr. Reginald Harrison brought before the Medical Society of London[1] a case of hiatus vesicæ in which he had performed a novel operation. He excised one kidney and about eleven months later he transplanted the right ureter into the loin. The boy was apparently more comfortable and the loin is probably more easily fitted with a collecting apparatus than the pubes; but it is a little difficult to see why the method was not applied on both sides. The mucous surface of the bladder underwent a process of cicatrisation and resembled skin. It cannot be said that there is any really satisfactory method of treatment of hiatus vesicæ. For the notes of the case we are indebted to Dr. G. Templeton, surgical registrar.

A boy, ten years of age, was admitted into the Hospital for Sick Children, Great Ormond-street, at the end of November, 1896. The anterior wall of his abdomen was wanting from the umbilicus to the pubes, as was also the front of the bladder, the lower and back part of the viscus projecting through the gap as a moist, bright red swelling, on which the ends of the ureters were distinctly visible. The extroverted bladder was extremely sensitive. The pubic bones were deficient, and the short penis bore in its whole length a cleft which laid open the urethra from above, in the middle line, through the entire length of the urethra, the glans penis sharing in the epispadias. The dribbling urine caused extensive excoriation of the thighs, which gave the patient great distress. His hair was long and he wore petticoats, partly, in all probability, because of his unsatisfactory sexual development, and partly because they would irritate the parts less than trousers and could more easily be kept clean. He was well nourished and intelligent and he had a particularly good singing voice.

A large flap of skin and subcutaneous tissue was dissected up from the epigastric region and was turned down over the projecting bladder with the raw side upwards. An incision was then made across the front of the root of the scrotum extending a little way on to the thighs, and a second incision was made parallel to it at the back of the scrotum. The testes were then removed, and the scrotum having been detached from the subjacent parts was slipped up over the penis and laid with its deep surface upon the raw aspect of the flap which had been turned down from the front of the abdomen. In this way the bulging bladder was effectually covered in, though urine could still leak out between the lower part of the wide scrotal bridge and the root of the urethral gutter. This cleft served for the easy escape of the urine and so prevented extravasation between the raw surfaces. The boy was kept for some days in a bath of hot boracic lotion. The flaps united, and the cleft at the foot of the urethra was eventually closed. To effect this closure the lower border of the scrotal bridge was vivified; the borders of the split penis and prepuce were also vivified and were then bent up and adjusted to the scrotal bridge. This procedure also proved successful, so that by this time the bladder was completely shut in, the urine escaping by a small chink upon the left side, over which it was hoped an apparatus might eventually be easily and conveniently adjusted. But unfortunately the urine collecting in the new water-tight reservoir now undergoes decomposition and thus the space becomes choked with phosphatic deposit; the side of the left thigh is excoriated by the dribbling urine and is encrusted with phosphates which from time to time have to be soaked off by keeping the boy in a hot bath.

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[1] Transactions of the Medical Society of London, vol. xx., p. 358.

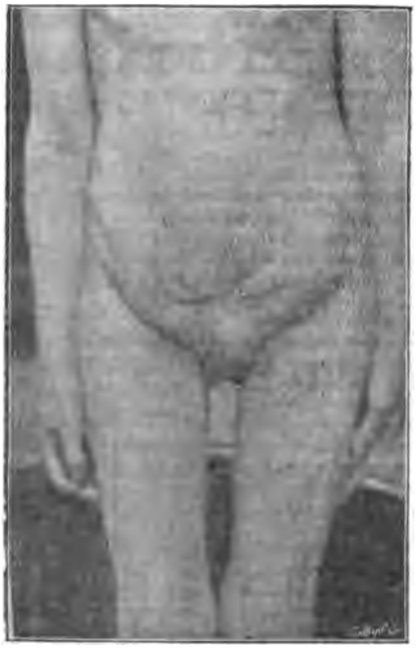

Figure showing the condition of the patient after the operation.

Remarks by Mr. OWEN.—Experience seems to show that the unfortunate child with hiatus vesicæ and epispadias is usually in robust health in other respects, so that on the first view of the case the surgeon begins to consider what operative measures will be most likely to diminish the discomfort and unsightliness of the deformity. There are plans innumerable for this purpose, most of them being complicated and all, I think, disappointing. At the meeting of the Harveian Society, where this boy was shown, the general opinion seemed to be that the closing in of the bladder had been completely effected, and I fear that the very completeness of the operation has militated against its value, for in those cases in which the urine freely flows away there is much less discomfort than in a case (such as this) where some of it can be retained. I do not know what the ending will be, but I fear lest septic inflammation should extend up the ureters and involve the kidneys in suppuration. I feel satisfied that it is expedient to remove the testes in hiatus vesicæ with epispadias, and I hoped that in this boy the operation might have the additional advantage of preserving his clear treble voice. But I find in the report of the registrar that "he never sings now." Possibly when he gets down into the country his voice will come back, but at present he looks pale and wretched. The operation has proved a great disappointment, and I cannot but think that though the appearance of the parts has been greatly improved the actual condition of the boy has not by any means been ameliorated. I should very much like to know what is really the best treatment for these miserable cases.

ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

TWO CASES OF PERFORATED GASTRIC ULCER.

(Under the care of Mr. FREDERICK PAGE.)

IN some introductory remarks on a case of perforating ulcer of the stomach recorded in the Mirror of Hospital Practice of THE LANCET of Jan. 15th, 1898, p. 158, we pointed out that it was probable that the most important factor influencing the result of a laparotomy for this condition was the length of time which had elapsed between the perforation and the operation. We may put twenty-four hours as the limit beyond which laparotomy can afford very little prospect of recovery unless the peritonitis has been localised. This point is illustrated, with many others of great interest, in the two cases recorded below. In the first case thirty-six hours had elapsed before the abdomen was opened and the patient died; in the second case laparotomy was performed about four hours after the perforation and this patient recovered. Another point worthy of notice in the second case is the fact that two perforations were present. This is extremely rare, though it is by no means unusual for two gastric ulcers to be present at once. A case of double perforation was recorded in THE LANCET in 1895.[1] For the notes of the cases we are indebted to Dr. J. D. Wardale, surgical registrar.

CASE 1.—A woman, aged twenty-one years, was admitted into the Royal Infirmary, Newcastle-upon-Tyne, on Dec. 16th, 1897. She had had gastric symptoms irregularly for some years, but no hæmatemesis. On Dec. 14th she was at a dance, where she ate heartily and danced till a very late hour. In the early morning of the 15th she was seized with a severe pain in the abdomen and vomiting. When seen by Dr. Bishop of Wylam the pulse was quick but there was no collapse. An opiate was given, all food by the mouth was stopped and she was fed per rectum, and in the afternoon she seemed to be very much better. In the evening of the same day whilst being turned on to her side she was again seized with pain and vomiting. Shortly afterwards, when seen by her medical attendant, she was slightly cold, the pulse being rapid and the abdomen distended and tender. Some difficulty was experienced in removing her to the hospital as she was some miles from a railway station. On her admission to the infirmary, about thirty-six hours after the first attack of pain, all vomiting had ceased, the abdomen was very much distended and tender, the extremities and the general body surface were cold, and the pulse was 140. Under chloroform, which was afterwards changed to ether, an incision was made between the umbilicus and the ensiform cartilage. The intestines were enormously distended from general peritonitis. Some recent adhesions were broken down and the stomach was drawn forward. Underneath the liver a large quantity of yellowish fluid of pea-soup consistence was found. This was mopped up. After a great deal of difficulty a small circular perforation of the size of a pea was discovered at the cardiac end of the stomach so high up as to prevent it from being drawn into the wound. Three fine silk sutures were passed through the whole thickness of the stomach wall and tied, thus closing the opening; then five Lembert sutures of fine silk were passed and tied, so covering in and inverting the ulcer. An opening was next made into the abdominal cavity immediately above the pubes and a glass drainage-tube was inserted into Douglas's pouch. The abdomen was irrigated with sterilised water until the fluid escaping from the glass tube was clear. The upper wound was closed completely, the patient having been on the table nearly fifty minutes. During the operation a hypodermic injection of strychnine was given. On her return to bed, the pulse being 170, she was infused with two and a half pints of saline solution and one ounce of whisky; the pulse came down to 148. At 12 midnight as the pulse was failing she was again infused. Ether, digitalin, and strychnine were injected hypodermically later. The temperature gradually ran up to 103·4° F. and the patient died twenty-four hours after the operation.

CASE 2.—A woman, aged twenty-two years, was admitted to the hospital on Jan. 7th, 1898, with pain and tenderness in the abdomen of about three hours' duration. She had never had any previous gastric symptoms, but suffered from anæmia. The history was given that at about 4.30 P.M. she had a very hearty tea; at about 6.15 P.M. she ran to see a neighbour who lived 100 yards away; and at 6.30 P.M. she was seized with severe pain in the abdomen and vomiting. Dr. Clark of Heaton was sent for at 7.30 P.M. and on his arrival he found the patient suffering from great pain and vomiting; the vomited matter, however, contained no blood and the patient was not collapsed. The abdomen was not distended and the liver dulness was unimpaired. He ordered rest, stopped all food, and gave an opiate. On returning an hour later he found the pain to be still very severe, the abdomen more tense, and the normal area of liver dulness resonant. He at once took the patient to the hospital. An incision was made between the ensiform cartilage and the umbilicus. As soon as the peritoneum was divided gas escaped; the peritoneal cavity contained also a large quantity of fluid amongst which currants and raisins were recognised. On the anterior surface of the stomach was found a perforation of about the size of a sixpence, and an inch from this opening was a dark-bluish patch of about the size of half-a-crown, covered with lymph, and in the centre of it was a pin-point opening from which gas escaped. The larger perforation was sutured with catgut, all the walls of the stomach being included in the sutures. This line of sutures was then turned over so as to lie in the centre of the larger discoloured and perforated patch above mentioned, and the walls of the stomach surrounding the two were then sutured carefully together by Lembert's sutures, fine silk being used. An opening was made above the pubes and the abdominal cavity was washed out as in the previous case. At the completion of the operation the temperature was 98·2° F. and the pulse was 128. She vomited at intervals of three or four hours for the first forty hours and complained of great pain. She was very restless and opium had to be given in the enemata. The pulse slowly went up to 140 and the temperature to 102° on the second day. The tube was withdrawn on that day and from then the temperature and the pulse slowly came down, and exactly a week after the operation the temperature became normal for the first time and the pulse as low as 96. Nutrient enemata of beef-tea (three ounces) and whisky (one ounce) were given every three hours for the first thirty-six hours and subsequently every four hours. Twenty-four hours after the operation a hypodermic injection of digitalin was administered, but as the patient was still failing iced champagne was given. The vomiting still continuing ten ounces of hot water were given by the mouth which she immediately returned. On the second day a little chicken essence was given by the mouth and the nutrient enemata were administered at intervals of every six hours. On the third day she had half an ounce of iced milk every hour in place of the chicken essence. After the first week the temperature continued normal and from this date the patient made an uninterrupted recovery, leaving the hospital on Feb. 6th. She has been seen since that date and continues in sound health.

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[1] THE LANCET, Aug. 3rd, 1895, p. 264.

Remarks by MR. PAGE.—Of the three cases of perforating ulcer of the stomach I have now operated upon two patients recovered, and I consider recovery in each instance was due to the early period at which the abdomen was opened after the perforation—three hours and six hours after respectively. In one of the successful cases the stomach was full, in the other it was empty at the time of rupture. The fatal case was not operated upon till thirty-six hours after the rupture and the patient never rallied from the very serious condition she was in from general peritonitis. In all three cases the abdomen was very thoroughly irrigated.

BRISTOL MEDICAL MISSION.—The annual meeting of this institution was held on March 22nd. The report showed that 7636 new cases had been attended at the dispensary during 1897 and 1680 patients were visited at their homes. The financial statement showed that the income amounted to £481 and that the expenditure came to £672.

PRIZES AT THE BRISTOL GENERAL HOSPITAL.—The Clarke Surgical Scholarship of £15 was equally divided between Mr. H. S. Jenkins and Mr. A. G. G. Plumley. The Sanders Scholarship of £22 10*s.* was awarded to Mr. E. V. Foss and the Lady Haberfield Prize of £29 to Mr. R. Short. The Martyn Memorial Pathological Scholarships were divided as follows: Mr. E. V. Foss £10, Mr. J. E. Long £5, Mr. E. G. Bunbury £5. The Committee Gold Medal was gained by Mr. E. V. Foss, and the Silver Medal by Mr. R. Mackie.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

The Vagus Origin of Asthma and its Treatment.

A MEETING of this society was held on March 28th, the President, Dr. SANSOM, being in the chair.

Dr. E. C. KINGSCOTE read a paper on the Vagus Origin of Asthma and its Treatment. After commenting upon the powerlessness of medicine against asthma Dr. Kingscote went on to say:—

It is pretty generally conceded that the origin of asthma is to be found in the irritation of one or several of the many ramifications of the vagi. Whether it be from the origin in the medulla, from Meckel's ganglion as in hay fever, from a superior laryngeal, from ear mischief through Arnold's nerve, through the pharyngeals, through the recurrent laryngeal, through pressure on the main trunk in the neck (Mr. Treves permits me to quote a case of his in which the severe spasms of asthma were set up by the pressure of cancerous glands in the neck on the vagi), through irritation of the heart, lungs, stomach, liver, spleen, bowels or sympathetic system, it is difficult to evade vagus origin. Further, there must be some comprehensive means of setting in motion even a small fraction of the muscles which envelop the (according to Professor Rutherford) billions of bronchioles which exist in the lungs. Also, there is one, and only one, known means of artificially producing asthma, which is as follows. If we chloroform a dog and divide the left vagus and gently stimulate the proximal end with electricity, in addition to other phenomena we produce *asthma in the right lung and tonic contractions of the right half of the diaphragm.* In addition to these ascertainable causes of vagus origin, however, there still remains a large class of obscure cases whose origin is unascertainable and I will endeavour to suggest that it is precisely from these obscure cases that we shall possibly derive the light which may illuminate the obscurity.

In treating chronic heart lesions it happened that some few of my patients suffered from asthma. They did not consult me for asthma (they had already exhausted medical opinion on that score), but to my intense astonishment some of these cases, and only some, entirely lost their asthma. I further observed that it was precisely those cases which had no ascertainable cause of asthma that got well and later that those of such cases which recovered invariably had a deep-seated dilatation of the heart and that the improvement in the asthma marched with the reduction of the cardiac dilatation. I had already in an article on the Schott Treatment[1] remarked that the amount of space taken up in the thorax by the enlarged heart suggested a train of thought highly instructive in dealing with certain obscure symptoms, among which the following may be instanced as direct effects of pressure: (1) mid-sternal pain from pressure against the sternum; (2) suffocation from pressure on the lungs, vagus, and diaphragm; (3) brachial pain, tingling, numbness, and coldness from pressure on the plexus and axillary artery in the space between the first rib and clavicle; this may happen, the shoulder being fixed from the dilated heart pressing the ribs outwards and upwards; I have been a sufferer from brachial neuritis for six months under the care of Sir William Gowers and frequently found that on fixing the shoulders and therefore the clavicle and taking a deep inspiration pain was immediately felt where the branches of the plexus pass under the clavicle; (4) Pain from neuritis of the intercostals from intermittent pressure of the dilated heart; (5) referred pain in distant parts; (6) pressure on the vagus causing (*a*) intermittent action of the heart by alternately stimulating and paralysing the cardiac inhibitory fibres; (*b*) gastric disorders of various kinds; and (*c*) cough, &c., from stimulation of the recurrent laryngeal nerves; in one case, severe pain in either ear supervened without any local origin and subsided when the dilated heart was reduced, although it had previously resisted every sort of local application suggesting interference with Arnold's nerve; (7) interference with nutrition through pressure on the thoracic duct; (8) obscure vascular conditions such as angina pectoris possibly due to pressure on the sympathetic system exaggerating the arterial tone (I found the heart considerably dilated in a case of true angina pectoris in which the patient complained of a severe thoracic fulness with pain in the back and left arm before each attack); (9) pain between the shoulders, partly due to backward pressure of the heart, by the pain leaving the back and establishing itself in the præcordial region on the assumption of the prone position; and (10) sub-mammary pain. This is often due to pressure of the cardiac apex against the ribs and intercostals, as is proved by the shifting of the pain correspondingly to the change in the position of the apex and to its disappearance on the reduction of the heart to the normal size.

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[1] THE LANCET, March 21st, 1896

I have seen all of these symptoms yield to the "Schott treatment." Now considering that one-thirteenth of the body-weight is blood a large dilatation of the heart, say, of the size of a football (not at all an uncommon condition), is a very heavy tumour and weighs about as much as half a bucket of water, and the heart flops in the direction of gravity and in the supine position can exert considerable pressure on those structures which lie behind it. On making a deep dissection of the chest we find that the vagi pass behind the heart and lie in close contiguity to the bony spine, so that the heavy heart can exert a pressure on their main trunks, and not only that, but with the heart beat the nerves are hammered as though on an anvil. I will now read brief notes of ten of these obscure cases, only alluding to those facts which bear on the point at issue.

Case 1.—A male patient was seen in consultation with Sir Felix Semon. He had endured asthma from birth. He consulted me in August, 1897. The left heart was then two and a half inches outside the nipple line. The nasal mucous membrane was enormously swollen and the heart was completely covered by emphysematous lung. Asthma was constant. After six weeks' treatment with baths, oxygen, and exercises, and removal of the thickened membrane, the asthma disappeared and the emphysema was very much reduced. The heart became normal. A letter from him on Dec. 23rd, 1897, said: "I am keeping perfectly well and entirely free from asthma."

Case 2.—A male patient, aged twenty-nine years, was seen in consultation with Dr Ord; asthma of twenty years' standing was now constant; he had suffered from influenza three times. The margin of the left heart was two inches outside the nipple line; there was much emphysema. After six weeks' treatment with baths, oxygen, and exercises the asthma disappeared, the heart became normal, and the emphysema was much reduced. On March 14th the sense of smell returned, which had been absent for many years.

Case 3.—A male patient (seen in consultation with Dr. Fletcher Little), aged forty-one years, had suffered with asthma from boyhood which began after a severe strain. The left heart was dilated and there was much emphysema. After six weeks' treatment he lost his symptoms. A letter from the patient's father dated Jan. 13th says: "My son has now been with us five days and we have had the opportunity of observing the complete change the treatment has wrought in him not only in general health but in entire loss of his asthma." This patient after having lost his asthma had a cab accident and the heart's dilatation and asthma returned, but both disappeared on treatment simultaneously.

Case 4.—A female patient (seen in consultation with Mr. Scott of Bournemouth in 1896). A woman of very full habit, aged sixty-three years. There was huge dilatation and suspected fatty condition of the heart brought on by the successive deaths of three of her children. In 1887 she suffered from cardiac asthma, with great debility on the least exertion. There was mitral regurgitation. After six weeks' treatment the asthma disappeared and the heart became normal. There was recurrence of the symptoms on the death of a fourth child.

Case 5.—A female patient (seen also in consultation), aged forty years, had severe asthma at thirteen years, which disappeared for twenty years when it came back after four attacks of influenza. There were five inches of dilatation. Every autumn she had either to live in bed or go to Algeria. After seven weeks' treatment the heart became normal and the asthma disappeared. She had bronchitis but no asthma and went through a London season, taking a cold bath in the morning. In the autumn of the same year I received a letter from her mother in Nauheim saying that her daughter was very ill with gastric ulcer but had no asthma.

Case 6.—A female patient, aged seventy-one years, was seen by me in April, 1897. The left heart was dilated four inches from long-continued strain and repeated shocks; asthma was constant. After six weeks' treatment the asthma disappeared and the heart became normal. She is at present quite well.

Case 7.—A female patient, aged fifty-nine years, was seen by me in October, 1897. Her symptoms were a dilated heart from worry and influenza and asthma on exertion, especially in the autumn. After six weeks' treatment everything became normal. In a letter received in February last she says: "About the asthma I am not really at all troubled with it now and feel much less oppression in chest and altogether. I can go up and down stairs and take a walk of a mile or so often with pleasure."

Case 8.—A boy, aged fourteen years, was seen by me in June, 1897. The left heart was dilated. He had hay asthma as well as asthma on exertion. After fourteen days' exercises only the heart became normal. The attack of hay fever disappeared after two days' exercises and has not since returned.

Case 9.—A female patient, aged sixty-four years, was seen by me in September, 1897. The left heart was dilated; there was mitral regurgitation and asthma on exertion. After five weeks' treatment the heart became normal and the asthma disappeared, but there was recurrence of the conditions and asthma after a carriage accident.

Case 10.—A male patient, aged fifty-six years (seen in consultation with Dr. Symes Thompson in December last). There was asthma of forty-six years' standing. The left heart was dilated and there was much emphysema. After six weeks' treatment the heart became normal, the emphysema was much reduced, and the asthma improved to the extent that whereas formerly cold air produced an attack lasting some days the symptom now disappears on entering a warm room. On March 19th last I heard from the Riviera that this patient had not lost his asthma.

Cases 2, 3, 4, and 9 almost prove the asthma to have been due to cardiac dilatation from the fact that after the symptom had departed it re-appeared on the reproduction of the dilatation. In Cases 2 and 3 the asthma again disappeared under treatment, as it doubtless would have in Cases 9 and 4, had they again come under treatment. In Case 1 we have two causes of asthma: (1) thickened nasal mucous membrane and (2) cardiac dilatation, which were removed by Sir Felix Semon and myself respectively, with the result of complete recovery of the patient. Case 10 is Heaven-sent to save us from a subtle suggestion of selecting our cases which inevitably obtains in connexion with new departures. Case 10 is, however, quite alone amongst the cases quoted in his misfortune and has the sad satisfaction of posing as the exception which goes to prove the rule. However, I have not yet given up all hope of a good result even here as it is proverbial that disturbance of nerve impulses takes a long time to recover from (*vide* the various pareses), and it is just possible that the rapid relief obtained by all the other cases may have been a coincidence and that these patients' nerves possessed extraordinary recuperative powers. Further, there may have been some other form of irritation, such as a small and benign thoracic tumour, or there may have been some central lesion which we failed to make out. Since writing the above Dr. Groedel of Nauheim happened to call on me and he tells me that he has repeatedly observed an improvement taking place in cases of asthma and a reduction of the concomitant emphysema with the Nauheim treatment, especially when the asthma was cardiac. He published observations to this effect in 1880 in the *Berliner Klinische Wochenschrift* entitled "Pneumatometrische Beobachtungen über den Einfluss verschiedener Bäder auf die Respiration."

Now there are two obvious criticisms which naturally occur to us: (1) If these things be why are these cases not oftener diagnosed? and (2) Why do not all cases of heart dilatation have asthma? They are not often diagnosed because in asthma of any long standing there is usually a large amount of emphysema, which makes accurate percussion of the heart's margin very difficult. The asthma need not occur where the dilatation is very great, for the heart flops over on either side of the bony spine and thereby assumes a hollow conformation immediately over it, by which means perhaps the vagi escape pressure.

There is no time to-night to enter into the details of treatment, but I will just say that my methods consist of a considerable modification of the "Schott Treatment" combined with the inhalation of free oxygen gas twice daily in those cases which are due to cardiac dilatation. The inhalation of oxygen gas seems to relieve the paroxysm which is conceivable, as the remote cause of asthma under certain conditions must be the appetite of the blood for oxygen. I wish it to be very clearly understood that I am not advocating a panacea for asthma, but it has so happened that the study of one class of asthma cases—viz., those with cardiac dilatation—has led to researches which may possibly throw light on the rest. I have used a modification of the "Schott" methods to reduce these dilatations. Others may prefer to arrive at the desired destination by a different route. If I have succeeded in exciting the interest of the profession in a matter which to me is an absorbing one I have not written in vain.

Dr. Theodore Williams had learned with interest that in certain cases of asthma it was worth while to try the Schott treatment. But he was not quite convinced by Dr. Kingscote's remarks as to the pathology of the affection as he thought that it was generally held that asthma was a neurosis and that the posterior pulmonary plexus was principally affected. Now this plexus contained sympathetic and spinal filaments as well as vagus fibres. He thought also that the treatment by ordinary methods was not as unfavourable as had been implied, although some cases were very obstinate. He strongly advocated the employment of iodide of potassium in ten-grain doses three times a day. In other cases the employment of the compressed air bath had been found most beneficial. That asthma was by no means incurable was often shown in the case of children, who developed spasmodic asthma after whooping-cough or measles probably through the irritation of enlarged glands. They also were relieved by iodide of potassium and usually entirely lost their asthma as they grew up.

Sir **FELIX SEMON** did not think that the conditions in the frozen section shown by Dr. Kingscote were quite the same as in the living body and he could not follow him in his suggestion that the vagi were hammered by the heart as on an anvil. There were many cases of asthma which resisted ordinary drug treatment and it was important to recognise if there were a dilated heart. In his case, which had been mentioned, owing to the amount of emphysema, he had been unable to make out the enlargement of the heart. The asthma had existed from birth, and on examination he found thickening of the nasal mucous membrane. He was not one of those who considered this at all a common cause of asthma, although a few cases benefited by operation. He agreed with Dr. McBride that the operation in the successful cases acted as a strong counter-irritant, but as his patient desired to have the treatment he cauterised the nose before he was treated by Dr. Kingscote. He could corroborate the statement that he had been entirely free from asthma since either from the removal of the nasal trouble or from the treatment of his heart condition.

Dr. **THOROWGOOD** said that the cases described were evidently those of cardiac asthma and appeared to be quite distinct from spasmodic asthma. The difference between the two classes was well illustrated by the different effects of remedies. In one case of cardiac asthma, for instance, ordinary cardiac remedies did a man good for a time, but he obtained most relief from inhalations of oxygen, while fuming inhalations made him worse. At the same time a little boy was under treatment with severe spasmodic asthma and he was relieved by citrate of caffeine and fuming inhalations, while oxygen increased his discomfort.

Dr. **MAGUIRE** thought that it was impossible for the heart to exercise such pressure as had been described. It seemed to have been forgotten that there was negative pressure within the thorax. Besides, according to physiological teaching asthma from irritation of the vagus would be expiratory in character, while clinically asthma was inspiratory as well. He had often seen cases of asthma in which there was no dilatation of the heart. In the patient shown to the society asthma had begun when he was eight years old and yet the condition of his heart had been sufficiently good for him to be passed for the army. He thought the view that asthma was due to spasm of the muscles of the bronchi was a pure assumption. It was difficult to believe that such spasm could be so universal or so prolonged as it was in many attacks of asthma. In cases of spasmodic asthma there were, first, sudden dyspnœa coming on early in the morning, then ineffective cough, and later expectoration of tenacious mucus often containing Curschmann's spirals. There was evidence of congestion, if not of inflammation, of the mucous membrane. Attacks similar to these were seen affecting the larynx in the "false croup" of children in which the larynx could be seen by actual inspection to be congested. The value of anti-spasmodic remedies could be explained by their action on the muscularis mucosa rather than on the circular muscular fibres.

Dr. **MORISON** remarked that although the particular vagus theory of cardiac asthma propounded by Dr. Kingscote was, in his opinion, untenable on anatomical grounds, yet a neurotic reflex causing dyspnœa might arise from various organs, and he instanced gastric and intestinal catarrh and the cardiac stretching due to intra-cardial pressure as sources of such phenomena. The relief of such asthmatical attacks by the removal of the causes mentioned supported this view. He disputed the actual occurrence of the enormous dilatations and shrinkages of the heart referred to by Dr. Kingscote and maintained that altered position of the heart with moderate diminution of its bulk under the Nauheim and other methods of treatment accounted for the changes clinically found. He communicated the views of Dr. Groedel of Nauheim as to the utility of Nauheim baths in the treatment of dyspnœa primarily dependent upon the state of the heart and that in which the heart was secondarily affected in consequence of emphysema, but stated that Dr. Groedel considered so-called idiopathic asthma as unsuitable for treatment by this method.

Dr. **SYMES THOMPSON** said that one of his cases had been mentioned in the paper. It was a long-standing one of spasmodic asthma. There was considerable dilatation of the right side of the heart, but he did not think that it was primary. Chronic cases of asthma often benefited greatly by going to some spa, such as Malvern or Buxton, where they could have supervision of their diet, exercise, &c., and Dr. Kingscote had shown that certain cases might obtain benefit from a course of baths and exercises.

The **PRESIDENT** thought that the physiological explanation given by Dr. Kingscote was not convincing. Dr. Morison had suggested that the increased intra-cardiac pressure might be a factor. He (Dr. Sansom) thought that it was possible that the stretching of the pericardium, which was a very unyielding structure and intimately associated with nervous plexuses at its root, might also be a factor.

Dr. **F. LUCAS BENHAM** said that in several of the cases mentioned that evening the asthma had existed from childhood. At what age was it supposed that the cardiac condition developed?

Dr. **KINGSCOTE**, in reply, said that he had not intended to enter exhaustively into the physiology of the vagus, but he wished to draw attention to those cases of asthma in which the asthma had disappeared when the cardiac dilatation was remedied. It had been objected that the heart being a fluid tumour could not produce sufficient pressure on nerve trunks, but such pressure effects by an aneurysm were well known. He would explain the value of iodide of potassium by its well-known effect in lowering blood-pressure. He hoped to demonstrate the enormous dilatation of the heart which he had described on some future occasion.

CLINICAL SOCIETY OF LONDON.

Inter scapulo-thoracic Amputation of the Upper Limb.—Ileo-sigmoidostomy.—Acute Infective Ascending Myelitis.

A **MEETING** of this society was held on March 25th, the President, Mr. **LANGTON**, being in the chair.

Mr. **G. BARLING** (Birmingham) read an account of two cases of Inter-scapulo-thoracic Amputation for Sarcoma of the Humerus, both resulting in recovery. The first patient was a male, aged fifty-three years, whose history showed that the tumour commenced three and a half years previously, at which time there was spontaneous fracture of the humerus. When the patient presented himself for treatment the upper two-thirds of the right arm was occupied by a huge growth which overlapped the shoulder-joint, the outer end of the clavicle and the spine of the scapula, filled the axilla, and stretched under the pectoral muscles. The vertical measurement around the axilla was 27 in., 10 in. more than on the left side, the girth of the arm being 28 in. The growth was diagnosed as a myeloid sarcoma and the entire upper extremity, arm, scapula, and outer two-thirds of the clavicle were removed by a slight modification of Berger's method. The patient made a good recovery, but six months afterwards was the subject of many secondary growths. The second patient was a male, aged thirty-seven years, whose history was of about seven months' duration. The growth occupied the upper two-thirds of the arm and encroached upon the shoulder-joint. The diagnosis made was periosteal sarcoma of the humerus and, as in the first case, Berger's amputation was performed, as ablation at the shoulder-joint seemed likely to be followed by speedy recurrence. The patient recovered, though he was for some time in jeopardy from a severe attack of pneumonia. The patient was shown to the society. He had been at work for some months, was in excellent health, and fifteen months after the operation there was no recurrence. The chief departure from Berger's method was that in each case the axillary vein was ligatured through the anterior flap instead of being tied in the same position as the artery—namely, the third part of the subclavian. A collection of nineteen cases recorded since 1890 shows that all the patients recovered, indicating that the mortality of the operation, previously estimated at 21 per cent., was too high. At the Birmingham hospitals during the last ten years this operation had been performed eight times, all the patients recovering.—Mr. **STANLEY BOYD** said that a few weeks ago a man, twenty-five years of age, was admitted under his care to Charing-cross Hospital on account of a large sarcoma in the left axilla of about the size of two fists. As it did not appear to involve bone an attempt was made to extirpate it, but owing to its involving the axillary vein and brachial plexus this was found to be impracticable. The patient therefore gave his consent to the complete removal of the upper limb by Berger's method and this was done a few days ago by Mr. Boyd. Some slight modifications were necessary. The axillary vein was not well exposed by the resection of the middle third of the clavicle, as Berger recommended, and almost all the inner third had to be removed. There had been no unpleasant symptoms except some pain on movement of the head and some tenderness and swelling about the transverse processes of the cervical vertebræ. Mr. Boyd thought that probably this was because the arm was not sufficiently supported during the operation, so that for a time it hung by the levator anguli scapulæ. In a paper recently read by Mr. Clinton Dent before the Royal Medical and Chirurgical Society he had drawn attention to the importance of dividing the brachial plexus early in the operation and so diminishing shock. This was not nearly so great as would be expected. On one occasion he had amputated at the shoulder when he thought that Berger's operation ought to have been done, but he was then unnecessarily afraid of shock.—Mr. W. G. Spencer said that it would always be necessary to modify Berger's procedure to meet individual requirements. Several years ago he had brought before the society a case in which he had performed Berger's operation. The case was one of cystic sarcoma and he had found, like Mr. Stanley Boyd, great difficulty in getting at the axillary vein and he had to remove the greater part of the inner third of the clavicle. He had to modify his flaps as the skin was involved and to take skin from the front of the arm. Except that part of the flap died the wound healed well and there was no shock from the operation. In one of the cases which had been mentioned there had been involvement of a gland. He thought that this occurred more often in cases of sarcoma than was usually described, as a rule in rapid and malignant cases. He mentioned a case in which he performed amputation for a large sarcoma of the lower end of the femur. There was considerable involvement of the glands in Scarpa's triangle, which he cleared out at the time of operation. Ten months later the patient was well and free from recurrence.—Dr. Kingston Fowler asked whether there were any signs of collapse of the upper lobe of the lung at the time when there were fever and an increase of the pulse-rate and respiration rate or whether such a complication had been recorded in any of the published cases.—The President asked if this operation had not been performed many years ago. He thought that it had been done by Cheselden a century and a half since.—Mr. Barling, in reply, said that the difficulty of securing the vein through the opening made in the clavicle led him after ligaturing the artery in the first place to secure the vein lower down in the anterior flap. It was quite true that most of the clavicle had to be removed if one was to expose the vein satisfactorily, but owing to the special risks of operation in this position he thought it best to secure the vein in the way he had described. There was nothing in the physical signs to suggest collapse of the lung, but there was some pneumonia. Although the operation had been done by earlier surgeons, Berger had the credit of being the first to lay down definite directions about procedure.

Mr. Bidwell related a case in which he had performed Ileo-Sigmoidostomy in order to close an Artificial Anus at the Umbilicus. The patient, a man, aged twenty-eight years, had been admitted into the West London Hospital with obstruction from stricture in the splenic flexure. Considering that the tumour was malignant and its removal was impossible a colotomy of the transverse colon was performed with complete relief of the symptoms. After six months the patient wished to have the colotomy wound closed as the fæces were always semi-liquid and were practically always coming away. As the colotomy had been done by Mr. Bidwell's method, in which the colon is completely divided and a bridge of skin made between the two openings, no local operation for closing the artificial anus could be done, so the abdomen was opened again and the ileum united to the sigmoid flexure by lateral anastomosis according to Halsted's method. After the operation about one half of the fæces passed per rectum and the remainder by the colotomy opening. Two months later, in order to drain the whole of the contents through the anastomotic opening, the abdomen was reopened and the portion of the ileum between the cæcum and the anastomosis was divided transversely and the two ends were invaginated on themselves. This proceeding was completely successful. The patient seems now quite well and as the growth in the splenic flexure has decreased in size it was suggested that the original mischief was inflammatory and not malignant. Mr. Bidwell suggested that as the comfort of the patient after an ileo-sigmoidostomy was so much greater than after a colotomy the operation was preferable in cases of irremoveable tumour of the ascending or transverse colon. He also recommended the operation in acute obstruction in these regions. He had performed ileo-colostomy recently in the case of a woman, aged sixty-six years, with obstruction by irremoveable growth in the cæcum, with an entirely satisfactory result.

Dr. Buzzard and Dr. Risien Russell related a case of Acute Ascending Myelitis with an account of the bacteriological examination. A man, aged thirty-six years, came under the care of Dr. Buzzard at the National Hospital for the Paralysed and Epileptic with the following history. His illness began with weakness of the left leg a month before he was seen, the right leg became similarly affected, and difficulty in passing urine was experienced. Ten days before admission he suddenly lost the power in both legs and control over his bladder. Numbness spread up the legs to the trunk, he experienced pain between the shoulders, and slight weakness which existed in the arms became much worse the day before he came to the hospital, when he also had slight difficulty in swallowing. A gleet existed six months before he was admitted to the hospital and he contracted syphilis six months before that. On admission there was complete flaccid paraplegia without dropping of the feet and the muscles of the abdomen and the thorax were paralysed. There was marked weakness of the hands without affection of the other segments of the limbs on the left side, but with weakness of flexion at the wrist on the right side. Respirations were diaphragmatic. The discs and fundi were normal. Anæsthesia and analgesia were present as high as the first intercostal space and along the inner side of both arms to the styloid process of the ulna. There was an acute bed-sore on the buttocks. The knee-jerks were absent. There were overflow and incontinence of urine. The heart and lungs were normal. The pulse was 102 and the respirations were 32. The temperature was 102° F. The day after admission weakness extended to all movements at the wrists and anæsthesia spread so as to involve the right hand with the exception of the thumb and radial border, while on the left hand the third and fourth fingers were alone involved. A day later the triceps became weak on both sides; there were hiccough, abdominal distension, and incontinence of fæces. On the afternoon of that day the temperature rose to 103·4°, and by the evening both arms were completely paralysed. At 1 A.M. on the third day after admission respiration was more feeble, he became cyanosed, and there was œdema of the lungs. Death resulted a quarter of an hour later. Vigorous anti-syphilitic treatment was carried out and was supplemented by injections of strychnine without any effect. At the necropsy marked meningo-myelitis was found, apparently most intense in the lumbo-sacral region of the spinal cord, but existing throughout the cord, the meningitis extending to the base of the brain and along the lower part of the convexity of both hemispheres. On section the cord was found to be greatly engorged, softened, and with numerous hæmorrhagic extravasations. The spleen, though considerably enlarged, was firm. The lungs were engorged and œdematous. Subsequent microscopical examination of the central nervous system confirmed the existence of pronounced meningo-myelitis; but the changes in the cord were found to be more marked in the cervical region than in the lumbar, this being contrary to what appeared to be the case on macroscopic examination. A diplococcus was found in the exudation in the meninges and in the substance of the cord. Pure cultures of the same organism were obtained on artificial media. It grew well at a temperature of about 38° C. on different media, including blood serum, and grew exceedingly slowly in gelatin at the temperature of the room. It proved to be markedly aerobic with very little anaerobic properties and did not liquefy gelatin. The diplococcus stained by the ordinary aniline colours and was decolourised by Gram's method. It proved pathogenic to mice and guinea-pigs, death resulting within twenty-four hours after inoculation; but a cat survived for a week, at the end of which time it was killed by an overdose of chloroform. Dr. Buzzard and Dr. Risien Russell regarded the patient's illness as due to the action of some infective agent, and that it was probable that the presence of the diplococcus was not accidental, but that it was intimately associated with the etiology and pathology of the disease; they, however, considered that in the present state of knowledge of this subject it was better to record the occurrence of the diplococcus in association with the meningo-encephalitis without speculating too much as to the possible or probable significance of the association. There were many points in common between this diplococcus and the diplococcus intracellularis of Weichselbaum and that found by Still in association with posterior basic meningitis of infants. Attention was called to the want of uniformity in the bacteria found in cases of acute ascending paralysis and to the lesions which have been found in the nervous system in these cases, varying from no detectable morbid change to the most profound alterations, as in the present case, the former group rapidly becoming smaller with the introduction of improved methods of detecting minute changes in the nerve elements. From the clinical evidence alone it was clear that the present case belonged to the class of cases of acute ascending myelitis rather than to the group of so-called Landry's paralysis. In the latter class of cases sensibility, if present, was slight, while in their case there was complete anæsthesia and analgesia over a wide area. The acute bedsore was of similar diagnostic significance, as was the affection of the sphincters, though to a less degree.—Mr. SPENCER asked if there was supposed to have been any connexion with the previous attack of gleet or if diplococci had been found in the urethra. He mentioned a case in which he found the same diplococcus in the urethra, the joints, and the conjunctiva. It was important to try to find out the point of entrance of the poison. Similar ascending paralyses had been seen in hydrophobia and after surgical procedures.—Dr. G. F. STILL said that the diplococcus described by Dr. Buzzard and Dr. Russell differed in several important respects from that which he had found in cases of posterior basic meningitis, in growing better on blood serum, in growing at all on gelatin, and in having been shown to be lethal when injected under the skin of a mouse. Inoculations from his bacillus on various animals had been absolutely innocuous. He asked as to the size of the organism. In one case of meningitis in a syphilitic child he had isolated an unusually large diplococcus. He asked whether organisms were found in the substance of the cord as well as in the membranes.—Dr. BUZZARD, in reply, said that the merit of the pathological investigation rested entirely with Dr. Russell. He referred to the case brought before the society four years ago by Dr. Mott of acute infective neuritis due to a diplococcus. In that case Dr. Arkle injected filtered cultures into animals with absolutely negative results. The case brought before the society that night was quite distinct from Landry's paralysis, in the presence of anæsthesia and of sphincter troubles. The serious condition of the patient precluded any investigation of the electrical reactions of the muscles.—Dr. RISIEN RUSSELL, in reply, said that unfortunately at the time of the necropsy he was unaware that there was a history of gleet and consequently no examination of the urethra was made. The diplococcus was found in the substance of the spinal cord in stained sections. The diplococcus was a small one, closely resembling Weichselbaum's in appearance. He had lately examined another case of infective myelitis in which he obtained cultures from the cord substance, but not from the membranes.

ÆSCULAPIAN SOCIETY OF LONDON.

Tuberculous Disease of the Os Calcis and Astragalus; Syme's Amputation.—Sarcoma of the Upper End of the Ulna; Amputation.—Premature Labour.—Myelitis.—Recurrent Popliteal Abscess.

A MEETING of this society was held on March 25th, the President, Dr. B. G. MORISON, being in the chair.

Mr. J. MACDONALD BROWN showed a Foot removed by Syme's Method from a boy on account of Tuberculous Caries of the Calcaneo-Astragaloid Surface secondarily to removal of the Calcaneum Subperiosteally.

Mr. J. MACDONALD BROWN also showed a specimen of Sarcoma connected with the Periosteum of the Upper End of the Ulna of a man aged seventy-six years. The growth appeared two months after a fall on the elbow and was then of the size of a Barcelona nut. Fourteen months later it was of the size of half a small orange. A circular amputation through the lower third of the humerus was performed. The man at the fourth day was doing well.

The PRESIDENT read notes of a case of Premature Labour in a patient, aged thirty-six years, anæmic, neurotic, inclined to be alcoholic, who suffered considerably from abdominal pain during the pregnancy. At six and a half months she was found to be vomiting, with abdominal pain, cold extremities, a pulse scarcely perceptible with a rate of 130 per minute, and collapsed. From this she rallied. Spontaneous delivery took place in sixteen hours. For the next six days there was a moderate pyrexia, the highest record being 101·8° F. From the third to the seventh day vomiting was very obstinate, but yielded to bromides, bismuth, and antipyrin.

Dr. E. F. WILLOUGHBY read notes of a case of Myelitis in a man, aged twenty-four years, whose first symptom was retention of urine. On the third day there were complete paraplegia and tactile anæsthesia up to the buttocks and Poupart's ligament, with much pain in the left ilio-inguinal region increased by passive movements. At the end of the first week he seemed to be sinking. In the second week obstinate constipation and several large bed-sores developed, the temperature oscillating between 100° and 102° F.; he was then collapsed and the urine contained blood and pus. The temperature became normal in six weeks and in ten weeks the bed-sores were granulating; in twelve weeks there were marked atrophy of the muscles and rigid flexion of the legs and adduction of the thighs; tactile anæsthesia existed to the mid-lumbar region and umbilicus; there were night-sweats; the bowels acted daily involuntarily and unconsciously.

Mr. A. WOODWARD read notes of a case of Recurrent Popliteal Abscess in a man, aged thirty-five years, who was well till a week before admission at the Metropolitan Hospital. On admission he complained of pain about the knee, which he kept partially flexed. The temperature was 104° F. Some slight thickening was detected about the inner side of the lower end of the thigh, where was the scar of an abscess of three years previously. Six days later the scar bulged. Incision was made and 300 c.c. of pus escaped. No bone disease was detectable. The abscess healed rapidly.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

Exhibition of Cases.

AN ordinary meeting of this society was held on March 23rd at 20, Hanover-square, Dr. J. F. PAYNE, President, being in the chair.

Dr. PAYNE showed a case of Leprosy in a woman aged about fifty years. She was a native of Riga. The patient's face was very characteristic, as were also the velvety feel and the appearance of the skin of the limbs. There were no anæsthetic symptoms. There was no history of heredity. It was stated that fish was but little eaten in Riga and that this small quantity was nearly all taken from the river. The patient's relations apparently did not recognise the disease as one common in their neighbourhood, but in the remarks that followed upon Dr. Payne's introduction of the case Dr. ABRAHAM stated that he knew of 19 cases in or about Riga. He also gave his views as to treatment, giving his practical experience of the horse-serum treatment, and mentioning also Dr. Crocker's treatment by hypodermic intra-muscular injections of mercury.—Mr. PERNET stated his belief in the temporary relief afforded by the mercurial treatment. The patient is at present being treated at St. Thomas's Hospital by Dr. Payne with Chaulmoogra oil.

Dr. PAYNE also showed a man, aged forty-five years, suffering from persistent Erythema. The disease had existed for fourteen months. The face and hands were free from the disease, but the covered parts of the body were very conspicuously attacked. The lymph glands were enlarged wherever they could be felt. There was no specific history. When Dr. Payne first saw it he thought it was an early stage of dermatitis herpetiformis. The treatment adopted was quinine internally and sea-water baths locally. The treatment had been markedly successful.—Dr. A. EDDOWES suggested the name of erythema multiforme for the disease.

Mr. W. **ANDERSON** brought forward a case of Chronic Eruption on the Legs in a girl, aged twenty-four years. She had been previously shown before other societies. She was a delicate looking girl with a phthisical history and was born in India. The tubercle bacillus had not been found locally. She had been variously treated with no good results. He did not know what to call the disease, but he thought possibly it was erythema induratum (Bazin's legs) modified by scar tissue, or perhaps that it might be called lichen planus hypertrophicus.—Dr. **PAYNE** did not know what to call it.—Dr. **PYE-SMITH** thought it might be a tuberculous eruption and instanced the colour, the cicatrisation, and the occasional pustulation.

Dr. **ABRAHAM** brought forward several interesting cases: (1) Extensive Herpes Zoster in a man; (2) Eczema in a man; (3) Annular Impetigo Contagiosa in an infant; and (4) Lupus Erythematosus in a woman.

Dr. A. **EDDOWES** showed a case of Arsenical Pigmentation in a man.

Dr. **SAVILL** showed a case of Purpura in a young man.

Dr. **SEYMOUR TAYLOR** exhibited a case of Bromide Eruption in an infant. Bromide of ammonium had been given to relieve the irritation of teething.

Dr. F. **RUFENACHT WALTERS** showed a woman, aged about forty years, suffering with Myxœdema. She had been treated with thyroid tabloids from time to time with varying benefit.—Mr. **PERNET** suggested that there might be some connexion between the involution of the genital organs and atrophy of the thyroid; he gave many interesting reasons for his conclusions.—Dr. **SEYMOUR TAYLOR** and others also joined in the discussion.

Dr. **WALTERS** also showed a case of Lichen Planus.—Dr. **PHILLIPS-CONN** and Dr. A. **EDDOWES** remarked upon this case.

Dr. **WALTERS** also showed a case for Diagnosis.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Choledocho-duodenostomy.—Incipient Insanity.

A **MEETING** of this society was held on March 17th, the President, Dr. **SINCLAIR WHITE**, being in the chair.

Dr. **PORTER** showed a patient suffering from Progressive Muscular Atrophy of the Aran-Duchenne type beginning in the extensors of the forearms, subsequently involving the muscles of the thenar and hypothenar eminences in both hands, and lastly the left deltoid muscles. The patient was a dressmaker, aged only twenty-two years, who had been much overworked in the struggle for a livelihood.

Dr. **ARTHUR HALL** showed a case of Acquired Syphilis in a little girl aged three years. The child had been nursing an infant suffering from congenital syphilis from whom the infection had been received three months before, probably on the mouth.

Dr. **BURGESS** showed specimens from a case of Xanthoma Multiplex.

The **PRESIDENT** related particulars of a case of Choledocho-duodenostomy. The patient, a female, aged forty-four years, had more or less continuous pain and jaundice for eighteen months. The gall-bladder was adherent to the stomach and empty. At the end of the common bile-duct a calculus of the size and shape of a filbert could be felt. It could not be crushed or pushed into the duodenum and was removed through a transverse wound in the second part of the duodenum. The patient rapidly lost the pain and jaundice and left the hospital three weeks after the operation quite well.

Dr. **CLAPHAM** read a paper on Incipient Insanity. After calling attention to the fact that the most curable stage of insanity was that coming under the notice of the general practitioner Dr. Clapham proceeded to give directions for the management of early manifestations and pointed out where mistakes were likely to be made. He insisted on the necessity of early treatment and lamented the delay in seeking advice on the part of the relatives, and distinguished cases needing asylum care and those which might be safely treated at home. In conclusion, he recommended the introduction of an incipient clause in the Lunacy Acts Amendment Bill on the lines of the measure already obtaining in Scotland.—The **PRESIDENT**, Mr. **SNELL**, Dr. **PORTER**, Dr. **WADDY**, and Dr. **KEELING** made remarks.

BOMBAY MEDICAL AND PHYSICAL SOCIETY.

Ovariotomy.—Laryngitis following an Inoculation with Plague Preventive Serum.—Plague Experiences at Hubli.

THE usual monthly meeting of this society was held in the University Library on Feb. 4th, Surgeon-Major-General G. **BAINBRIDGE** being in the chair.

Surgeon-Major W. H. **BURKE** read notes on three successful cases of Ovariotomy performed at the West Hospital, Rajkot.

Dr. **THOMAS BLANEY** read notes of a case of Laryngitis following an Inoculation with M. Haffkine's Plague Preventive Serum.—The case was discussed by the **PRESIDENT**, Surgeon-Colonel **HAY**, Dr. **PEARSE**, Dr. **KALAPESI**, and Surgeon-Major **MONKS**, none of whom seemed to think that there was any definite connexion between the inoculation and the throat attack.

Surgeon-Captain C. H. L. **MEYER** read a paper on Plague Experiences at Hubli, where an outbreak of the disease had occurred in a block of railway chawls occupied by employés of the Southern Mahratta Railway Company; the block consisted of single-storied buildings occupying an area of about four acres and housed 1200 people in 350 tenements. He arrived there on Oct. 27th, up to which time there had been 7 cases with 5 deaths. His inquiries led him to the conclusion that the first case appeared about Oct. 10th. Every effort was to be made to stop this outbreak, which was the only plague spot in the whole of the large Dharwar district with its millions of inhabitants. A police cordon was drawn round the block of chawls, two hut camps were rapidly erected, and all the people were transferred to them. After the transfer of the people a good many cases continued to appear in one of these camps among Punjabis and Madrasis. A third camp was therefore run up rapidly into which these people were moved and two additional camps were subsequently constructed. Any camp the people of which remained free from plague for twelve days was placed under "partial" cordon—that is to say, the men in that camp were allowed to go during the day to their work in the railway workshops, the women and children remaining in the camp. All the inhabitants of the camp under partial cordon were required to sleep in the camp and they were not allowed to remove any of their effects from it. The last case of plague occurred in the hut camps on Dec. 13th and they were all declared free from plague and uninfected on Jan. 10th. Up to the date on which the paper was written—viz., Jan. 30th—there were no further cases. As soon as the chawls were evacuated the tiles were thrown into pits and all the combustible materials in the roofs were thrown down into the houses, where, after the addition of some kerosine oil, they were burned, the heat produced being so great that it was impossible to enter the houses for some hours after the fire had died out. The next step was to thoroughly drench the whole interior surface of the houses with 1 in 1000 perchloride of mercury solution. All rubbish was burned and drains and gutters and latrines were thoroughly attended to. The belongings of the people in the hut camps were subjected to repeated disinfection, old bedding and rags were burned, and upwards of 500 new blankets were given in exchange. The number of deaths from plague which occurred among the 1200 people who lived in the infected chawls was 35—namely, 9 before removal, 15 in the chawls and huts during removal, and the remaining 11 in the huts after removal. These chawls were just outside the limits of Hubli town, which, in fact, consists of two towns, the old and the new, with a total population of about 50,000, and arrangements had to be made for the prompt discovery of any cases which might arise. An elaborate system of house-to-house visitation was therefore organised and police were stationed at all the burial and burning grounds (about 18 in number) for the purpose of preventing any body being disposed of without a certificate. In deaths from illness of uncertain nature the diagnosis with respect to plague was arrived at bacteriologically. Two of the 9 cases that occurred in the town were non-bubonic and it would have been impossible to have come to a certain decision about them without a microscope, for both the patients suffered only from a severe remittent type of fever. In cases of doubtful illness, if the microscope gave no assistance, as, for instance, when there was no bubo or sputum, for the blood is of little value for the discovery of the plague bacillus till late in the disease, the patient was taken into the observation ward of the Plague Hospital Camp. Every house in the town in which a case occurred was completely unroofed and disinfected thoroughly. Nine cases of plague occurred in the town, the last of them having been on Jan. 9th, from which time up to Jan. 30th—the date of the paper being written—there was no recurrence.—The discussion on this paper was deferred till the next meeting.

Reviews and Notices of Books.

Twentieth Century Practice of Medicine. Edited by THOMAS L. STEDMAN, M.D. Vol. X., Diseases of the Nervous System. London: Sampson Low, Marston, and Co., Limited. 1897.

THIS tenth volume of the series deals with the diseases of the brain and commences with an able article by Dr. Joseph Collins which gives an account of the Anatomy, Morphology, and Functions of the Brain together with the diseases to which it is liable. Dr. Collins has after due consideration decided not to include cerebral hyperæmia and anæmia among the diseases of the brain, for while fully recognising that these conditions may exist as part of a more general disease he states that he has never yet been called upon or impelled to make the diagnosis of cerebral anæmia or of hyperæmia as individual clinical entities. Although their total exclusion may, perhaps, seem a strong measure we think it is, on the whole, justifiable, for although these conditions may occur sometimes, they have too often been assumed and used as a cloak for ignorance where the true nature of the disease was not obvious. The chapters on Cerebral Localisation are very full and contain abundant references to workers of all nationalities. In considering sensory localisation the author thinks that all pathological and psychological evidence tends to support the view that the cortex of the motor region is probably the principal seat of dermal and muscle representation and that the gyrus hippocampus and post-parietal lobes have no claim to this distinction, and we find that this view is later again supported by Dr. Sachs in his chapter on Tumours. In cases of cerebral abscess early operations are advised in every case in which the diagnosis can be made with reasonable certainty and in the absence of distinct localising symptoms the author thinks that, considering the frequency with which the temporo-sphenoidal and cerebellar lobes are affected, one or both of these localities should be explored. Probably this view is more advanced than that of most people, but in considering it the hopelessness of the case, if nothing is done, must be taken into account. The chapter on Multiple Sclerosis is good and stress is laid on the many variations of this disease. The subjects of Intracranial Hæmorrhage, Embolism, and Thrombosis are dealt with by Dr. Dana. Cerebral Hæmorrhage is not considered so fully as it might have been. With the exception of a brief allusion in regard to meningeal hæmorrhage we find no mention of conjugate deviation of the eyes and head, nor do we find any mention of "crossed paralyses," both of which may be important in localising the lesion. Dr. Sachs writes on Cerebral Tumours, and after discussing the various symptoms which they produce he draws special attention to the difficulties of diagnosis, especially between tumours and abscesses. With regard to treatment attention is very rightly drawn to the fact that too much reliance must not be placed on partial remission of symptoms which may occur during treatment, for remissions may occur with all kinds of tumours, and it has been shown over and over again that such temporary improvements are often fallacious and may lead to the postponement of surgical treatment until too late to be of any use. The author, after considering the advantages of medical and surgical treatment, discusses the question as to whether the results of surgical treatment have been such as to encourage the recommendation of surgical interference in many cases, and after a due consideration of the evidence he thinks that with care and attention far greater success may be expected in the future than has been met with in the past. Dr. Collins writes on Diseases of the Meninges and in alluding to the anatomy he divides the membranes into dura mater and pia mater; that which is usually called the arachnoid he considers to be the parietal layer of the pia mater and thus may be compared to the pleural and peritoneal membranes. In the diagnosis of the different forms of meningitis the importance of bacterial examinations, especially in cases of tuberculous origin, is emphasised. Epidemic cerebro-spinal meningitis is thought by Dr. Collins to be due to the diplococcus intra-cellularis of Weichselbaum rather than to the pneumococcus which many think to be the cause. Hysteria, Epilepsy, and the Spasmodic Neuroses are dealt with by Dr. Féré. The symptoms of hysteria are chiefly grouped under the heading of "Stigmata" which is the term applied to those which are more or less permanent paroxysmal phenomena and trophic disorders, and the nature and treatment of the disease are fully discussed. Migraine is treated under the head of "Partial Epilepsy." This disease is no doubt closely allied to epilepsy from a pathological point of view, but, considering its usual clinical course, we think it would be better to keep it under a separate heading. The symptoms, varieties and treatment of neurasthenia are fully discussed by Dr. Dana, who defines the disease as a chronic functional nervous disorder which is characterised by an excessive nervous weakness and nervous irritability, so that the patient is exhausted by slight causes and reacts morbidly to slight irritations.

Dr. Persling gives a good account of the disorders of speech and the methods which should be used in the examination of patients together with chapters on the Relations of Disorders of Speech to Insanity; the medico-legal relations of aphasia are also included. The volume concludes with an article on the Disorders of Sleep by Dr. Sanger Brown, in which will be found some interesting considerations concerning the nature of sleep.

This volume may be considered as a valuable addition to the library of those interested in neurology. It contains a copious amount of information gathered from a very large field of research, and the references which are given at the end of the different articles will prove most useful to those who wish to refer to the original articles.

Recollections of Thirty-nine Years in the Army. By Sir CHARLES ALEXANDER GORDON, K.C.B., Surgeon General. London: Swan Sonnenschein and Co. 1898. Price 12s.

IT may be said that in boyhood we live in the future, in adult and middle age in the present, and in old age life is mainly made up of our reminiscences of the past. The author of this volume has had a long and very varied experience; he has taken part in a number of notable and stirring scenes. His recollections of thirty-nine years in the army refer to, and in some measure embody, the events, political and military, of contemporary history in this Victorian age. Gwalior and the battle of Maharajpore, the Gold Coast of Africa, the Indian Mutiny, an expedition to China, the siege of Paris, Burmah and Madras, intercalated with brief notes of relatively short periods of service at home and observations during foreign travels *en route* to stations abroad, form a sufficiently wide geographical panorama. The impression left upon the reader is that, taken altogether, Sir C. A. Gordon's was a hard life, full of wear and tear, with the partings, sickness and domestic sorrows more or less incidental to the lives of all. To pass through such a career successfully and to reach an age when he can look back upon and recount its story is the best guarantee that Sir C. A. Gordon was endowed with a strong and vigorous physique and sound constitution as well as a good deal of mental energy. To a healthy and enterprising young fellow with a dash and love of adventure, to see the world, to witness or take part in the dramatic and chequered scenes of life with all its hardships and successes, to make enduring friendships under circumstances of sufferings and perils shared in common, to gauge the real and not the merely apparent merits of the rank and file and their leaders where officers and men fare alike, to be enabled to appreciate the very present help of true surgical and medical knowledge in times of need and to have an opportunity, at any rate, of attaining rank and titular distinction—how much more do such chances offer to some young medical aspirants than the dreary waiting in the overcrowded and congested avenues of civil life?

Although this book is too long and deals too much with details and too little with personal reminiscences and reflections, it is a good, earnest, and interesting work and is calculated to raise its author's work and services and those of the members of the medical service to which he belongs, in the public estimation. To any thoughtful reader it must be abundantly apparent how great are the responsibilities and the exacting, laborious nature of the work which medical officers are called upon to perform and how many the sacrifices which they have to make in times of war and pestilence. The author of these "Recollections" joined the army in 1841, during the first Afghan war, when military reinforcements on a large scale were being sent out from England. At that time candidates for the medical service were nominated for their appointments and joined at Fort Pitt, Chatham, where they underwent a training but received no pay and wore no uniform, although they paid their mess subscriptions and were subject to martial law. In May, 1880, he retired from the service as Surgeon-General in receipt of a "Distinguished Military Service" pension and in the Jubilee *Gazette* of 1897 he was announced as receiving the honour of a K.C.B., a titular honour which was well merited and which we hope Sir C. A. Gordon may long live to enjoy. The author deals but little with military medical matters of a scientific kind: indeed, he does so designedly, and we think rightly, for it was as a hard-working medical officer and good administrator that he will be best remembered. It would be impossible within the limits of space at our command even to refer to all the varied incidents and experiences set forth in these "Recollections." At page 28 a remarkable instance is given of an officer's fortitude, endurance, and self-control during the campaign in Gwalior in pre-chloroform days. As an illustration of how badly the soldier fared in the past it may be mentioned that prior to 1845 his regulation daily meals were only two; breakfast at 8 A.M., dinner at 1 P.M. In 1845 a tea meal at 4 P.M. was allowed. Notwithstanding the great advance which has been made in the feeding of the soldiers there still remains, we think, much room for improvement. The State has always fed its sailors better than its soldiers, and now that we require to raise a large number of army recruits it may be well to remember that young and growing men require good feeding and that a well-fed man is generally a contented man. Sir C. A. Gordon gives some useful information regarding the Gold Coast and an interesting allusion to "L. E. L."—Letitia Elizabeth Landon—the poetess who died at Cape Coast Castle in 1838.

As an illustration of the occasional opportunities afforded to medical officers for natural history pursuits it may be incidentally mentioned that Sir C. A. Gordon while on the coast of Guinea contributed something to ornithology. Touching the author's account of the Indian Mutiny we need not say much because the subject has been already so often and so fully written about. That portion of his experiences connected with the Azimghur field force and General Sir Edward Lugard is interesting. The descriptions of the Expedition to China in 1860–61 and the Siege of Paris are also well worth reading. As indicative of Sir C. A. Gordon's good sense and shrewdness we may *en passant* call attention to the rules which he laid down for conducting official matters and correspondence (p. 294). We glean from our perusal of these "Recollections" that the author is not altogether favourable to the short service system; that he approved of the old regimental and staff medical systems; that he did not altogether meet with that amount of consideration and urbanity to be desired from his own departmental heads; that he strove during his service to improve military matters hygienically and generally as he went along; and that he was laborious, painstaking and conscientious. We hope Sir C. A. Gordon's book may have the success which it deserves.

Nasal Obstruction: the Diagnosis of the Various Conditions causing it, and their Treatment. By W. J. WALSHAM, M.B., C.M. Aberd., F.R.C.S. Eng., Senior Assistant Surgeon and Lecturer on Surgery, St. Bartholomew's Hospital. London: Baillière, Tindall, and Cox. 1898. Price 7*s.* 6*d.* nett.

THIS is a closely-written work of 250 pages with index. The first 155 pages are devoted to diagnosis of the conditions which produce nasal obstruction. The author proceeds on a new plan which he adopts in his surgical teaching, working from the "known to the unknown," instead of first describing the disease and then discussing how it may be diagnosed from similar affections. This method is so unusual that it perhaps strikes a reader with undue force that the style of the first part of the work is a little complicated, and the constant references from one paragraph to the other make the book a difficult one to read as a connected whole. We may quote Section 6 on page 29 as an instance of what we mean:

> § 8. "The abnormal swelling or prominence that has been discovered has not the well-known gelatinous, grayish appearance of the ordinary mucous polypus, but is evidently connected with the septum, with the inferior or middle turbinal body, or is quite as evidently, so far as can be thus seen, separate and distinct from each; begin at Section 8, *Evident Swellings of the Septum*, or at section 66, *Evident Swellings of the Turbinals*, or at section 115, *Swellings, apparently distinct from both the Septum and Turbinals.* Again, the swelling may involve the nasal mucous membrane generally, affecting both the septum and turbinals; then turn to section 147, *General Swellings of the Nasal Chamber.* If, however, it is not clear whether the swelling, or what looks like a swelling, is septal, turbinal, or distinct from each, begin below at section 7."

There can be no doubt that this method of teaching may be useful in its own way for the class-room or for examination papers, but whether it would prove of equal utility to the busy practitioner examining a case of nasal disease is more difficult to assert with truth. The methods of examination of the nose are elaborate and thorough and Mr. Walsham does not confine himself entirely to nasal obstruction, for he also deals with the difficult subject of diseases of the accessory sinuses, as the antrum and the ethmoidal and sphenoidal cells—conditions often associated with the various forms of obstructive disease. The diagnosis of these conditions is notoriously vague and uncertain, and such proceedings as transillumination of the ethmoidal cells or catheterisation of the sphenoidal sinuses or the infundibulum, are obviously not much depended upon by so good a surgeon and anatomist as Mr. Walsham, and we think it a pity that he mentions methods which are apt to lead the investigator into the domains of speculative diagnosis.

In the pages devoted to treatment we read much that is instructive. The chapters are very full of information and most of, if not all, the ordinary methods in vogue receive full consideration. It is interesting to note that a surgeon of Mr. Walsham's experience has only comparatively seldom found it needful to remove the entire turbinated bones. In the sections devoted to naso-pharyngeal growths full information is given of the various operative procedures, and the author strongly disapproves of the "scraping method" for adenoids under gas, as being insufficient though commonly performed. With regard to the diagnosis and treatment of naso-pharyngeal conditions generally the author, we think, hardly lays enough stress on the importance of a thorough examination by the finger under anæsthetics. Much information of a reliable nature can thus be acquired regarding cases often of more than ordinary difficulty. Mr. Walsham is not a strong advocate of "flushing" the nose with antiseptic solutions, and he introduces a useful caution as to the inevitable dangers of the curette or forceps when used towards the roof of the nose in disease of the ethmoidal cells or sphenoidal sinuses. It is to be regretted that surgeons have hardly yet been able well to diagnose and treat these most difficult and dangerous conditions.

The author uses the term myxoma in reference to the ordinary nasal polypus. Some pathologists now assert that these growths are not myxomatous at all but composed of œdematous granulation tissue and dependent upon necrosis. This latter condition is one we should have liked to have seen discussed by a surgeon of Mr. Walsham's experience.

Pictures of instruments are introduced, but none of the anatomical points or pathological conditions mentioned in the text are illustrated. The value of the work as a clinical guide would be greatly enhanced by such additions if another edition be called for. The book contains a large amount of information and allowing for the peculiarity of style mentioned it may be read with great profit and advantage by all those especially interested in the surgery of the nose.

A Practical Guide to the Examination of the Eye, for Students and Junior Practitioners. By SIMEON SNELL, F.R.C.S. Edin., Ophthalmic Surgeon to the Royal Infirmary. With 88 Illustrations. Edinburgh and London: Young J. Pentland. 1898.

THE large experience of Mr. Snell at Sheffield has enabled him to place an unpretentious but very useful little book before the student. It contains in brief compass all that the student can be expected to master in the last year of his attendance at a medical school and will furnish him with sufficient information to enable him to know whether he can with fair prospect of success and with credit to himself undertake the treatment of a case or whether there are such dangers ahead as to render it advisable or prudent to obtain the opinion of an expert. In the introductory chapters the methods of examination in common use are described, as focal illumination, Placido's disc, of which good drawings are given representing its reflection from the normal and from a conical cornea; the mode of employment of the retractor, of Priestley Smith's keratometer, and of the electro-magnet which Mr. Snell has himself devised; and the measurement of the pupil and the reactions of the iris to light. Wernicke's hemianopic iris test is carefully given and is of great value in localising the seat of the lesion causing the hemianopia. It is that "if a beam of light cast on the blind half of the retina does not occasion contraction of the pupil the lesion is anterior to the corpora quadrigemina—i.e., at the chiasma or in the optic tract—but if reaction of the pupil ensues it is posterior to the corpora quadrigemina." The mode of examining the lens, vitreous, and orbit, and of determining the tension of the eye, complete the account of the external examination of the eye. As mydriatics Mr. Snell recommends the use of mydrin, which is a combination of ephedrin and homatropin, whilst another equally useful mydriatic is a combination of cocaine and homatropin. The two myotics in use are, as he notes, eserine and pilocarpine. The mode of employing the ophthalmoscope is the subject of another chapter, and is wisely, we think, given without any theoretical details and from a purely practical point of view. The methods of testing sight for form, light, and colour are discussed in full in another chapter and the last chapters are devoted to abnormalities of refraction, the field of vision, the movements of the eyeball and their anomalies, and simulated blindness, all of which are very clearly explained and capitally illustrated.

JOURNALS AND REVIEWS.

Journal of Applied Microscopy.—The first five articles of the February number of this new American monthly are as follows: Methods of Study of the Myxamœbæ and the Plasmodia of the Mycetozoa, by Howard Ayres; A Method of Preserving the Eye for Sectioning or for Demonstrating the Area of Acute Vision, by James Rollin Slonaker; Photography in the Biological Laboratory, by H. Munson; Some Methods of Determining the Positive or Negative Character of Mineral Plates in Conveying Polarised Light with the Petrographical Microscope, by M. E. Wadsworth; and Representative American Laboratories (No. I., Cornell University), by L. B. Elliott. The journal consists of 22 pages and is profusely illustrated; the price is 4*s.* per annum; the London agents are Messrs. Dawbarn and Ward, Limited, 6, Farringdon-avenue, E.C.

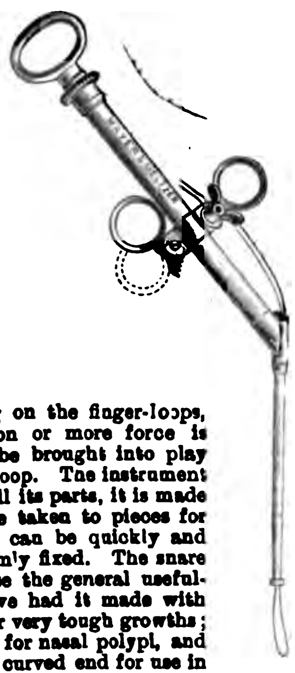
Écho du Bien.—Dr. A. Sandras contributes an interesting article on the late Dr. Péan, one of whose characteristics is said to have been that on country patients bringing him letters from their ordinary medical attendants he always seemed to be in agreement with the writer's opinions, a generous attitude which was meant to be, and no doubt often was, serviceable to his less celebrated colleagues. He was also a good friend to sufferers whose misfortunes were aggravated by scanty means and founded at his own cost the International Hospital in the Rue de la Santé for the benefit of such patients, from whatever country they might come. His wealthy patients, on the other hand, had to pay very high fees. He argued that for performing an operation which prolonged life he had a right to ask a remuneration equal to the patient's income for two or three years, and he adhered to this scale up to 1870 or 1871, after which time, being mortified by some of his patients neglecting to pay him, he insisted on receiving at least half his fee in advance. For coming to London to operate on a whitlow (panaris) he received, in accordance with a previous agreement, a fee of 20,000 fr. (£800).

The *Cornhill Magazine* for April has a delightful story in the pages of its "Private Diarist" to the effect that there was once a medical man in the country who attended in the usual generous fashion a country parson *gratis* until the time of his death. After this occurrence the disconsolate but thrifty widow wrote to the medical man asking him how much he would allow her for the empty medicine bottles. Mrs. Strachey has an article describing the training of housewives at the Manresa-road Polytechnic. What they are taught they are taught well, but we do not gather from the article that they are instructed in two arts in which the latter-day servant is notoriously deficient—first, how to make a bed—i.e., that it is not desirable to have two feet of blanket and sheet hanging down on one side and three inches on the other; and, secondly, the easily learned but apparently extinct art of how to set a candle.

New Inventions.

A NEW SNARE FOR NOSE, THROAT, AND EAR WORK.

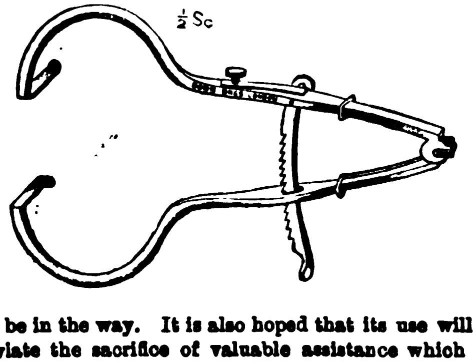
For many operations upon the nose and throat a snare is needed which can be tightened up either rapidly or slowly. In many cases, as for the removal of certain forms of enlarged tonsils, inferior turbinate hypertrophies, fibrous growths, &c., it is of great importance to be able to draw the wire loop rapidly tight so as to grasp the growth firmly in position and then to cut through it slowly. At the same time the snare must be strong enough and must carry a wire sufficiently thick to cut through the growth however tough it may be. I believe the snare here illustrated will be found to fulfil the above requirements. Its mechanism will be easily understood from the accompanying illustration. The wire loop is tightened at first by drawing on the finger-loops, and then when a slow action or more force is required a screw action can be brought into play by releasing the lower finger-loop. The instrument is very simple and strong in all its parts, it is made entirely of metal, and can be taken to pieces for cleaning, &c. The wire loop can be quickly and easily attached and is very firmly fixed. The snare works noiselessly. To increase the general usefulness of the instrument I have had it made with three ends: a strong barrel for very tough growths; a very fine end for aural use, for nasal polypi, and for other soft growths; and a curved end for use in the larynx and post-nasal space. I am greatly indebted to an engineering friend, Mr. Bingham, for much help and for designing the method by which the screw is brought into action, and to Messrs. Mayer and Meltzer, who have made the instrument for me.



H. Lambert Lack, M.D. Lond., F.R.C.S. Eng.
Welbeck-street, W.

SELF-RETAINING RETRACTORS.

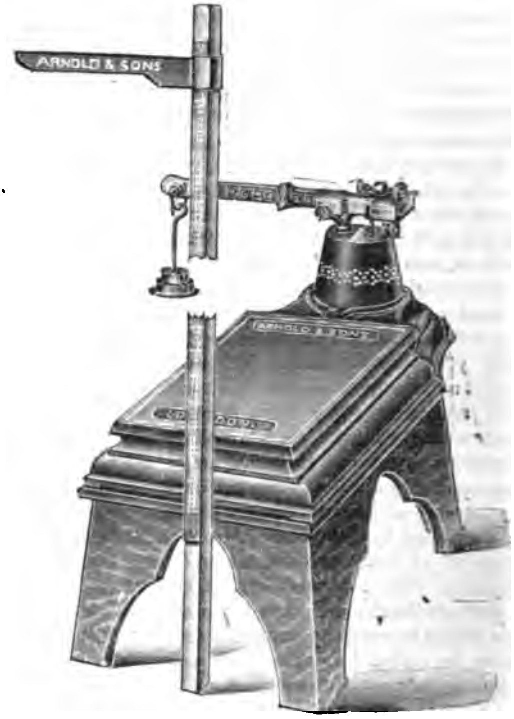
The instrument represented below is a pair of self-retaining retractors made at my suggestion by Messrs. Down Brothers. It is intended for use in such operations as tracheotomy, suturing divided tendons, removal of needles from the palm, and other operations where assistance is often difficult to get and when the hands of an assistant are apt to be in the way. It is also hoped that its use will tend to obviate the sacrifice of valuable assistance which often occurs when skilled hands are devoted solely to the mechanical purpose of holding open a wound.



Arthur L. Flemming, M.R.C.S. Eng., L.R.C.P. Lond.
Freshford, near Bath.

A NEW FORM OF WEIGHING MACHINE.

The illustration shows a new form of weighing machine made by Messrs. Arnold and Sons, London. The machine is so constructed that by a simple arrangement of a regulating nut any person can adjust the balance to the greatest nicety. All machines are liable through wear or otherwise to get out of order and this necessitates sending them to the maker for adjustment, but the manufacturers believe that much trouble and expense will be obviated by the simple nut arrangement introduced into the new machine. The machines can be supplied with or without the stand and measuring standard. They are simple in design, cheap, and reliable and will consequently be found useful adjuncts to the consulting room. They also have the advantage of occupying very little space and so can be put away under a chair or cupboard when not required.



Royal Institution.—The Dean of Canterbury, in the course of a lecture on the history of Canterbury Cathedral, delivered at the Royal Institution on March 25th, said that the life of the Canterbury monks in mediæval times was a very hard one. They were from 80 to 100 in number, they had to attend 7 services every day, and in winter time they suffered severely from cold, as they had no fires, and the cloisters were not glazed until a comparatively late period—namely, in the fifteenth century. They were also bled 5 times a year, after which operation they frequently had to go into the infirmary, and, in fact, a considerable proportion of them were constantly sick. The lecture was illustrated by views of the cathedral thrown on the screen and by a number of photographs on the platform which were inspected by the audience at the conclusion of the Dean's address. Among the photographs was a facsimile of a charter, a fine specimen of handwriting; it was granted by William the Conqueror and signed by him with his mark, which was somewhat in the shape of the symbol +, each of the lines being about half an inch in length. Queen Matilda also signed her mark beneath her husband's and many Norman bishops, together with one Saxon bishop (Wulfstan) and Hubert, the papal legate, wrote their names and titles in full. On the same evening, in the library of the institution, Mr. T. Charters White gave a demonstration of micro-crystals of hydroquinone and hippuric acid, a large number of which were shown under microscopes by polarised light, producing very fine effects.

THE LANCET.

LONDON: SATURDAY, APRIL 2, 1898.

WE congratulate the Army Medical Staff and the profession on the very successful issue of their controversy with the Government. The House of Commons on March 25th resumed the consideration of the Army Estimates and there was an interesting discussion on the vote for the medical establishment, the result of which was a declaration of the policy of the Government in regard to the Medical Staff and Service. It is notorious that for some time past the medical department of the army has been in a most unsatisfactory condition and that owing to its unpopularity it has been found impossible to fill the vacancies which occurred—indeed, the Director-General has quite recently applied to the medical authorities of one of the metropolitan hospitals for a certain number of young civil surgeons for the purpose of doing duty with the troops in the United Kingdom. There is no need now to refer at any length to the causes which have led up to this state of things. The feeling of discontent among the medical staff has not arisen from any matters in regard to their rates of pay or allowances, or in regard to any administrative reforms which were required, but mainly on a question of the medical officers' rank and status, on account of the medical service having been regarded as a department attached to the army rather than as an integral part of it and of the consequent want of that recognised army position which military rank alone, it is contended, can give, and which medical officers are justly entitled to hold. After the Crimean War medical officers possessed under the Warrant of 1858 what was called relative rank, but little by little this was interfered with and attenuated until in 1887 it was abolished altogether.

The late Mr. STANHOPE, when Secretary of State for War, went so far as to say that relative rank was a meaningless expression. But its abolition nevertheless took away the only army rank which medical officers had, and as a consequence very gravely affected their standing and position, because, as they rightly contended, they no longer held any defined, named, or comprehensive army rank like other officers. Combatant officers, it is alleged, even went so far as to affirm that medical officers had no rank and title. Attempts were made to set matters right by the introduction of compound titles, but these, apart from the cumbersome nature of such titles, have only proved futile. The medical service had in the meantime been reorganised and altogether reconstructed, and new and very enlarged duties and responsibilities had been imposed upon it. These necessarily entailed military command for their adequate fulfilment, especially on field service, and it was at last realised that the most pressing need of the medical service, without which the contentment and confidence of those within the service, or of the profession outside it, could not be restored, was the grant of army rank and military titles in a consolidated Army Medical Corps. Certain administrative reforms were also considered to be necessary. The Government has now yielded and made some most substantial concessions to the Army Medical Department, which will, we hope and believe, have the effect of vastly increasing its efficiency and of bringing back peace and contentment to all concerned. Mr. POWELL-WILLIAMS, in reply to Dr. FARQUHARSON, declared that the Secretary of State for War desired nothing more than that there should be a good understanding between the medical profession and the War Office. He was happy to be able to say that the Secretary of State for War was perfectly willing to give effect to the two proposals on which the greatest stress had been laid. As soon as the necessary arrangements could be made the medical service would be united and consolidated into what will be called a Medical Army Corps. As to rank and titles the War Office were ready to abolish the compound titles and to substitute for them up to the rank of Colonel those applicable to other branches of the service. There was a difficulty about the army title of Major-General, as that title implied a general command which was not asked for, but the Secretary of State for War had not yet given his decision in regard to this matter.

Mr. BRODRICK at a subsequent stage of the debate acknowledged the manner in which the Government proposals had been received, adding that one of the suggestions which had been made—namely, to attach medical officers to regiments—could not be carried out because it would entail the addition of at least sixty officers to the Medical Department. As regards a suggested alteration of the length of tenure of office by the Director-General, however, there seemed to him something to be said for it from the point of view of uniformity. Several members of the House of Commons took part in the discussion, congratulating the Government upon the concessions they had made. Sir W. PRIESTLEY, M.D., among others made an excellent speech, wisely urging that the smooth working of the new arrangement must depend in a great measure upon the wisdom and tact of commanding officers. It must of course depend upon HER MAJESTY's will and pleasure whether the new medical corps is to be called "The Royal Medical Army Corps," which we trust, however, will be the case. In the interest of the army generally as well as of the medical officers we sincerely share the hope so generally expressed that the substantial concessions, which include, as we have said, the formation of the medical service into a corps and the granting of purely military titles, may be the beginning of a new, as well as of a long and happy, era for the officers of the medical staff of our army.

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A CIRCULAR has been sent to us containing an appeal in favour of a movement to start a new departure in the way of hospitals—viz., to create a fund for building hospitals for the middle classes, who at moderate rates might find hospital accommodation in times of sickness. It is complained that "for such classes London with its boundless charities has as yet made no provision, for between paying from five to ten guineas per week for private accommodation in an ordinary hospital or private home or having recourse to the common ward so repugnant to people of independent spirit there is at present practically no alternative." The appeal is only for initial expenses, for the promoters believe that once started the institution would be self-supporting. Subscriptions are desired; those who are ambitious to be founders are desired to send their names with an intimation of their probable subscription.

We are asked in the event of our approval of this new adventure in charity to give it our blessing and the publicity of our columns. We have every wish to keep up with the most modern philanthropy of the day. We believe not only in the development of doctrine but of charity; but we must confess that we do not at all see our way to the approval of this movement. Our first objection to it is that it will seriously compete with the existing hospitals for support and add to their financial embarrassment. How great this embarrassment is we need not remind our readers. In the aggregate the deficiency which the managers of the voluntary hospitals of London have to face is something like £70,000 a year. Thousands of the poor, whose homes have not the conveniencies necessary in health and are entirely destitute of accommodation for the sick, either fail to find admittance or are prematurely discharged to make way for others whose stay is in turn hurried and curtailed. It will be time enough to commence a new series of hospitals for a new class of the community when charity has overtaken its first duty—that of providing for the poor.

But we will go further and say that we do not see the need for the institution, or rather institutions, proposed, for, though only one such is spoken of at this stage of the movement, we know how apt such enterprises are to grow in the hands of their ambitious founders. Surely we have enough hospitals already. At any rate we have more than can be maintained in full efficiency and in most of them wards have to be closed for want of funds. We have, besides, the Metropolitan Asylums Board hospitals, into which all and sundry are admitted without question and without regulations by the Local Government Board such as were contemplated by Parliament. We admire the simplicity and the confidence of the promoters of this movement who foresee that all that will be necessary will be the starting of the new charity. Once provide the buildings and the patients will provide the rest! Will they? Hospital accommodation is found to be a very pauperising thing to classes which do not require it. And we would forewarn the promoters of this new scheme that if they take into their unnecessary care the building of hospitals for classes which can, on the whole, care for themselves, the said classes will soon expect them to make their charity complete and find the money for maintenance and medical attendance as well as for hospitals. We challenge anyone to deny that this is the tendency of hospital charity in all who are not essentially in need of it. We do not, of course, say that there are not classes, or rather cases, in the middle ranks of life which are with difficulty accommodated at home in certain cases of accident or disease; but they are comparatively few and they are rapidly being met by the creation of private nursing homes where, on reasonable terms, the needed accommodation is supplied. This fact, coupled with the demonstration of the essentially demoralising nature of hospital charity to those who are able with a little study and prudence to provide for themselves, is, to our minds, a convincing reason for deprecating the scheme which we are asked to approve.

BY common consent there is no part of the management of tuberculous phthisis which yields such satisfactory result as that included under the head of "climatic treatment." In many a case subjected to this influence in an early stage, the malady has been arrested in its progress, and not a few have been permanently "cured," so far as it is permissible to use this term in reference to any disease. Not that there is any specific action of air and sunshine upon the bacillus tuberculosis, although even this may not be impossible, but mainly because the conditions which obtain on sea or mountain are such as to enable the sufferer to enjoy a plenitude of pure air, which acts beneficially upon the pulmonary disease as well as serves to invigorate and enable the body to resist the disintegrating influence of the tuberculous virus. In truth, the climatic treatment of phthisis has been shown to be of such material advantage and is, moreover, so much in harmony with what is known of the true nature of the malady that any plan whereby its essential benefits can be extended deserves most cordial support. For the vast majority of the subjects of pulmonary tuberculosis—an affection which is responsible for a large proportion of the mortality in this country—are unable by force of circumstances to undergo that treatment which is known to yield the best results and which far surpasses the most careful medication and the action of all the "specifics" which have ever been introduced. In his interesting and thoughtful Croonian Lectures delivered thirteen years ago Dr. HERMANN WEBER—justly regarded as a leading authority upon climato-therapeutics—dwelt earnestly upon the need of affording to the phthisical patient facilities for the enjoyment of an open-air life. He advocated the provision in connexion with sanatoria of means to enable this to be secured, and he dispelled the notion that the climate of this country was necessarily an insuperable drawback to the realisation of some such plan. Undoubtedly our insular climate, its variability and its dampness, together with the lack of sunshine during the winter months, may seem to render England by no means a suitable place for open-air treatment. But as a matter of fact this treatment has been effectively carried out under conditions of climate and soil quite as unsuitable *a priori* as those met with here, for the experiences of the sanatoria of Goebersdorf and Falkenstein are already sufficiently extensive to prove that it is possible to secure the benefits of this treatment apart from the best general climatic conditions.

Dr. BURTON-FANNING has been narrating in our columns[1] the results of his trial of the application of this treatment at a small sanatorium at Cromer. His article bears abundant testimony to the efficacy of the treatment as well as to its practicability, for although the treatment was conducted on a limited scale the evidence adduced by the records of the cases treated is too strong to be ignored. The additional and valuable testimony given by Dr. POTT from his experiences at Bournemouth, which will be found on another page, affords further proof of this practicability. These communications come opportunely, for attention has been directed to this subject in our columns and elsewhere of late—notably by Dr. WALTERS,[2] whose project for establishing in this country a sanatorium on the lines of that at Falkenstein has met with much approval. It is so eminently a rational measure of treatment that the fact of its being capable of successful adoption in our fog-bound island ought to lead to very marked results. If the plan can be adopted on the east coast with security and success what is there to prevent its equally successful adoption on the moorlands and on the hillsides, as well as at the health resorts on the coast which have an established reputation in tuberculous disease. Dr. BURTON-FANNING'S and Dr. POTT'S experiments are almost crucial. At any rate they enable the profession to take a broader view of the subject than it has hitherto done, for if in England we do not possess an ideal climate and are subjected to too much humidity and too little sunshine, there are compensating advantages to the invalid in the abrogation of the necessity of banishment from home in order to reap the benefit of pure air—which is the essential factor in the treatment. If under suitable precautions it is thus possible for the phthisical subject to dwell in the open air and yet to remain in his motherland—and these experiences prove that it is—then we may reasonably hope that the benefits of this treatment will through the material assistance of the charitable be in time brought to the denizens of our crowded cities and factories who are, under present conditions, subjected to the worst possible influences so far as their prospects of recovery from phthisis are concerned.

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[1] THE LANCET, March 5th, 12th, and 26th, 1898.

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AMONG the many important and difficult problems which of late years have come before the Council of the Royal College of Surgeons of England there have been few of more importance or of greater difficulty than that which was brought before them at their last meeting. A petition was presented, signed by some Fellows and Members of the College and emanating from the Corporate and Medical Reform Committee, which claimed that the right of electing a representative of the College on the General Medical Council belongs by the Medical Act of 1886 to the Members and Fellows and not to the Council of the College. We understand that no definite opinion was expressed by the Council and that the matter was postponed for further consideration.

This is, however, by no means the first time that the question has been raised—to whom belongs the right of choosing a representative of the College on the General Medical Council? and we believe that the last occasion was in March of last year when a requisition was presented to the Council, signed by thirty Members, for a meeting of Members in order to discuss certain subjects and amongst these was the question of the validity of the present mode of appointing a person to be a member of the General Medical Council. The Council of the College did not consider it necessary that a meeting should be held to discuss these subjects, and it therefore declined to accede to the request. Now, however, a further step has been taken. A petition has been presented to the Council, signed by nine Fellows and by thirty Members, claiming that the right of election belongs to the Members and Fellows. The petition evidently has been drawn up with extreme care and the terms in which it is couched are very temperate, though there is no lack of firmness in the manner in which the arguments are stated. The memorial commences by pointing out that the Act of 1886 constituting the General Medical Council (or, to give it its full name, the General Council of Medical Education and Registration of the United Kingdom) enacted, *inter alia*, that one member of the Council should be a "person" chosen by each of certain bodies and amongst the "bodies" enumerated was the Royal College of Surgeons of England. It is next contended that the "body" referred to must be the body-corporate of the College and no other and that the charter of the College of the year 1852 declares that the body-corporate of the College consists of the Members and Fellows, and therefore that the Council of the College, though the governing body and the executive body of the College, cannot be considered as in any way identical with the "body" of the Royal College of Surgeons of England. The petition consequently maintains that the appointment of a member of the General Medical Council made by the Council of the College is *ultra vires* and therefore illegal, and the petitioners call upon the Council forthwith to make all the necessary arrangements to enable the Members and Fellows of the College to elect a person to be a member of the General Medical Council in compliance with the provisions of the Act. We have given a bare summary of the arguments and statements of the petition, but it is sufficient to show that the petitioners have a reasonable pretext for the claims which they advance.

We will not venture to express any opinion as to the answer which the Council will give to the petitioners, or as to the tenability of the argument that the word "body" used in the Medical Acts is to be interpreted in the technical sense of "body-corporate." In the end, however, the matter will possibly come before a court of law, for if the Council should come to the conclusion that they have acted rightly in appointing a person to be a member of the General Medical Council, then the petitioners and other Fellows and Members of the College who share their opinions on this matter will naturally endeavour to obtain an authoritative answer to the question—to whom does the right of election belong. On the other hand, should the Council of the College be of opinion that they have indeed usurped a function to which they have no legal right, it is probable that they would hardly feel justified in relinquishing the powers which they have already exercised for forty years except under the mandate of a court of law.

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[2] THE LANCET, Nov. 20th, 1897, p. 1310.

Annotations.

"Ne quid nimis."

SANITARY CONTROL AND SUPERVISION OF PUBLIC WATER-SUPPLIES.

THE wheels of our legislative machinery move slowly and over and over again opportunities of reform afforded by the "psychological moment" have been lost owing to delay. Of few things is this statement more true than of matters sanitary and it is devoutly to be hoped that the lessons taught us by Maidstone, King's Lynn, Camborne, and other places will not be allowed to pass away into history without the lives which have been lost thereby proving of some use to the community. Are we to forget the teachings of these outbreaks and wait until another series of similar calamities reawakens the public conscience? or are we to take the bull by the horns and determine that this neglect of one of the chief necessities of our existence shall cease? To leave matters to the tender mercies of the water companies or to the neglect of some of our sanitary authorities is, as has surely been sufficiently demonstrated, to continue to live in a fool's paradise, and what we need is strong and vigorous action on the part of the central health authority. This authority is, we have reason to believe, determined that reform shall be brought about and in all new water Bills promoted by private companies it is insisting on the insertion of a clause giving power to medical officers of health to enter at any reasonable time upon the premises of the water company and there to inspect their methods and, if necessary, their gathering grounds. So far, therefore, so good. But as those private companies which at the present day are furnishing water to the public will in all probability continue to do so for some time to come it is necessary that the powers of entry to which we have referred be made applicable to existing companies. It is for this reason that we welcome the action of the Stockport County Council, the energetic medical officer of health of which, Dr. Charles Porter, has done so much towards bringing about a change of the law in this direction. This Council is inviting sanitary authorities throughout the country whose districts are supplied with water from private companies, as well as societies connected with the welfare of the public health, to adopt and forward to Mr. Chaplin a resolution similar to this: "That inasmuch as outside the metropolis, and except in regard to wells and pumps, sanitary authorities possess no executive powers for the protection of public water-supplies in the hands of water companies, whereas the consumers of flesh, milk, and other foods are safeguarded by statute, we earnestly recommend that legislation be initiated whereby every sanitary authority supplied by a water company which is not also a sanitary authority be empowered to authorise any duly appointed official to enter, inspect, inquire, and take samples, at any part of any source, or works of water-supply, or water purification, at any time by day or night, and whereby also such water company be required to afford all reasonable facilities and information for such inspection, inquiry, or sampling." This resolution is, it appears to us, couched in very reasonable terms and is one which might well be acted upon by the Government after Easter. Here is a proposal which is above all things eminently moderate and practicable and one which cannot be said to interfere unduly with vested interests or which need give rise to prolonged or acrimonious discussion in the House of Commons. We presume the words "any duly appointed official" are intended of necessity to embrace the medical officer of health, as this officer should, we consider, always have access to the works. And this brings us to a point of importance in relation to water-supplies which are the property of the sanitary authority. In not a few instances there is an element of friction introduced into the proper supervision of the water-supply by the fact that the borough engineer or surveyor, or whatever may be the correct title of the officer in question, claims, as it were, an exclusive right in reference to matters connected with this all-important aspect of local administration and he resents the presence of the medical officer of health on the gathering grounds or at the works. Such a position as this is fatal to the proper safeguarding of our water-supplies and it appears to us that a sanitary authority should always insist upon the medical officer of health systematically inspecting the works. One other point in conclusion. Much may be done by sanitary authorities throughout the country, but we should like to see an inspection of all doubtful supplies undertaken by the Local Government Board and the results of such inspections made known not only to the sanitary authority in question but also to the public.

INJURIES OF THE URETER.

MR. HENRY MORRIS, the Hunterian Lecturer at the Royal College of Surgeons of England for this year, has recently published in the *Edinburgh Medical Journal* an exhaustive paper on Injuries of the Ureter. This paper has a close connexion with the Hunterian Lectures (abstracts of which we shall shortly publish) their general title being the Origin and Progress of Renal Surgery. He confines his remarks to subparietal injuries, excluding penetrating wounds of which there is only one undoubted case on record, and obstetrical injuries which come for consideration under ureteral fistulæ. Twenty-three cases are to be found in surgical literature published as injuries of the ureter, but of these only eleven can be considered as injuries of the ureter proper, the remaining being cases of rupture of the renal pelvis or of the renal substance opening calyces and giving rise to extravasation of urine. These eleven cases fall into three classes: verified cases of rupture of the ureter (two cases), with extra-peritoneal extravasation and tumour in one and with intra-peritoneal extravasation but no tumour in the other; probable rupture of the ureter with extravasation (four cases); and contracted ureter with hydronephrosis, &c., possibly due to ureteral injury (five cases). The causes comprise forcible compression of the body between two hard objects, kicks from horses, the passage of a wheel over the trunk, falling down stairs, the bursting of a shell, and a violent jerk in jumping from a horse. When the ureter is torn through and the peritoneum remains intact (as it usually does) a tumour will sooner or later be formed by the accumulation of urine in the retro-peritoneal tissue, but if the ureter be not torn through but contused or otherwise injured a tumour will in course of time be formed consisting of one or other of the varieties of obstructed kidney—namely, renal abscess, pyonephrosis, hydronephrosis, or polycystic kidney. If the ureter be at once completely obstructed by blood-clot and remain so atrophy of the kidney will probably result. In two out of the eleven cases a communication was formed between the cavity containing urine and the large bowel. The symptoms of rupture of the ureter are not characteristic; for a time there may be only pain and tenderness and no indication in the urine of any injury. Hæmaturia may be entirely absent or it may be slight and transient. If the ureter alone be ruptured the hæmaturia is not likely to be considerable or prolonged, but slight hæmaturia or even no hæmaturia may occur in renal as well as in ureteral injuries. If one or both kidneys are seriously injured there may be incomplete or complete suppression of urine. Pain and tenderness at the part injured is a common immediate symptom. The pain may be referred to the loin, the front of the abdomen, the umbilicus, or to the middle of Poupart's ligament. This pain may pass off in a day or two and the patient may remain quite free till fresh pain is caused by the development of a tumour. Transient collapse and vomiting may occur. In some of the cases there was ecchymosis over the loin, the abdomen, and the inguinal region. If the patient survives a swelling will form due to a retro-peritoneal collection of urine or urine and blood or to one or other of the changes which supervene in the kidney. If of the former variety the swelling forms early, in a few days or weeks, but if of the latter only in many weeks, months, or even years. The tumour is usually well defined, palpable from the loin and front of the abdomen, and may extend from the thorax into the false pelvis. As soon as the fluid in the retro-peritoneal space decomposes inflammation, suppuration, or sloughing occurs with corresponding symptoms—viz., increased pain, redness of the skin of the loin, œdema of the abdominal wall, pyrexia, furred tongue, anorexia, and constipation or diarrhœa. Fluid drawn from the tumour before the occurrence of suppuration has the characters more or less pronounced of urine, but it is generally alkaline, of low specific gravity (1008 to 1010), and contains very little urea and probably a little albumin and blood; when septic changes have occurred it contains pus. On the other hand, when the tumour is formed by the kidney itself and a long time after the accident the case will probably be considered as one of the forms of renal enlargement and not at all in relation to injury of the ureter. The ideal treatment for rupture is immediate suture or anastomosis of the ureter, but this is usually impossible as the diagnosis cannot be made until some time after the injury. Puncture of the retro-peritoneal cyst has been adopted, but with uncertain result. A free incision in the ilio-costal space will secure the evacuation of the extravasated fluid. If the ureter is not completely torn across the experience afforded by operations for calculi afford grounds for the expectation of the cicatrisation of the wound and the re-establishment of the ureteral channel. The incision may be prolonged towards Poupart's ligament, passing a finger's breadth in front of the anterior superior iliac spine. It will no doubt be difficult to trace the ureter, but the search may be facilitated by remembering that it is carried forwards with the detached peritoneum, to which it is attached about half-an-inch or more external to where the peritoneum is tied down to the spinal column. But in none of the recorded cases has the site of the injury been ascertained and suture accomplished. If the rupture cannot be found the incision in the loin and drainage will give the most favourable opportunity for repair; there is abundant evidence that surgical wounds of the kidney, pelvis, and ureter will heal without sutures. If the ureter be completely torn asunder its ends should be anastomosed; if this cannot be done a permanent fistula in the loin is to be expected, which will save the integrity of the kidney. When suppuration has occurred its consequences may necessitate nephrectomy.

THE APPROACHING MEETING OF THE GENERAL MEDICAL COUNCIL.

THE meeting of the General Medical Council on Tuesday next will be in every way important. We do not remember any similar meeting in the history of the Council, called for such special reasons and in such a special way. Mr. Balfour's weekly encroachments on the time of private members make it possible that in this year, as in so many others, the forms of the House will lend themselves to the purposes of those who oppose all legislation on the subject of midwives' registration. But this possibility can in no way affect the duty of the General Medical Council, which has been asked, and asked again, "to favour the Lord President with any observations they may desire to offer thereon at the earliest possible moment." These are not words of form and they impose on every member a strong obligation to bring his best judgment to bear on the question with a view to its being settled. We learn with regret that Sir Richard Thorne Thorne has been disabled by influenza from being present at the last two meetings of the committee. It is to be hoped that the report will be in such a form as to raise the essential points of the subject in such a way as to facilitate their consideration by the Council. The time cannot be long distant when this question must be disposed of one way or another as far as the General Medical Council is concerned. On the score of expense to the Council it is no light matter. The approaching meeting is a striking proof of this, the members being called together for the special purpose of considering the Bill. It is true that the election of a President is another special business for the discharge of which the Council is summoned. But urgent and important as this is it could have stood over till the ordinary time of the May meeting of the Council. Much public and professional interest in the election is displayed. The fact is that the Council is becoming more and more important as a connecting link between the State and the public where medical matters are concerned and with the progress of civilisation the relations of the profession are constantly being multiplied and its importance increased.

THE RELATION OF THE CHURCH TO SANITATION AND TO VACCINATION.

AT a ruri-decanal meeting held recently at the town-hall, Ipswich, Mr. A. F. Vulliamy, the clerk to the Ipswich Board of Guardians, proposed, "That inasmuch as a low state of physical health is a fruitful cause of drunkenness, and overcrowding of immorality, it is the duty of the Church to endeavour to secure that there should be in every parish a plentiful supply of pure water, adequate drainage, and sanitary dwellings." Although this proposal is perhaps somewhat startling in character we cannot but regard it in a favourable light. To enlist such a powerful organisation as the Church, using this term in its broadest sense, into the service of public health, is to add to it no mean force. It is not within our province to discuss what is the duty of the Church, but on the grounds of natural law we are compelled to agree with Mr. Vulliamy that sanitation and morality are, in no small degree at least, convertible terms, and this being so it is surely in the interests of the clergy to promote whatever conduces to the spiritual well-being of the people under their care. Mr. Vulliamy's resolution would find its chief application in our rural districts, where water-supplies are notoriously defective and deficient, where drainage is often absent and the cottages are unhealthy and overcrowded. The influence of the clergy on the parish councils and the district councils should be very considerable, and if they devoted more of their time to public affairs the effects of their efforts would soon become apparent. Why, too, should they not preach from their pulpits the gospel of cleanliness? To preach morality to households where the rooms are overcrowded with both sexes is a thankless task, and how much better would it be to strike at the root of the evil and to remove the incentives to moral obliquity. So also with regard to vaccination, the clergy might do excellent service in teaching the people the essential truths as to its protective value. The clergy are a body of intelligent men, capable in the main of comprehending the value of evidence, and they could utilise some of their spare energies to good purpose by controverting the teachings of anti-vaccinationists. In the Jewish Church the Chief Rabbi has extended but little sympathy to those of his race who consider themselves bound to detest "the inoculation mania and all its works" and who think nothing "is more opposed to the spirit of ancient Judaism than the insertion of an animal disease in the human body." The Chief Rabbi has, indeed, replied to certain correspondents "that the most competent medical authorities were agreed as to vaccination being a prophylactic against small-pox and that its use was in perfect consonance with the letter and spirit of Judaism," and referring to the remarks of a certain Mr. J. H. Levy he appropriately observes that "Mr. Levy is not an authority on medical science; his opinions on the subject have therefore no value." As an illustration of what may be the power of a clergyman in educating the public mind it may be narrated that on one occasion a Local Government Board Inspector who was despatched to assist in suppressing an outbreak of small-pox was asked by the vicar of the parish in what manner he (the vicar) could aid matters. The reply was, "Preach vaccination and revaccination." On the next Sunday the vicar obeyed his directions, and the result was that his parishioners came in shoals to the vaccination station to be protected against small-pox.

IMMUNISATION AGAINST DIPHTHERIA.

ALTHOUGH Behring's antitoxin is now used throughout the world as the most powerful remedy against diphtheria it is comparatively seldom given for immunising purposes. In the children's department of the Charité Hospital in Berlin, however, where formerly patients sometimes took the disease owing to the want of efficient isolation, the systematic employment of immunising injections was introduced three years ago. Since January, 1896, the patients have even received injections every three weeks, the effect being that since that time no child treated there for any other disease has contracted diphtheria. This fact is the more remarkable because Dr. Slawyk has stated in the *Deutsche Medicinische Wochenschrift* that diphtheria bacilli were found to be present in the mouths of 24 out of 100 children who were examined during five months. In order to ascertain whether the immunity was due to the injections or to some other influence the injections were stopped in October, 1897. Shortly afterwards—namely, in the first days of November—a patient, three and a half years of age, who had been admitted into the hospital for Bright's disease on Oct. 20th, suddenly became feverish, but a diagnosis could not be made until Nov. 10th, when well-marked croup was developed. As there were then numerous diphtheria bacilli in the sputum an injection of Behring's antitoxin was given, but the child died on the following day. One day afterwards two other children in the same ward, whose beds had been near that of the child above mentioned, were seized with typical diphtheria of the pharynx, but were immediately treated with antitoxin and recovered in a few days. Another case was that of a convalescent from measles on whom an immunising injection had been performed on Oct. 13th. The patient ought to have been discharged from the hospital on Nov. 3rd, but the mother did not come to fetch the child. On Nov. 6th a well-marked attack of croup developed, diphtheria bacilli were found in the sputum, and an injection of 2000 units of antitoxin was given, but the child nevertheless died on Nov. 14th from broncho-pneumonia. It could not be ascertained how the first child had caught the disease; the second and third were apparently infected by the first. The fourth child was infected by a visitor who had transgressed the regulations by previously entering the diphtheria ward. The immunity of this case did not last longer than three weeks—a fact in accordance with Behring's statements and the observations of others. The failure of the antitoxin was owing in the last case to the great debility of the little patient and in the first one to the fact that the diagnosis was made somewhat too late. Since that time immunising injections have again been given to every child in the hospital every three weeks, with the result that no subsequent infection has occurred. Among 500 children 874 injections were performed, only those who were in a hopeless state being excepted. The only complications observed were eruptions resembling urticaria.

THE AFTER-CARE ASSOCIATION.

THE After-care Association, which does such good work in assisting poor persons who have been discharged recovered from asylums for the insane, has just issued its report for 1897. During the period of twelve months covered by this report 147 cases were brought before the council, as compared with 135 cases during the same period in 1896. Of these 147 cases 105 were females and 42 males. Assistance was given by boarding out in cottages in the country, by grants of money and clothing, by the finding of occupation, or by other ways as the council have thought best. No work of charity is, perhaps, more needed than that of this association, which is the only one of its kind in the country, yet financial support is urgently required in order that its excellent work may be carried on and extended. The income for the year 1897 was only £561 7*s*. 9*d*. and of this small sum £6 6*s*. had to be expended in auditing the books, a fee which has hitherto been paid by a friend of the association. A donation of £50 has been promised if the sum of £1000 can be raised during the present year and it is to be sincerely hoped that this offer may not be lost through lack of the support asked for. Communications should be addressed to the Secretary, Church House, Dean's-yard, Westminster.

THE MANCHESTER SEWAGE PROBLEM.

ON the rejection of the culvert scheme of the Manchester Corporation a sub-committee of the Rivers Committee was appointed in November last to inquire once more as to the best method of sewage purification. Various towns have been visited and many systems of sewage disposal inspected, and it is understood that their report—which was finally approved at a meeting held on March 9th—will be in effect a recommendation to the City Council to adopt land filtration on what is known as the biological system. There are various estimates of the cost, but they are generally much below that of the culvert scheme. If the sewage cannot be utilised on land and has to be turned into streams, as appears inevitable with the "water-carriage" method, the "biological system" seems to be making good its claim as the simplest and most economical as well as the most effective method of dealing with sewage. It is possible that the last improvements have not yet made their appearance, but in view of what has already been done at Barking in Essex, Sutton in Surrey, and elsewhere, under the guidance of Mr. Dibdin, and at Exeter, where the chief modification of the method is the addition by Mr. Cameron of the septic tank, it may be hoped that by-and-by Manchester will find its "sewage question" less of a puzzle and disgrace. At Exeter, according to the testimony of an eye-witness who recently inspected the sewage works, the effluent turned into the river is of a high degree of purity and insusceptible of secondary putrefaction. One of the most remarkable facts concerning this method is that 'sludge" is almost entirely done away with. Sanitarians will wait with interest the report of the Royal Commission. An instructive illustration of what is done at present was afforded by the evidence given at a recent inquest held in Manchester as to the death of a man employed by a calico printing company whose duty was to "superintend a pump that pumped dirty water out of a settling tank or culvert." A manhole led to the lower part of the culvert (which is thirty yards long) into which it was part of this man's duty to go and "stir up the mud." The poor fellow went into the culvert at an unusual time it seems, and while there a "kier" holding 300 gallons of boiling water containing caustic soda was "blown out" through a three-inch pipe into the culvert. As he did not appear at breakfast a search was made and the body, scalded all over, was found in the water. It was a horrible death—drowned and scalded; but the verdict was that it was accidental, and the man ought not, it was stated, to have gone into the culvert when he did. This mixture of mud and foul water is turned direct into the river as the pump will not "at present" pump it into the settling tanks. When the foreman was asked by the coroner how long they were going to pump this dirty water into the river he answered: "As long as we are allowed to do so, I suppose." Presumably this is an ordinary example of the way in which the law is evaded.

LODGINGS FOR THE SOCIAL OUTCAST.

WE have to congratulate the *Morning Post* and also the Church Army on the acquirement of the premises, 59, Millbank-street, S.W., for the "proposed construction and arrangement of the receiving home for those waifs and strays, the social derelicts, who may be brought in nightly from the Embankment." The house will also be used as a lodging-home for such waifs and strays as have been found worthy of charitable assistance. The occupants, for whom work may have been found through the agency of the Church Army, will pay for lodging at the rate of sixpence a night. So little real help has been extended to the poor social outcast that any scheme which will tend to lift him from the position to which he has fallen is to be encouraged, and though we have no details as to the precise construction of the home the name of a leading daily newspaper would seem to be a guarantee that it will be carried out on right lines. By right lines we mean looking after the moral and corporeal interests of those for whom the home is founded as distinct from the making of a profit out of the undertaking in order to carry on so-called spiritual work elsewhere.

JOINT DISEASE IN HÆMOPHILIA.

IN the *Bristol Medico-Chirurgical Journal* of January last Dr. J. E. Shaw has published the following exceptional case of joint disease in hæmophilia. A thin, cadaverous-looking man, aged thirty years, was admitted to hospital complaining of hæmaturia. Two of his brothers had died in infancy from hæmorrhage. When seventeen months old the patient was an inmate of St. Thomas's Hospital with swelling of the left knee which, he said, had burst. Some months later the right knee was affected. At five years of age the left knee was again attacked and a third time at the age of seven years. At eleven years of age he was struck with a stone on the right knee and the joint became much swollen; it was aspirated and blood was withdrawn. Shortly after this there was hæmatemesis and later epistaxis occurred. When seventeen years old he suffered from uncontrollable hæmorrhage from a wound of the thumb and after this from bleeding from the gums. At twenty years of age he had small-pox which was not at all hæmorrhagic. On admission the blood contained 55 per cent. of hæmoglobin and 4,000,000 red corpuscles to the cubic centimetre. There were bony enlargements of the elbows and knees, but there was no fluid in the joints. Movements were limited and caused a grating sound. In the knees marked "lipping" could be felt. Skiagrams of the joints showed a condition similar to rheumatoid arthritis. In addition to the permanent enlargement he suffered from frequent attacks of effusion around, and perhaps slightly into, the affected joints. These attacks were preceded by prodromata. Several hours before the swelling began there was a feeling of "pins and needles" in the fingers or toes of the limb and there was a feeling of heat in the joint. The condition usually passed off in two days. The patient had several attacks of severe left renal colic requiring the administration of morphia, followed by the passage of clots in the urine. Joint lesions in hæmophilia are but imperfectly described even in recent literature and have been sometimes mistaken for other diseases. This patient was supposed at St. Thomas's Hospital to have "white swelling" of the knee and the true nature of the disease was recognised many years later only on aspirating the joints. In the *Medical Record*, 1896, J. E. Summers, jun., reported a case in which an enlarged ankylosed knee occurring in a boy, aged ten years, was diagnosed as "quiescent tuberculous arthritis." The joint was resected and the patient died in twenty-four hours from uncontrollable hæmorrhage, the operator discovering too late that he was treating a hæmophiliac. It is noteworthy that chloride of calcium had no effect on the hæmorrhage in Dr. Shaw's case. In contrast to rheumatoid arthritis the hands and feet were not affected.

THE EPIDEMIOLOGICAL SOCIETY AND REVACCINATION.

THE Epidemiological Society has, it appears, taken up a very definite attitude with respect to the necessity for revaccination and they have recently forwarded to the President of the Local Government Board a resolution expressing their views upon this subject. The resolution runs as follows: "That this society, while noting with satisfaction the pronouncement of the Royal Commission as to the value of primary vaccination and the necessity for maintaining it, regrets that, although the report also brings forward conclusive evidence as to the value of revaccination, the Commissioners have not seen their way to recommend legislation which would place it on the same basis as primary vaccination." The position of the Epidemiological Society is undoubtedly a strong one and one concerning which the profession as a whole should speak with no uncertain voice; a want of unanimity is fatal. The political exigencies of the situation may preclude the adoption of revaccination by the Legislature, but it is the duty of the medical profession to tell the Legislature the proper course to pursue if they wish to control small-pox. Whether the public takes the prescription or not is an altogether separate issue; under any circumstances we are bound to prescribe properly. If the profession be asked what is the treatment for acute rheumatism they must prescribe not one-grain doses of salicylate of soda, but such doses as have been proved by experience to be efficacious. Similarly when we are called upon to prescribe for small-pox prevention we order, not primary vaccination alone, which has been sufficiently demonstrated to be insufficient for live-long protection, but primary vaccination coupled with revaccination. It is to be hoped that when the Vaccination Bill now before the House of Commons comes on for second reading there will be found among the medical representatives in that House those who will stand up boldly and tell the House what course it must adopt if it wishes to control small-pox. Whatever happens the prescription of revaccination will stand the test of time, and if the public are not yet educated up to this point the profession will at least be able to reply when the future has taught the people wisdom: "We prescribed this for you in 1898." The educated classes have long since adopted the proper precautions, and they in their turn should tell their weaker brethren what course they should pursue. How much longer in questions of prevention of disease is the tail to wag the dog? We hear, too, that the Epidemiological Society has had reprinted for circulation among Members of Parliament the admirable reply to the dissentient statement in the report of the Royal Commission on Vaccination which was read before the Society recently by Dr. J. C. McVail. We trust that those members of both Houses of Parliament who take an intelligent interest in the vaccination question will not miss the opportunity thus afforded them by the Epidemiological Society—with whose name, be it noted, the history of vaccination has always been honourably associated—of ascertaining what are the facts of the case.

ELECTION OF PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE tenure of office of the President of the Royal College of Physicians of London is technically for a year, the by-laws ordaining that on the "day following Palm Sunday" in each year the Fellows shall assemble to elect from their number without previous nomination or proposal one who shall preside over the College for the ensuing twelve months. It is very long since the College thought fit to change its President with the frequency that is legally permitted to it and there can be no doubt that the present much-esteemed holder of the office will next Monday be again chosen to fill the chair which he has occupied with such dignity and impartiality.

CERTIFICATION OF DEATH.

IT has frequently been our duty to criticise irregularities and shortcomings in the matter of death certification. Recently our attention has been drawn to a point of considerable importance as regards the interpretation to be put on Section 20 of 37 & 38 Vict. cap. 88, which says: "In case of the death of any person who has been attended during his last illness by a registered medical practitioner that practitioner shall sign and give to some person required by this Act to give information concerning the death a certificate stating to the best of his knowledge and belief the cause of death." The question may be studied from its legal and ethical aspects. It seems to us that the law is quite explicit; not only granting as a privilege but demanding as a duty the giving of a certificate of death by a duly qualified medical man who has attended on a person in his last illness. This, of course, is subject to the condition that such medical man has no reason to doubt that death arose from natural causes. The words "to the best of his knowledge and belief" leave considerable latitude to the medical attendant. It is not necessary that he should be fully conversant with all the symptoms and morbid signs incidental to the fatal disease, or even that from personal examination he has proved the fact of death itself. That being so it is clear that any attendance, however short, is sufficient to qualify for certification. Obviously it allows a loophole for abuse, but on the other hand it would be impossible to define the nature and duration of medical attendance necessary to qualify for certification. Furthermore, we are of opinion that the legislature evinced a creditable acknowledgment of the honour and probity of our profession in leaving to its members much discretionary power as a fringe to an incumbent duty. But there is beyond the legal reading of the statute an unwritten code of professional etiquette and good feeling. Take, for example, such a case as the following: A has been the regular medical attendent of a patient and has continued his attendance to within a very short period of the death. For some reason or other B is called in a few hours before the decease. Now whilst B has a perfect legal right to certify—and it must be granted he has adequate medical knowledge of the case to reasonably entitle him to do so—we hold that unless there were very strong grounds for abstention he ought to consult A before giving a certificate. It would leave him exonerated if any mistake arose, besides showing him possessed of that kindly feeling which one professional man should have for another.

THE DIMINISHED RUSH INTO THE MEDICAL PROFESSION.

IS it safe to assume that at length the somewhat wild rush by young men into the medical profession is to be moderated? We ourselves do not mean to be rash in making this assumption. Meantime we take the facts for what they are worth, as recorded in the Medical Students' Register just issued. In the year 1897 the medical students registered were in England 828, in Scotland 504, and in Ireland 210. There was a decrease as compared with 1896 of 199. The numbers in 1896 again were less than those of 1895 by 97. We must go back 21 years, to 1876, for so low a registration number as that recorded last year—namely, 1479. The numbers have been several times over 2000, as in 1879, 1880, 1881, 1889, and in 1891, when they reached the appalling number of 2405. Since 1865, the commencement of students' registration, 50·15 per cent. of the total number of registrations have been in England, 30·5 in Scotland, and 19·5 in Ireland. The diminution last year was proportionately greater in Ireland than in Scotland or in England. We cannot affect to regret the signs of arrest in this rush into the profession. Medicine is not improved by crowds competing for a livelihood.

THE PETROLEUM INQUIRY.

THE Select Committee of the House of Commons which was appointed to inquire into, and report upon, the sufficiency of the law relating to the keeping, selling, using, and conveying, of petroleum and other inflammable liquids, and the precautions to be adopted for the prevention of accidents with petroleum lamps, has resumed its sittings under the presidency of Mr. Jesse Collings in the place of the late Mr. Mundella. The inquiry has now lasted for nearly four years, but there is distinct indication of the proceedings terminating before very long and of a report being issued. At the last meeting the committee decided to hear the evidence of one witness only, and that a very important witness, in the person of Sir Vivian Majendie, the chief inspector of explosives to the Home Office. Sir Vivian Majendie had been requested to draw up a report, the conclusions of which should be based upon the whole of the evidence taken. His deliberate conclusion is "that the laying down of a statutory description of petroleum might have dangerous exceptions and inconvenient consequences. Whatever regulations might be made with regard to sale, it was obvious that they would be useless without the inquisitorial right of entry of a private dwelling. The evidence was contradictory as to necessity or advisability and even as to the probable limit and efficiency of the standard." He advised "the prohibition of lamps of dangerous construction, preferring negative to positive action." Great elasticity should be allowed, he added, in order to keep pace with the developments of trade. It is now more than two years since THE LANCET Analytical and Sanitary Commission undertook a practical inquiry bearing upon dangerous paraffin lamps, and in the Commissioners' report, which appeared in THE LANCET of Jan. 4th, 1896, occurs the following sentence: "We would, therefore, most strongly appeal for legislation, with a view of placing some control over the construction of lamps sold in this country, and we should like to see an official lamp department created at once, the function of which should be to stamp lamps with the Government approval of construction before they are offered for sale." It is stated that the Committee has decided to hear no further witnesses.

THE CONVEYANCE OF ENTERIC FEVER BY OYSTERS.

IN a recent annotation in our columns we drew attention to the fact that the Brightlingsea District Council were smarting under allegations against the fair fame of the oysters from Brightlingsea Creek. At that time Dr. G. S. Buchanan was investigating on behalf of the Local Government Board a series of cases of enteric fever which might be found to have some connexion with Brightlingsea oysters, and we stated that if it were found necessary to raise a serious question as to the agency of these oysters in disseminating enteric fever such allegation should be supported by a sufficient chain of evidence. This chain of evidence has now been completed and we are indebted to Dr. Buchanan for its completion. His report to his Board deals in a thoroughly scientific spirit with the occurrence of certain cases of enteric fever in six sanitary districts of Essex and Suffolk and upon oysters in relation thereto. We shall deal fully with this interesting report in our next issue. On Wednesday last a strong deputation, including Mr. Gerald Loder, M.P., Sir William Priestley, M.D., M.P., Dr. Forman, L.C.C., and Sir. J. Blaker (the Mayor of Brighton), waited on Mr. Chaplin to urge upon the President of the Local Government Board the importance of some measure being introduced to prevent the contamination of shell-fish by sewage. Mr. Chaplin's reply was decidedly encouraging, as it contained more than a suggestion of a promise that "with regard to oysters at no distant date he would take action which would be satisfactory to the deputation."

VACCINATION AND ERYSIPELAS.

THE inquiry which has recently taken place before the coroner, Mr. A. Braxton Hicks, at Battersea terminated on March 27th, when the jury, after some deliberation, returned a lengthy verdict. The inquiry had been a thorough one and the coroner summed up the evidence in an impartial and sensible manner. In brief, the verdict amounted to a censure of the public vaccinator for adopting a system of vaccination whereby sufficient care was not exercised in the selection of the vaccinifer or in ensuring cleanliness in the operation. At the same time, by a rider the jury intimated that the conditions obtaining in public vaccination stations were not such as to conduce to adequate care and attention to details, and they urged on the Government to speedily pass into law their proposals for the amendment of the practice. Whilst finding that the deaths of the three children were due to erysipelas induced by vaccination the jury expressed the opinion that "the erysipelas and its results were due not to the lymph *per se* but to some latent mischief in the vaccinifer." The latter point is, perhaps, beyond proof, whilst upon the former the deliberate view of the jury is in direct opposition to an opinion proffered by one witness with an amazing amount of assurance. This witness was Dr. Walter R. Hadwen, who "has bacteriologically and microscopically investigated the subject of vaccination" and who further has given to the world his opinions in the form of "A Physician's Views on Vaccination." He was distinctly of opinion that the germ of erysipelas exists in calf-lymph and that the erythema and acute inflammation arising from a vaccine vesicle are always more or less erysipelatous. There can be little wonder that the coroner wished to be further advised on this matter, for if anything on which reliance can be placed has come out of recent investigations into the composition and action of vaccine lymph it is that the specific effects of vaccination are entirely dissociated from the action of erysipelas-producing germs and that the erysipelatous reaction is something perfectly distinct from, though when the conditions are bad often associated with, the vaccination reaction. Had Dr. Copeman's experiments with glycerinated calf-lymph proved nothing else than this they should have removed any doubt there may ever have been on this score, although the millions of vaccinations which have been carried out under cleanly conditions, without the occurrence of anything more than we should expect to see occurring in any superficial exposed wound, should be sufficient to demonstrate the inaccuracy of statements such as the above. It is not long ago that "healthy, laudable pus" was looked upon as almost an essential accompaniment to the healing of a deep wound; but we should not on that account in the present phase of surgical treatment lay ourselves out to obtain such pus during the process of healing. In the same way, though it may be admitted that erythematous and even erysipelatous complications may, owing to bad hygienic conditions, careless or improper dressing, and uncleanly conditions, have supervened before asepsis and antisepsis were thought of, there can in the present state of bacteriological and clinical knowledge be no excuse for the loose and irresponsible statements which are now made by many who should at least know better. Would any sane man at the present day contend that suppuration, erysipelas, or phagedæna is, any one of them, necessarily associated with accidental or surgical wounds simply because these conditions were of such frequent occurrence in hospitals in pre-antiseptic days? Are we not justified in asking the same question in connexion with vaccination and erysipelas?

TUBERCULOSIS AND THE PUBLIC HEALTH.

WE are glad to see that the question of tuberculosis as it affects the public health is receiving as much attention on the other side of the world as on this. The exclusion of all tuberculous persons from New Zealand is probably a counsel of perfection, but apart from such sweeping measures as this there still remain many things which might be done to lessen the scourge of tuberculosis. In the course of an interesting paper read before the Australasian Association for the Advancement of Science at Sydney in January, 1898, Dr. G. L. Mullins raised this question. He first of all gave statistics of the number of deaths from pulmonary phthisis and other tuberculous diseases, and he then referred to the cause of tuberculosis and quoted instances showing how it is communicated from the lower animals to man and *vice versâ*. The dangers arising from tuberculous milk and meat were pointed out and Dr. Mullins stated that it is the practice in Sydney to condemn the whole carcase even in cases where the tuberculous lesions are strictly localised. In making some suggestions for preventive measures Dr. Mullins laid stress upon the value of plenty of air and plenty of sunlight. He proceeded to give some excellent rules for the isolation as far as possible of phthisical patients and advised that phthisical children should not be admitted to boarding schools unless they could have separate rooms for sleeping in and provision could be made for the destruction of the expectoration. The paper concluded with some account of the climatic treatment and suitable places for carrying this out in Australia were mentioned, such as the western slopes of the Blue Mountains, the Riverina, and the great plains between the MacIntyre and Gwydir rivers. In conclusion, Dr. Mullins appealed for the coöperation of individuals of the community. "The public must be made to understand ...... that their lives depend to a great extent upon the actions of one another." These are sound words and the sooner the majority of people in all lands grasp their significance the better for the health of the world.

THE PHYSIOLOGICAL ACTION OF CHLOROFORM.

There is no doubt that in spite of the vast amount of valuable work which has already been done to elucidate the mode in which chloroform affects the body there are still many questions connected with its action which require further elucidation. Dr. Keefe[1] of Springfield, Massachusetts, published at the Berlin Congress, 1890, his criticisms upon the much-discussed theory of chloroform syncope. He has more recently issued a pamphlet in which he discusses some of the views recently advanced. Dr. Keefe contends that death in early anæsthesia, or as he prefers to call it "before complete sopor," is frequently caused by respiratory arrest while in later stages of anæsthesia death arises from cardiac syncope. This view is opposed to the commonly accepted idea that cardiac syncope may occur quite early, while arrest of respiration usually results from accumulation of the drug in the blood. Death in ordinary anæsthesia results, he thinks, from the action of chloroform upon the nerve endings in the lungs and principally upon the medullary centres rather than upon any direct action on the circulatory or respiratory organs themselves or upon the muscular fibre contained in them. Dr. Keefe has performed some experiments which lead him to believe that cardiac failure in the lower animals always occurs in the "post-soporous period." The fact that Dr. Keefe has not published details or photographic records of his tracings lessens the weight of these findings as against those of others who have arrived at contrary conclusions and have kept a careful record of their research. Indeed, it must be admitted that in the present stage of the controversy what is required is rather experimental work than *a priori* reasoning upon the conclusions of others. It is of great moment in all complex inquiries such as that which Dr. Keefe has undertaken that not only the conclusions should be in our hands but the full evidence upon which the conclusions are based. Dr. Keefe's views are distinctly interesting and novel and we shall welcome a fuller account of them, especially if accompanied with details of his experiments and reproductions from photographs of his respiratory and circulatory curves.

VACCINATION OFFICERS IN THEIR RELATION TO THE VACCINATION BILL.

There are few public servants whose lot is less to be envied than that of the vaccination officer in districts where vaccination is a dead letter and where the guardians refuse to support him. In not a few cases which have come to our notice the vaccination officer has received almost no remuneration in spite of the fact that he sends out the usual notices and performs other equally unpopular duties. He is paid by results, and where the guardians fail in their duty his reward is but small, while his post may be an intensely disagreeable one. Little wonder is it therefore that vaccination officers are anxious that under the new Bill this unsatisfactory state of affairs shall no longer be maintained and in their efforts we wish them success. It seems that these officers see difficulties in the way of postponing the age of vaccination to twelve months of age as they think that cases which have removed to other districts will not be so readily traced as under the present arrangements. Domiciliary vaccinations they regard with favour though they suggest the desirability of retaining a central station for each union. With a view to impressing these views upon the Local Government Board they are seeking an audience with Mr. Chaplin at which they will urge that their pecuniary position may be more clearly defined and that they should receive a satisfactory fee based upon the birth-rate of the district which they serve. Under any circumstances it is to be hoped that the utterly absurd position which these officers now occupy in certain districts may be put an end to. The secretaries of the Public Vaccinators' Association are Mr. V. A. Jaynes, 157, Jamaica-road, S.E., and Dr. A. E. Cope, 26, Bessborough-gardens, S.W.

The President of the Board of Agriculture received a deputation on Tuesday to protest against the exportation of decrepit horses to continental ports. Sir Howard Vincent, M.P., who introduced the deputation, gave evidence as to the extraordinary growth of the trade in recent times and Lady Burdett-Coutts and Sir George Measom supported his arguments. Mr. Walter Long promised that his department would lend every assistance to the humanitarian efforts of the deputation and of the Society for the Prevention of Cruelty to Animals.

The deputation from the various institutions interested in the London University Commission Bill was received by both sections of the metropolitan Members at the House of Commons on Monday last, many of whom expressed their cordial approval of the Bill. Dr. F. Taylor, Dr. Allchin, and Mr. Stanley Boyd represented the medical interests. Mr. Balfour intends to take the second reading on the first Tuesday after the Easter holidays.

The annual mess of the Volunteer Medical Staff will take place at Limmer's Hotel on Wednesday, May 4th, when Sir Joseph Fayrer will preside. Volunteer medical officers wishing to be present should communicate with Surgeon-Captain Rory Fletcher, "Croome," Streatham-park, S.W., the honorary secretary.

We much regret to hear that the plague which has appeared at Jeddah is reported to be spreading. As the pilgrims are beginning to arrive this must be regarded as a serious matter and one requiring the prompt action of the European sanitary boards, to whom, it is alleged, the Turkish authorities seem inclined to leave the question.

The Parliamentary Bills Committee of the Manchester Medico-Ethical Association have petitioned the Duke of Devonshire in favour of the appointment of a dentist to serve as a Crown nominee upon the General Medical Council in the room of the late Sir Richard Quain.

H.R.H. Princess Christian of Schleswig-Holstein, accompanied by H.R.H. Princess Henry of Battenberg, inaugurated on Tuesday last the new Victoria Ward of the Foreign Hospital at Nice on behalf of the Queen.

At the Royal Infirmary, Newcastle-on-Tyne, Mr. Frederick Page has recently tied the external iliac artery transperitoneally for femoral aneurysm. We hope to publish the full notes of this rare operation.

H.R.H. the Duke of Connaught will preside at the Festival Dinner of St. Mark's Hospital to be held on Monday, April 25th, at 8 P.M., at the Whitehall Rooms of the Hôtel Métropole.

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[1] Chloroform and Ether, Boston, 1897.

IS A SMALL-POX HOSPITAL A NUISANCE?

THE case of Harrop *v.* the Corporation of Ossett (Yorkshire), which has occupied the attention of Mr. Justice Romer in the Chancery Court for four days, illustrates once more the difficulties which sanitary authorities have in providing hospitals for the isolation of small-pox. The Corporation of Ossett are the urban sanitary authority and they have for several years had a small, old-fashioned sanatorium nearly a mile outside the town for the isolation of their small-pox cases. About two years ago they burned the old building and built a new one to accommodate eight small-pox patients on practically the same site. Although the number of patients was not increased, and the conditions were not altered, this seems to have aroused the owners of the neighbouring land to the fact that their interests were being damaged by the small-pox hospital and they commenced an action for an injunction to restrain the authorities from using the hospital for the reception of small-pox patients. A valuable house belonging to the plaintiffs, who are trustees of the estate on which it is situated, is situated 200 yards from one corner of the hospital land. On the other side, a little nearer, is a rag or shoddy merchant's factory where an average of some ten hands for sorting rags are employed; and just within the quarter mile zone are some 100 cottages, though these are not within the 400 yards zone. The site was stated to be the most suitable that could be chosen in the neighbourhood and the question turned, as many similar cases have done before, on whether small-pox can spread through the air to the distance named. Many medical men were retained on either side to give evidence on this question of aerial convection. On behalf of the plaintiffs the following evidence was given.

Mr. SHIRLEY MURPHY expressed his strong opinion that small-pox was disseminated by aerial convection and thought it might travel under favourable circumstances to a distance of many hundred yards. He admitted in cross-examination that his views were founded more particularly on the study of other people's work.

Dr. EVANS of Bradford also gave evidence to a similar effect and mentioned his more recent experiences. In cross-examination he admitted that he had changed his view in recent years and that the only grounds on which he had come to believe in the aerial convection theory were his recent experiences at Bradford and that the facts on which he relied did admit of other explanation.

Dr. WILSON, medical officer of health of Hastings, expressed his belief in the theory of aerial convection but, like the last witness, he had only recently come to that opinion. The ground for his change of belief was, he stated, his experience in the Hastings epidemic; and in cross-examination he admitted that he had succeeded in tracing all the Borough cases to direct infection and that the residue of cases available for an investigation of the question of aerial spread was very small. In his view small-pox could spread through the air to any distance up to 600 yards, but beyond that distance there was no risk.

Dr. SINCLAIR WHITE, late medical officer of health of Sheffield, took the view that the question of aerial convection was not one of very great importance, for as a matter of experience cases do arise around a small-pox hospital, and whether they were due to aerial spread or to direct infection was not a point of very great importance. In cross-examination he was, however, bound to admit that there had been some instances of small-pox hospitals where such a spread had not occurred.

Dr. PRIESTLEY, late medical officer of health of Leicester and now medical officer of health of Lambeth, gave evidence based on his experience at Leicester and thought that a hospital was undoubtedly a great source of danger to the district around. At Leicester a large number of cases had arisen around the hospital, though whether they were due to aerial or direct infection he was not prepared to say in every instance. On these grounds he thought that hospitals should not be placed near houses. Like the two preceding witnesses he had changed his view from one of opposition to, to one in favour of, the aerial convection. Questioned on the administration of the proposed Ossett hospital he thought that the hospital, although it only provided for eight beds, in two wards of four each on the same floor, would require six nurses to work it when full and that it was an objection that the nurses' residence was in a separate building from the hospital.

Dr. BRUCE LOWE before being sworn protested against inspectors of the Local Government Board being called as witnesses, because if compelled to "take sides" on these questions it weakened their position in the eyes of the public. In his evidence he stated that he had only had one opportunity for forming an opinion as to whether a small-pox hospital was a source of danger to the inhabitants around and that was in the Hastings epidemic. He was of opinion that the facts could not be adequately explained except on the theory of aerial convection.

Dr. ADAMS had had experience in Warrington as a private practitioner and as medical officer of health of the district in which the Ship Canal works were carried on, among the workmen of which small-pox had broken out. He had had charge of a temporary hospital for twenty patients amongst these workmen and although the small-pox ambulance had frequently passed through the village where the workmen lived and their dwellings were not far away no case had arisen amongst them. He had formed the opinion that a small-pox hospital is a source of danger to the inhabitants around by one or other of the three means by which small-pox has spread—direct, mediate, or aerial—and he regarded the aerial spread, though existing, as the least potent and least important factor. This completed the medical evidence for the plaintiffs.

For the defendants the following medical evidence was given.

Dr. ORME DUDFIELD could not agree with the previous witnesses in their belief in aerial convection. He had devoted a great many years to this question and he had come to the conclusion that Mr. Power's observations, which had taken place in his neighbourhood, and those of others mentioned, were quite adequately explained by direct or mediate infection. Moreover, he based his disbelief in that hypothesis on instances where large communities, such as that of a workhouse adjacent to the small-pox hospital, and in another case the large schools of Darenth adjacent to the small-pox camp, had escaped from small-pox; and this exemption could not be explained if aerial convection were true. He was pressed in cross-examination to define "particulate matter," a term used by those who supported the theory. He was cross-examined at some length and gave it as his experience that small-pox could always be traced to direct or mediate contagion if sufficient time and pains were expended.

Dr. RICKETTS, resident medical officer of the small-pox ships at Long Reach, stated that he had had an experience of many years at the ships, during which time upwards of 5000 cases of small-pox had been admitted. He mentioned a case which had arisen in a dredger that was moored within 200 yards distance of the small-pox ships. He regarded this case at the time as an instance of aerial spread because he was unable to trace any direct infection, and as a matter of fact he had published this case as an instance of aerial convection. But upon subsequent inquiry it was discovered that this patient's home was at Greenwich. He developed small-pox on July 1st and it was found that he had visited his home at Greenwich on June 17th and 18th and that from this district about that time upwards of forty cases had been removed. He believed that all cases where the aerial convection was believed to be in operation could be similarly traced to direct infection if the conditions for the inquiry were sufficiently favourable.

Dr. T. D. SAVILL, who had visited and inspected the proposed hospital site, was of opinion that it was the best possible site under the circumstances and that the district around was very sparsely scattered with houses. The building was situated on high, sloping ground, with a good water-supply and a good fall for drainage. The arrangements of the hospital were, on the whole, very good for such a small hospital, and he thought that it was an advantage rather than a disadvantage for the nurses to pass through the air to and from the administrative block near by, because pure fresh air was one of the best means of disinfecting people and things. He had devoted two and a half years to the Warrington inquiry and although the incidence of the cases appeared on casual inquiry to be in graduated series of zones around the old and the new hospitals respectively, on closer investigation the centre of infection was really found to be three unisolated cases near the old hospital, and an open space where people congregated, near the new one. The percentage of infected houses ranged themselves in graduated zones around these localities and not around the hospitals. The hospitals themselves were a potent source of direct and mediate infection and there were two very notable instances of that epidemic which, in his opinion, negatived the theory of aerial convection. The first of these was the exemption of the workhouse, situated close beside the old hospital, from any cases which could not be quite adequately explained by direct or mediate infection. The second was a similar exemption from cases not due to direct infection among the hands of a big brewery situated near the new hospital. He admitted in cross-examination that small-pox could spread to the limits of an ordinary room through the air, but he would not admit that it could spread beyond this distance in presence of pure fresh air. His experience went to show that the theory of aerial spread was not tenable and was a wholly unnecessary one to explain the facts of any of the epidemics which had been brought to his notice. Asked as to what the prevailing opinion in the profession was as to aerial convection he thought the belief was not so widely held as a few years ago. He did not regard a small-pox hospital as a source of danger to a neighbourhood provided it was properly administered and the reason why cases so frequently arose around them was due to faulty administration which could be remedied. In support of this view he mentioned instances where hospitals—e.g., some of the London ones—had existed for years without cases ever arising in their neighbourhood.

A variety of evidence was adduced on technical points having no particular medical interest.

Mr. Justice ROMER, in summing up, said he should not enter into the vexed question of the aerial convection of small-pox, about which experts differed so much. There seemed to be a tendency in some instances for cases to arise in the immediate neighbourhood of a hospital, especially when the hospital was large and the neighbourhood crowded and ill-ventilated. The explanation of this he must leave to others. On the other hand, he was not satisfied that when a hospital was well managed it was a source of danger and constituted a legal nuisance, especially when it was small as in the present instance. Moreover, he had before him the important fact that a small-pox hospital had been in existence on this very site for several years without any ill-result having arisen either to the defendants or others. There was happily one point on which all the medical witnesses appeared to agree—namely, that vaccination offered a most complete protection against the disease. In these circumstances the court considered that by taking reasonable precautions the plaintiffs and others in the neighbourhood could protect themselves from risk if any existed and the verdict must be for the defendant corporation, with costs.

THE NINTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

ACCORDING to the latest details concerning the forthcoming International Congress of Hygiene the Italian as well as the Spanish and French railway companies accord a 50 per cent. reduction in railway fares to members of the Congress. With regard to the reduction on the French lines it will be seen that the British Committee of the Congress and our Special Correspondent have qualifying information.

The Spanish lines extend this reduction to the families of the members, but on the French and Italian lines full fares will be charged for all except the actual members of the Congress. Under these circumstances it will probably be necessary to book only for Irun, the Spanish frontier town, and there to take tickets afresh for Madrid. There seem to be but two through trains per day: a second class train leaving Paris at 11.18 A.M. from the Orleans railway station and reaching Madrid at 6.10 A.M. the second day following—a journey, therefore, of forty-three hours; the other train leaves Paris at 10.30 P.M. and reaches Madrid about the same time—i.e., 6.55 A.M., a journey of about thirty-three hours, but this train only takes first-class passengers. Then there is the Sud Express, which is much quicker, much dearer, and only runs twice a week. By far the most comfortable way of travelling to Madrid is to break the journey either at Bordeaux, at Bayonne for Biarritz, or at Burgos. The latter town, though well worth seeing, is too far and Bordeaux is too near; the real half-way stage is undoubtedly Bayonne or Biarritz. The definite cards of membership will be given to the delegates on their arrival at Madrid, together with a badge to wear during the Congress week. The card of identity with the railway coupons attached will suffice to obtain the reduction on the railway fares, and these are sent immediately on receipt of the subscription of 25 pesetas. The short line from Bobadilla Junction to Algeciras, for Gibraltar, is the only railway in Spain that does not grant a reduction of fares to members of the Congress. To ensure greater dispatch the subscription should be sent to the treasurer of the Congress, Señor D. Pablo Ruiz de Velasco, calle Mayor, 18 y 20, Madrid. As already stated in our previous issues, the reduction in railway fares lasts from March 20th to May 10th. It is customary in Spain to pay at the hotels a fixed sum per day, which includes the principal meals and the room. The four chief hotels at Madrid are the Hotels de la Paix, de Paris, de Roma, and Inglés. Here the minimum charge is 15 pesetas per day. At the Hotels de Rusia, de Embajadores, de Sevilla, Peninsular, del Universo, de Santa Cruz, and Bilbaino the charge is 10 pesetas per day. There are other hotels at 8 and even only 6 pesetas per day and many boarding-houses. The above hotels will send interpreters to meet the trains or members of the Congress Committee will be present if warned in time. They will be recognised by a badge worn in the left button-hole consisting of the arms of Spain in gold, silver, and enamel and a ribbon of the national colours.

The Congress will meet in the morning and sit in sections at the Palace of the Library and Museum, situated on the Paseo de Recoletos. There will be no sittings in the afternoons, so that the members of the Congress will be able to visit all establishments connected with public health, poor relief, education, &c., and every facility will be afforded to them for this purpose. We have already announced that Her Majesty the Queen Regent will receive the members of the Congress at the Royal Palace. The Municipality of Madrid will give a reception at the Town-hall and the Premier at the Presidency of the Council. We can now add that this latter reception will take the form of an afternoon tea and, further, that the Minister of the Interior will entertain the members of the Congress at a banquet, that the Madrid Medical College will also invite the Congress to a banquet and the Faculty of Medicine will organise an academical reception. The literary society and club, the Athenæum of Madrid, will give a *soirée*. There will be a gala representation at the Spanish Theatre and a festival in the Campos Elíseos. Nor is this all, for while the Congress holds its meetings in the mornings there will be afternoon excursions to the Escurial, to Aranjuez, and to Toledo. These excursions will be very inexpensive; the most expensive, that to Toledo, will only cost 21 pesetas. During Easter week the principal bull-fights of the year take place at Madrid, so that the members of the Congress will, if they wish, be able to witness this Spanish "sport." After the Congress a grand excursion to Andalusia will include visits to the towns of Cordova, Seville, and Granada, so that the members may inspect the Mosque of Cordova, the Alcazar of Seville, and the Alhambra of Granada and thus obtain some idea of the high degree of civilisation which the Moors introduced into Europe. This excursion, which will last eight days, will cost, first-class, 315 pesetas. A guide to Madrid, published in Spanish and in French, will be given to each member of the Congress, containing much useful information, notably on public health questions. During the Congress week a daily paper will be issued in Spanish and in French giving the programme of the sittings, details as to the receptions, &c. At the *locale* of the Congress a post- and telegraph-office will be installed and interpreters will be present to assist members of the Congress. We may add that the telegraphic address of the Congress is—"Congresso Higiene, Madrid."

We are requested by the British Committee to state that Messrs. T. Cook and Son, Ludgate Circus, have made arrangements with the French Railway Companies by which they can issue first-class tickets to Irun and back *viâ* Calais and Paris for £6 15*s*. each. The "Identification Cards" required to obtain the reduction on the Spanish railways can be procured by members from the honorary treasurer, Professor Corfield, 19, Savile-row, W., from whom all information with regard to tickets, &c., can be obtained.

Our Special Correspondent, now on his road to Madrid, informs us that he went on Tuesday to the Orleans railway terminus in Paris to make inquiries. He there discovered that nothing whatsoever was known about the reduction of 50 per cent. on the fares of delegates to the Madrid Congress. At the booking office no instructions had been received, and on showing his Congress ticket the booking clerk said it was the first of the sort he had seen. On being referred to the station master's office our correspondent was informed that several French medical men had already called to make inquiries, but that the French railway company had issued no orders whatever in regard to the Madrid Congress and that so far no one was authorised to grant the reduction in question. Now this reduction, according to the Spanish circulars, should have come into operation on March 20th and yet on March 29th no one knew anything about it. If the French Committee organising the French delegation to the Congress take active measures, or if similar efforts are made from Madrid, the reduction in question may be granted in time for most of the members of the Congress, but as yet it would not be safe to count upon it. As matters now stand, and unless subsequently more favourable information is received, the best plan will be to book only as far as the Spanish frontier town of Irun. There in all probability the reduction will be granted for the Spanish portion of the journey.

A SICK AND OBSTETRIC NURSES BILL.

DR. ALEXANDER MCCOOK WEIR of East Sheen has sent us a draft of a proposed Bill for the institution of sick and obstetric nurses, which he believes to be free from the faults of measures for the registration of midwives while it provides certain safeguards for the parturient poor. We are unable to print this draft in full—it is not a short document—but we present our readers with an outline of Dr. McCook Weir's proposals, which are evidently the result of care, forethought, and a knowledge of the situation to be dealt with, though they do not in our opinion wholly meet the case.

Dr. McCook Weir's Bill begins by making it illegal "for any person (male or female) to assume the title of midwife, or to practise as such, or to act as a sick or obstetric nurse, for gain or otherwise, without the supervision and control of a fully qualified medical practitioner." He then makes it incumbent upon the public authority (board of guardians, parish council, voluntary nursing association, &c.) adopting the Act "to employ a sufficient number of sick and obstetric nurses to meet the requirements of the poor and working class population of their respective districts," and no one shall be thus employed who cannot "produce a certificate of competence from a duly recognised teaching authority that she is proficient in the art of sick and obstetric nursing." The authorities adopting the Act are to "be held responsible for its due administration to the Lords of the Council or to the Local Government Board" and are, among other things, to "keep a register of such nurses"; to "provide for the payment of these nurses either by means of the public rates or by voluntary subscriptions and donations and by the contributions of the beneficiaries under the Act; to "keep a complete list (to be revised from time to time) of the medical men practising midwifery in their respective districts"; and "to take steps by advertisement or otherwise to make known the benefits of the association to the poor of the district and if necessary to employ and pay a secretary, &c." The seventh clause is designed to limit the duties of the sick and obstetric nurses by making it an offence under the Act for any woman to prescribe, to use instruments "beyond those necessary to her calling as a sick and obstetric nurse," or to sign death certificates. By the eighth clause relieving officers are to make themselves acquainted with the pecuniary circumstances of "poor women in their respective districts who shall require the assistance of the medical officer and the obstetric nurse," and on the report of the relieving officers confinement orders will be granted by the boards of guardians upon both medical man and nurse. The last clause provides that "sick nurses shall in all cases act independently of and in no case undertake the duties of obstetric nurses," though they "shall be otherwise subject to the same supervision and control."

As we have already said, Dr. McCook Weir has evidently given time and attention to the Bill, but it is not at present in shape for practical legislation. To give one example only—suppose a voluntary nursing association were to adopt this Bill, would such an association obtain the assistance of the relieving officers? Would the relieving officers investigate cases and make reports to the voluntary association as they would to their board of guardians, and what would be the result of such reports? Who would "grant a confinement order" upon medical man or nurse?

THE TIRAH EXPEDITIONARY FORCE.

WE are glad to notice that the Viceroy of India has seized an early opportunity of vindicating the military authorities in India and the officers and soldiers who took part in the most arduous campaign of modern times from the somewhat indiscriminate attacks that have been made on the direction and conduct of the frontier war. Notwithstanding that mistakes have occurred and that the expedition has cost a good deal in life and money, it has nevertheless been conducted to a successful termination and exactly on the lines that were originally laid down. The obstacles were great and the Anglo-Indian army had to purchase its experience in what was to many of them an altogether new kind of warfare in a most difficult mountainous country. The discipline, fortitude, and bravery of the troops—British and native alike—were admirable. The recognition of the value of the services performed, however, does not, of course, exclude a severe inquiry into any alleged causes of blundering or failure with the practical object of their prevention in future. Be all this as it may, however, we are proud to know that the medical services admittedly did their work in the field thoroughly well. As regards the medical administration generally, Sir William Lockhart in his despatches on the Tirah Expeditionary Force (which have received the concurrence of the Governor-General in Council and of the Commander-in-Chief in India) states that the administration of the military medical service has been successfully and satisfactorily carried on during the same period by Surgeon-Major-General A. A. Gore, Principal Medical Officer, Her Majesty's Forces in India, through whose efforts and the ready coöperation of the officers and subordinates the Department has, at a time of pressing emergency, been able to comply with the heavy demands made upon it. The extent of these demands may be best realised from the statement that it was considered necessary to provide hospital accommodation for 12 per cent. of the troops and followers. On this basis 6526 beds were made available, including 36½ field hospitals. The accuracy of this forecast may be gauged from the fact that on Dec. 20th, 1897, the number of sick in the hospital, then at its highest, was 11·16 per cent. of the force. The results obtained in the treatment of the sick, and especially in surgical cases of wounds, have been most satisfactory.

REFORM IN HOSPITAL PROCEDURE.

MEETING AT THE WEST LONDON HOSPITAL.

ON Wednesday afternoon, March 30th, a meeting of the Board of Management and Visiting Medical Staff of the West London Hospital, together with the medical practitioners of the western district of London, was held in the board-room of the hospital, under the presidency of Mr. C. B. Keetley, the senior surgeon of the hospital. There was a large attendance and one that was clearly much interested in the subject of debate, which was the possibility of reform in hospital procedure which at present bears hardly upon the general practitioner.

Mr. KEETLEY, in opening the proceedings, explained that early in last year a conference was called and in December a hospital reform committee was appointed by the board to inquire into the whole matter and to make practical suggestions. The suggestions made were that a paid inspector should be appointed; that almoners should be chosen; that a card of a medical practitioner should pass a patient in for consultation and treatment if desired, and that wage limits should be fixed. None of these recommendations were to be looked upon as hard-and-fast rules, but each case was to be considered on its own merits. The recommendations were referred back by the board of management of the hospital to the committee for further consideration, when the committee explained that the recommendations had been put forward as suggestions that a meeting such as the present one might discuss them. As these recommendations were, however, practically the same as those of the Hospital Reform Association and as those of the Committee of General Hospitals respecting out-patients and casualty cases, the Chairman called upon Mr. R. J. Gilbert, the Secretary-Superintendent of the West London Hospital, to read these two latter sets of recommendations, and suggested that they should then be discussed *seriatim*.

Mr. Gilbert having complied, by a vote of the meeting it was decided that the recommendations of the Committee of General Hospitals were the more practical and these were accordingly adopted for discussion.

Mr. Brindley James proposed the adoption of the first recommendation, which read as follows:—

> That each general hospital should have an inquiry officer or out-patient clerk to inquire into the means of persons applying for free treatment, the duties of such official to include (*a*) the prevention of abuse of the charity by persons able to pay for medical treatment; (*b*) the referring of persons already in receipt of parish relief and such as are destitute to the Poor-law authorities—a large proportion of those patients really needing proper food rather than medicine.

It was understood that the recommendation did not apply to the special departments, which need special consideration owing to the fact that many of the patients come for consultation purposes and are cases of unusual interest and difficulty.

Dr. Leonard Dobson seconded this motion.

Dr. Pendred moved the direct negative which Dr. G. Thomson seconded.

After considerable discussion, in which Dr. Snape, Mr. R. W. Lloyd, Mr. Stephen Paget, Mr. McAdam Eccles, Dr. Robert Lee, and others took part, the original motion was lost.

Dr. C. H. Bennett proposed the adoption of the following resolution as a substitute for the one rejected:—

> That in the event of any persons seeming to the medical officer seeing him as a patient at a hospital ineligible the medical officer should send a printed form of questions to the patient's last medical attendant outside to ascertain whether the patient should be refused further medical treatment at the hands of the hospital authorities.

Dr. Dobson seconded this resolution.

Dr. Lee proposed as an amendment—

> That in the opinion of this meeting some system of inquiry is necessary to prevent the abuse of hospital charity and injury to the medical practitioner, and that each hospital committee should be required to arrange for such an inquiry.

After some discussion Dr. Lee's amendment was added to Dr. Bennett's motion and both were carried.

The remaining recommendations were then discussed. The next read as follows:—

> That it is desirable to restrict the number of new cases to be seen each day by the out-patient department physicians and surgeons to something like fifteen persons for each medical officer; and that the out-patients should be distributed more evenly over the week and not allowed to be crowded in such large numbers on the first days of the week.

After some discussion by Dr. Seymour Taylor, Mr. James, and others this recommendation was allowed to drop without a vote being taken.

The next recommendation read:

> That although it is not practicable to strictly limit the number of patients to be treated each day by the casualty officers, it is felt that steps should be taken by each hospital to limit such cases, as far as possible, to accidents and cases of sudden illness.

This was agreed to by the meeting.

Recommendation 4 read:

> That the general hospitals should as far as practicable coöperate with the local provident dispensaries, particulars of which might be placed in the out-patient waiting-rooms. The inquiry officer should be instructed to recommend patients who appear able to do so to join such dispensaries.

This was deferred for consideration on the motion of Mr. Lloyd.

Recommendation 5 read:

> That patients bringing a recommendation from a local medical practitioner from a provident dispensary should have priority of other patients and when desirable the prescription should be forwarded direct to the medical practitioner recommending the patient.

This was agreed to.

Recommendation 6 read:

> That the issue of Governors' letters for recommending out-patients should be discontinued provided there be a general agreement amongst those general hospitals now issuing them to their subscribers.

This recommendation was also agreed to.

Recommendation 7 read:

> Though the committee only representing general hospitals have therefore considered the subject primarily as appertaining to the general hospitals they feel that some analogous reform, especially as regards inquiry into the means of applicants for treatment, should be adopted also by the special hospitals.

This recommendation was considered to embrace subjects not germane to the purposes for which the meeting had been summoned and was not discussed.

The proceedings then terminated with a vote of thanks to the chairman.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Stretford Urban District.—During 1897 there were notified in this district 727 cases of measles, the greatest monthly incidence being in December, when 134 cases came under notice. Mr. Heslop observes that at the beginning of the epidemic many people were apparently unaware that this disease was notifiable in Stretford and it is to this cause that the rapid spread among school children is to be attributed, the parents sending the children to school while the latter were suffering from the initial catarrh. It is, indeed, for preventive purposes, this initial catarrh which ought to be notified, but it would be a difficult matter to take proceedings against parents for failing to recognise this symptom as part of an attack of measles. The fatality rate during the epidemic in question was 1·9 per cent.

Wimbledon Urban District.—Mr. E. Pocklington reports that in this district, with an estimated population of 35,000, there were notified during 1897 forty-four cases of erysipelas, but he fails to see the advantage of the notification of this disease and thinks that if the notification of measles were substituted for that of erysipelas much good would result. There seems a fair prospect that Wimbledon will shortly be provided with separate hospital accommodation for small-pox, there being a proposal before the Local Government Board to form the urban and rural districts of Croydon and the urban district of Wimbledon into a joint small-pox hospital district, a project which we hope to see carried out.

West Hartlepool Urban District.—At the public abattoir at Hartlepool 3412 beasts were slaughtered during 1897, and of this number 18 carcasses were condemned for extensive tuberculosis, the majority of them being those of old cows. Dr. S. Gourley protests against the trade of egg pickling, which gives rise to a very offensive smell, being carried on in impromptu places in the town.

River Tyne Port District.—Of the 15,351 vessels inspected in the waters of this port last year 342 were found with structural defects and 1570 in a dirty condition. The water boats used for conveying water to the ships were all inspected and found to be in good condition, while in the case of 56 ships which came from infected or suspected ports the drinking-water was discharged and the tanks were cleansed. Trawlers and herring boats arrived at the quay, North Shields, to the number of 13,460, and 460 had to be cleansed and deodorised. Dr. Edmund Harker reports that no case of overcrowding came under observation during the year, but it was found necessary to communicate with the offenders in 42 cases for the evolution of dense smoke from steam vessels.

Kensington Urban District.—Dr. Orme Dudfield, in his monthly report for February, embodies the annual report for 1897 of Miss de Chaumont, the lady inspector of workshops, &c. He speaks highly of the value of such inspectors in the district of Kensington, and observes that the initiation of the Kensington vestry in appointing female inspectors has been extensively followed in the country. Certainly Dr. Dudfield appears to have been most fortunate in the selection of his officers. Miss de Chaumont reports that she found during the year twenty-six rooms overcrowded, while in many of the registered premises the roofs and floors were in a defective state. At two dressmakers' establishments the atmosphere was found to be close and offensive from heating by gas jets. It is gratifying to learn that Miss de Chaumont's visits are nearly always welcomed by the employers who, she states, recognise the duties and obligations imposed upon them by the Factory Acts.

Poole Urban District —There were 25 cases of erysipelas notified in this district during 1897 and of this number no less than 13 were notified by one practitioner. These figures are somewhat puzzling, more especially as 23 of the total number of cases were in persons five years of age and upwards. It would not seem, however, that there was any question as to "post-vaccinal" erysipelas. We are glad to see that Dr. Herbert Lawton has very properly made a survey of the gathering grounds, settling ponds, &c., of the Poole Waterworks Company, and it is satisfactory to note that he found the collecting grounds and storage ponds "free from any pollution." It is to be presumed, too, that he found these places free from *liability* to pollution, because this is obviously the crux of the position. It would have been of much interest had Dr. Lawton furnished an account of the waterworks in his report and had he placed on record any suggestions he might wish to make in regard to their management. It is always well to set out the facts, more particularly as in the event of the water becoming at any time specifically contaminated it may be necessary to refer to the condition which actually obtained at the time of Dr. Lawton's survey. The report before us is somewhat brief for a rapidly increasing district of some 19,000 persons, and it might profitably be a little expanded in future.

Carlisle Urban District.—Mr. William Brown devotes particular attention in his current annual report to the subject of tuberculosis, his observations at the Carlisle public slaughter-house during 1897 having impressed upon him the extent to which tuberculous udders obtain. He tells us that of thirty cow carcasses condemned as unfit for human food on account of general tuberculosis one in every five had marked tuberculous disease of the udder. Some of the cows thus affected had, Mr. Brown believes, been milked shortly prior to their slaughter. He submits the following proposals to his sanitary authority:—1. That all dairy cattle from which milk is derived for distribution in the Carlisle urban district be subjected to regular veterinary inspection. 2. That a more rigid enforcement of the city by-laws as to cubic space of cowsheds be practised. 3. That as an auxiliary measure the Carlisle Urban District Council extend the provisions of the Infectious Diseases Notification Act to pulmonary phthisis, tuberculous meningitis, and tabes mesenterica. There is some material in proposal No. 3 for discussion, more particularly in reference to tuberculous meningitis, but we cannot here spare the space.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 5974 births and 4342 deaths were registered during the week ending March 26th. The annual rate of mortality in these towns, which had increased in the three preceding weeks from 20·7 to 21·8 per 1000, declined again last week to 20·2. In London the rate was 20·0 per 1000, while it averaged 20·3 in the thirty-two provincial towns. The lowest rates in these towns were 12·9 in Derby, 14·5 in Blackburn, 15·5 in Croydon, and 15·9 in Norwich; the highest rates were 25·0 in Oldham, 25·1 in Preston, 25·4 in Bradford, and 31·2 in Swansea. The 4342 deaths included 550 which were referred to the principal zymotic diseases, against 538 and 554 in the two preceding weeks; of these, 242 resulted from measles, 123 from whooping-cough, 82 from diphtheria, 42 from scarlet fever, 30 from diarrhœa, 29 from "fever" (principally enteric), and 2 from small-pox. No death from any of these diseases was recorded last week in Plymouth, in Norwich, or in Derby; in the other towns they caused the lowest death-rates in Croydon, Preston, and Huddersfield, and the highest rates in London, Leicester, Bristol, and Oldham. The greatest mortality from measles occurred in London, Brighton, Swansea, Halifax, Oldham, Bristol, and Leicester; from whooping-cough in Leeds, Oldham, Hull, and Gateshead; and from "fever" in Oldham. The mortality from scarlet fever showed no marked excess in any of the large towns. The 82 deaths from diphtheria included 53 in London, 5 in West Ham, 5 in Cardiff, and 3 in Birkenhead. One fatal case of small-pox was registered in Leeds and 1 in Sunderland, but not one in London or in any other of the thirty-three towns; only one small-pox patient was under treatment in the Metropolitan Asylum Hospitals on Saturday last, March 26th. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2371, against 2534, 2145, and 2419 on the three preceding Saturdays; 189 new cases were admitted during the week, against 175, 197, and 255 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 429 and 430 in the two preceding weeks, declined again last week to 402, and were 54 below the corrected average. The causes of 51, or 1·2 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Cardiff, Leeds, Newcastle-upon-Tyne, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Preston, and Halifax.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 25·0 and 24·1 per 1000 in the two preceding weeks, further declined to 22·9 during the week ending March 26th, but was 2·9 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·3 in Greenock and 17·8 in Aberdeen to 23 4 in Edinburgh and 25·1 in Glasgow. The 692 deaths in these towns included 25 which were referred to measles, 25 to whooping-cough, 10 to diarrhœa, 7 to scarlet fever, 3 to diphtheria, and 3 to "fever." In all, 73 deaths resulted from these principal zymotic diseases, against 81 and 74 in the two preceding weeks. These 73 deaths were equal to an annual rate of 2·5 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had declined from 20 to 17 in the three preceding weeks, rose again to 25 last week, of which 21 occurred in Glasgow and 3 in Edinburgh. The 25 deaths from whooping-cough exceeded by 4 the number in the preceding week and included 19 in Glasgow. The fatal cases of scarlet fever, which had been 7 and 10 in the two preceding weeks, declined again to 7 last week, of which 3 occurred in Edinburgh and 2 in Glagow. The 3 deaths from diphtheria showed a further decline from recent weekly numbers, and included 2 in Edinburgh. The 3 fatal cases of "fever", were all recorded in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 187 and 161 in the two preceding weeks, rose again to 175 last week, and were 16 above the number in the corresponding period of last year. The causes of 26, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 37·3 and 35· per 1000 in the two preceding weeks, further declined to 29·5 during the week ending March 26th. During the past twelve weeks of the current quarter the death-rate in the city has averaged 32·2 per 1000, the rate during the same period being 21·7 in London and 20·1 in Edinburgh. The 198 deaths registered in Dublin during the week under notice showed a decline of 39 from the number in the preceding week, and included 11 which were referred to the principal zymotic diseases, against 16 and 17 in the two preceding weeks; of these, 6 resulted from "fever," 3 from whooping-cough, and 2 from scarlet fever, but not one from small-pox, measles, diphtheria, or diarrhœa. These 11 deaths were equal to an annual rate of 1·6 per 1000, the zymotic death-rate during the same period being 3·3 in London and 1·8 in Edinburgh. The deaths referred to different forms of "fever," which had been 5 and 7 in the two preceding weeks, declined again to 6 last week. The 3 fatal cases of whooping-cough corresponded with the number recorded in the preceding week. The deaths from scarlet fever, which had been 6 and 4 in the two preceding weeks, further declined to 2 last week. The 198 deaths in Dublin last week included 25 of infants under one year of age and 52 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons were below those recorded in any recent week. Ten inquest cases and 6 deaths from violence were registered; and 65, or nearly a third, of the deaths occurred in public institutions. The causes of 12, or more than 6 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

Naval Medical Service.

Deputy-Inspector-General of Hospitals and Fleets James William Fisher, M.D., has been promoted to the rank of Inspector-General of Hospitals and Fleets in Her Majesty's Fleet. Staff-Surgeon James Porter, M.A., M.B., has been promoted to the rank of Fleet-Surgeon in Her Majesty's Fleet.

The following appointments are notified:—Fleet-Surgeon: William E. Breton to the *Victory*, additional, for Portsmouth Dockyard. Staff-Surgeons: Herbert E. Marsh to the *Prince George* and Robert Hickson to the *Wildfire*, additional, for the *Sans Pareil*. Surgeons: William Hackett to the *Cambridge*, lent, and David W. Hewitt to the *Triton*, lent.

Army Medical Staff.

Surgeon-Major Lilly proceeds from Pembroke Dock to Devonport to assume Medical Charge of Crown Hill Barracks and Fort and Woodlands Fort. Surgeon-Major James, on being relieved in London by Surgeon-Major Wilson, joins at Aldershot as second in command and chief instructor of the depôt and training school of the Medical Staff Corps, Aldershot. Brigade-Surgeon-Lieutenant-Colonel W. H. Steele (retired) takes over the medical charge of troops at Bristol in the place of Deputy-Surgeon-General H. C. Herbert, who retires on having reached sixty-five years of age. Surgeon-Captain Whitestone proceeds to Holywood for duty.

India and the Indian Medical Services.

The Queen has approved of the following promotions among the officers of the Indian Medical Service:—Surgeon-Lieutenant-Colonels to be Brigade-Surgeon-Lieutenant-Colonels: *Bengal Establishment:* Geoffrey Craythorne Hall, John Thomas Brownrigg Bookey, and James Young. Surgeon-Lieutenants to be Surgeon-Captains: *Bengal Establishment:* Charles John Milne, Algernon Francis Stevens, Clement Henry Bensley, Francis Hammond Watling, Arthur Gwyther, Edgar John Morgan, William Carr, and John Archibald Hamilton. *Madras Establishment:* Frank Wall and Charles Montague Mathew. *Bombay Establishment:* Samuel Evans and James Haldane McDonald. The Queen has approved of the retirement from the Service of the under-mentioned officers: Brigade-Surgeon-Lieutenant-Colonel Sir George King, K.C I.E., Bengal Establishment, and Surgeon-Captain Gilbert Capel Hall, Half-pay List, Madras Establishment.

Deaths in the Services.

Brigade-Surgeon Joseph Johnston, M.D. Edin. (retired), late 26th Cameronians, on March 15th, at St. John's Wood-park, N.W., in his sixty-seventh year. He entered the army in 1854, was promoted surgeon in 1867, surgeon-major in 1873, and retired on half-pay with the honorary rank of brigade-surgeon in 1880. For many years he had the medical charge of the Royal Horse Artillery at St. John's Wood.

Deputy-Inspector-General of Hospitals and Fleets Leonard Lucas was on March 28th found lying dead on the main line of the London and North-Western Railway between Gaerwen and Bodorgan, Anglesey. Death was apparently caused by an express train which had travelled in the opposite direction. The deceased gentleman entered the navy as a surgeon in 1857 and retired in 1881, when he was made an honorary Deputy-Inspector-General of Hospitals and Fleets. He served in the action against the Ashantis in October, 1873 (Ashanti medal), and was Staff-surgeon of the *Tamar* during the Zulu War from 1877 to 1879 (medal).

Surgeon-General Samuel Currie, C.B., M.D. Edin., honorary physician to the Queen, at his residence, Lexham-gardens, London, on March 25th, aged eighty-one years. He had a long and distinguished military career and filled in his time many important posts. The deceased officer saw much field service and received many medals and decorations. In addition to having been an excellent medical officer and good administrator his personal qualities, conscientious rectitude and amiable disposition made him friends everywhere he went during his service in the Army Medical Department. He was educated at Edinburgh, where he took the degree of M.D., and became L.R.C.S. Edin. in 1835 He entered the Army Medical Service the following year and served at the battle of Maharajpore and also in the Sutlej Campaign in 1846. He was Field Medical Inspector of the Expeditionary Force in the North of China in 1860, was present at the capture of the Taku Forts on August 21st and the minor actions resulting in the surrender of Pekin (medal with clasps), and was nominated a Companion of the Bath. In 1868 he was the principal medical officer with the Abyssinian Expeditionary Force and was promoted to be Inspector-General of Hospitals. He was appointed an honorary physician to the Queen in December, 1873, and, having held the post for twenty-five years, was the senior of the honorary physicians to Her Majesty both of the Army Medical Department and of the Indian Military Forces. After filling the position of Surgeon-General at Aldershot he retired in April, 1876, and since 1888 has been in receipt of a distinguished service reward. The funeral took place on March 30th, a memorial service having been previously held at St. Philip's Church, Earl's-court-road.

The Nile Campaign.

Last week the aspect of things looked as if an important battle between the Anglo-Egyptian troops and the Dervishes were imminent, but beyond a successful encounter of the Sirdar's cavalry with a small part of the enemy's force in the vicinity of the Atbara nothing occurred. Mahmud and Osman Digna clearly seem, however, to have been intimidated by what has taken place. The Dervish leader, Mahmud, is supposed to be entrenched in the bush at El Hilgi and his army have not left their entrenchments with the view of carrying out their threatened assault on the Anglo-Egyptian position. It is rumoured that the food-supplies of the Dervishes are fast diminishing and that they have some difficulty in procuring the requisite amount of water, but we suspect that in reality little is known of the Dervish forces or of the intentions of their leaders, Mahmud and Osman Digna. Sir Herbert Kitchener's force continues in excellent health and spirits. According to the latest official telegraphic information it is reported that Shendy (which was occupied by Mahmud's reserve force) has been surprised and captured by gunboats and Egyptian troops sent up the Nile; the Dervish losses were severe. The place was burned and the forts were destroyed, a large quantity of grain and ammunition was seized, and six hundred slaves were liberated. Mahmud's main force, which is believed to be very short of supplies, was still entrenched at El Hilgi and is held in check by the Sirdar's army, although it is some twenty miles distant. The present position speaks well for the generalship, which appears to have been extremely good, on the part of the British. Shendy is an important position on the east bank of the Nile and it has, or rather had, a big trade in salt, wool, carpets, ostrich feathers, and senna. The Soudanese population are thoroughly sick of the tyrannical and oppressive rule of the Dervishes.

Appointments in India.

Surgeon-Major R. H. Firth and Surgeon-Major J. R. Forrest Army Medical Staff, have been selected for the appointments of district sanitary officers at Rawal Pindi and Lucknow respectively. The latter officer studied bacteriology and chemical pathology at King's College, London, at the Institut Pasteur, Paris, and at the University College, Bristol, and is the author of some original theses. Surgeon-Major Croly, Army Medical Staff, has been selected for the appointment of his personal staff-surgeon at army headquarters by His Excellency Lieutenant-General Sir Charles Nairne, K.C.B., when he assumes the office of Commander-in-Chief in India on the departure of Sir George White on March 30th. With his excellent constitution Sir George White is quickly recovering from the very serious accident which he lately met with.

Enteric Fever at Lucknow.

Enteric fever is stated to be prevalent at Lucknow at the present time. A young officer of the East Lancashire regiment who had only recently joined his regiment has died from that disease. The past medical history of Lucknow shows that, like so many of our Indian stations, it is from time to time subject to outbreaks of enteric fever.

FIGHTING IN UGANDA.

According to despatches received at the Foreign Office there has been a good deal of fighting in Uganda. A force under Captain Harrison had attacked and captured a stockade held by the mutineers after their escape from Lubwas. On the British side there were 10 killed and 20 wounded. Among the latter were 2 officers.

As we have already announced would be the case, Inspector-General of Hospitals and Fleets Sir Henry F. Norbury, M.D., has been appointed Director-General of the Medical Department of the Navy, vice Sir James N. Dick, to date from April 1st.

Deputy-Surgeon-General H. Cayley will deliver a series of lectures on Tropical Medicine at the Middlesex Hospital Medical School during the forthcoming Summer Session.

Correspondence.

"Audi alteram partem."

"THE MIDWIVES REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—The Midwives Bill (1898) has now been sufficiently long before the profession to give opportunity for criticism and it may be useful to make a few remarks on some of the principal objections that have already been formulated. As a member of the committee responsible for the drafting of the measure I am enabled to speak with full knowledge of the committee's views. It is matter for sincere congratulation that the need for legislation has now come to be almost universally admitted and that the object of the Bill as expressed in the preliminary memorandum has met with general approval and sympathy.

Objection has been raised to the title of the Bill and it has been suggested that a better title would be the Obstetric Nurses Bill or the Midwifery Nurses Bill. These titles were originally proposed by those who were strongly of opinion that no woman (not being a registered medical practitioner) should attend a case of confinement except under the personal supervision of a medical practitioner. It has since been acknowledged that this arrangement, however desirable, is impracticable. The reason for the introduction of the word "nurse" into the title (which, as signifying a limitation of responsibility, would have been perfectly appropriate) has therefore disappeared. It is necessary to remember that a midwife and a nurse exercise different functions, receive a different training, and hold a different relation to the medical practitioner. A nurse always means one who is subordinate to the medical man, who acts under his orders, and has no independent responsibility. A midwife is one who does not necessarily act under the personal supervision of a doctor (so long as the labour remains uncomplicated). She is individually responsible for the case under her charge. To call her a nurse, with whatever qualifying adjective, is to confound one who has independent charge with one who has not, but who receives her orders from a superior.

Midwife is the name already in use and is perfectly well understood by those for whose benefit the Bill is intended. Whatever her title may be the woman who exercises her calling under this Bill will be exercising the functions of a midwife, and a midwife only.[1] It is better, therefore, to give her her appropriate title and call her what she is. A further objection to the title of obstetric or midwifery nurse is that it suggests the monthly nurse rather than the midwife and would lead to endless confusion in consequence. Lastly, it is not uncommon to hear the complaint that the tendency of modern nurses is to take too much upon themselves. Any measure which confers upon a class of *nurses* the legal right to exercise independent functions must necessarily aggravate this tendency. On all these grounds it is evident that the midwife and the nurse should in legislative matters be kept absolutely distinct.

It has been stated as a still more important objection to the Bill that it does not preclude unregistered women from practising midwifery even for gain provided they do not call themselves midwives and so lead people to believe that they are trained and certificated women when they are not. In answer to this objection it may be said that the promoters of the Bill would willingly and of their own accord have inserted a clause prohibiting unregistered women from practising for gain, but that all their advisers who had had any experience of Parliamentary procedure assured them that the House of Commons as at present constituted would not listen for a moment to any such suggestion. It was therefore thought impolitic and unwise to include a "practice" clause of *any* kind. It would have been dishonest to put it in for mere appearance' sake with the knowledge that it had not any chance of being agreed to, and it would have been foolish in the light of past experience to put it in with a genuine hope that it would become law. We can never persuade Parliament to make it illegal for women to practise as midwives, for gain or otherwise, any more than we can persuade it to render it illegal for the village blacksmith, for gain or otherwise, to set the broken bone or reduce the dislocation of a passing sportsman. What this Bill does is what the Medical Act does—viz., enable the public to distinguish between the qualified and the unqualified. As this is generally speaking equivalent to distinguishing between the competent and the incompetent it is by no means an unimportant matter. It would prevent the poor from being made to believe that they are engaging the services of a person who knows how to help them in their need when they are not.

A strong but much less widely spread objection has been raised to the present Bill on the ground that women already in *bonâ fide* practice as midwives will be allowed to be registered. This, it is said, is to grant legal status and to give thereby undue importance to a large number of incompetent persons. The promoters of the Bill feel this difficulty as acutely as the objectors. But it is a difficulty that the practice of the Houses of Parliament has rendered inseparable from the introduction of all fresh systems of registration of this kind. It had to be faced and accepted in the case of the registration of medical practitioners, of dentists, and of veterinary surgeons. Fortunately it is a difficulty that will be temporary only, and even as it is there will be some convenience to the community in the proposed arrangement, for seeing that it is impossible the moment the Bill becomes law to replace all the untrained women now in practice by properly-trained midwives and that the gap must be filled it is well that the untrained women already in practice and who are to be allowed on that account to continue in practice should be placed upon the register, in order that their conduct and methods of practice may (for the first time) be under efficient control.

The mode of appointment of the Midwives' Board has been the subject of much criticism. It was the object of the promoters to place the appointment in the hands of influential and responsible bodies, and to ensure that whilst the various interests concerned should all be duly represented preponderance should be given to the representatives of the medical profession. With this view the Royal College of Physicians, the Royal College of Surgeons, and the Apothecaries' Company are each entrusted with the selection of three registered medical practitioners to serve on the board. To ensure the interests of the midwives themselves being fairly represented the Incorporated Midwives' Institute is also empowered to select three members, but it will be noted that these members are not to be selected from their own body but must be registered medical practitioners. There will thus be twelve registered medical practitioners on the board. The representation of the general public is provided for by giving the Lord President of the Council power to appoint the additional six members which make up the full complement of the board. These six members need not be members of the medical profession. It was hoped that this constitution would be generally acceptable, but the promoters are quite prepared to consider any proposals to alter it provided they do not interfere with the representative character of the board or tend to lessen its influence or efficiency. A counter proposal has been made according to which the appointments are *all* vested in the General Medical Council and the members are *all* to be registered medical practitioners. The various divisions of the kingdom are to be represented by providing that a given number shall be selected from the registered medical practitioners resident in each division. This scheme is open to the objection that it makes no provision for the representation on the board of two of the interests concerned—namely, the midwives and the general public. The distribution of the members in definite and fixed proportions over the several divisions of the entire kingdom is also open to objection on two grounds. In the first place, it would unduly limit the choice in making the appointments; and, in the second place, it would make it difficult, if not impracticable, to bring the members so widely scattered over the country as frequently together as will be necessary, especially at first when the board will be busily occupied in drawing up rules and regulations and making the necessary arrangements for carrying out the provisions of the Act. The promoters of the Midwives Bill quite recognise the danger of centralisation, but they are of opinion that a still greater danger to the success of the scheme would be encountered if the members of the board were prevented by distance from regular attendance at its meetings.

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[1] The functions of a midwife of course include a certain amount of attendance upon both mother and child during the lying-in period.

The proposal in the draft bill of the Parliamentary Bills Committee of the British Medical Association to the effect that "no member of the board shall act as teacher, instructor, or examiner of" midwives would exclude from the board a number of those who have already under the voluntary system had a share in the training and examination of midwives and have thereby gained an experience of similar undertakings which would be very valuable in the deliberations of the newly constituted body. This proposal would have the further very undesirable effect of hampering the board in its selection of examiners, for it would prevent the appointment of a member of the board, however suitable he might be. The object of the clause is presumably to prevent the evils that might arise if teachers were allowed to examine their own pupils. These evils could, however, be entirely obviated without the insertion of any such clause by following the example of the Conjoint Board for England and of the Obstetrical Society of London, each of which bodies so arranges its examinations that no candidate is examined by his or her own teacher or by anyone on the staff of the hospital or institution at which the candidate was trained. With regard to the alleged danger of midwives who have been registered under this Act calling themselves licentiates in midwifery and writing the letters L.M. after their name, any proposal so to strengthen the wording of the Bill as to render this impossible would be willingly acceded to.

It has been objected to the Bill that no details are given as to the rules regarding training and examination, the limits within which the midwife is to be allowed to practise, the circumstances under which she shall insist on medical aid being summoned, or the precise nature and extent of the supervision to which she shall be subjected. These details are omitted from the Bill simply because they were thought unsuitable for discussion in Parliament. They are matters for the Midwives Board to determine. If it be asked what guarantee have we, then, that these important questions will be settled in a manner that will commend itself to the best judgment of the profession, the answer is: (1) that the Bill arranges for the appointment of a board that may be trusted, and (2) that all the rules and regulations drawn up by the board must, according to the provisions of the Bill, be submitted to the General Medical Council for approval. It is impossible within reasonable limits to reply to all the criticisms that have been offered. I have endeavoured to deal with the most important of them. The promoters of this measure desire to approach its discussion in a conciliatory spirit. They are not so foolish as to suppose because they have spent much time and thought upon the Bill that therefore it is perfect, and they are quite prepared to recommend those in Parliamentary charge of the measure to give the most careful consideration to any amendments that may be suggested with a view to their acceptance wherever it is feasible.

I am, Sirs, yours faithfully,
CHAS. J. CULLINGWORTH.

Manchester-square, W., March 26th, 1898.

P.S.—As I happen to hold office for the time being as President of the Obstetrical Society of London, I think it proper to add that I do not write the above in my official capacity. The Obstetrical Society of London is in no way responsible for this Bill and has had no opportunity as yet of expressing an opinion upon it.

To the Editors of THE LANCET.

SIRS,—I am directed by the Obstetrical Council of the Royal Academy of Medicine of Ireland to draw your attention to the following resolutions passed at a special meeting held in the Royal College of Physicians, March 25th, 1898. Proposed by Dr. More-Madden and seconded by Dr. Alfred Smith:—

> That this committee entirely dissents from the principle of the proposed Bill for the registration of midwives, &c., as tending to create a new and inferior order of practitioners, hurtful to the interests of the profession and dangerous to the welfare of the public.

Proposed by Dr. A. J. Horne and seconded by Dr. Smith:—

> That the Council would approve of any well-considered Bill framed with a view of improving the education of women as midwifery nurses

I am, Sirs, yours faithfully,
March 26th, 1898. JOHN H. GLENN, Sectional Secretary.

To the Editors of THE LANCET.

SIRS,—At the instigation of a small but active band of philanthropists (or are they cleverly disguised misogynists and neo-Malthusians?) the medical profession is preparing to consign the poorer parturient women of England to a class of female practitioners who are to be endowed with the privilege of being exempt from the trouble and cost of the prolonged course of study and training in anatomy, medicine, and surgery prescribed for *men* who may wish to practise the obstetric art. This concession, though tardy, is commendable, inasmuch as it manifests a reasonable endeavour to solve the great sex problem and denotes a becoming submission to the spirit of the age. Moreover, unlike most compromises, it is without alloy. The safety of every poor woman during the puerperal state will be adequately ensured by the circumstance that the midwife who attends her may be officially registered and could not otherwise *call* herself midwife. Should this amount of protection be insufficient our thoughtful legislators will provide the additional safeguard that the registered midwife shall arrange that all the "labours" she is called to attend shall be "natural" throughout all their stages and free from every kind of incidental complication.

This proposal to provide registered midwives for poor women who do not employ the services of persons legally qualified to practise medicine is so full of potency and promise that I venture to plead for an immediate extension of the generous principle upon which it is based. There are thousands of persons in this country who "are in the habit of" consulting the chemist and druggist, or his assistants in illness. It is therefore desirable, in the phraseology of one of the Midwives Registration Bills, that these persons should be able "to distinguish between those druggists and their assistants who have been trained and have given evidence of being competent to treat medical diseases and to perform the operations of minor surgery, and those who are not." A "Prescribing Druggists' Registration Act" would exactly meet this want and would also furnish guidance and encouragement to many a thrifty sufferer. Above all, it would remove the odious stigma of illicit practice from an enterprising body of men against whom, as compared with the midwife, the worst that can be said is that they have given some evidence of general education and scientific training.

In anticipation of a possible criticism that parturition is an ordinary physiological process and does not need any knowledge of anatomy, medicine, or surgery for its supervision, while even minor ailments cannot be so regarded, I would remind my critics that the prescribing druggist could generally rely upon the friendly intervention of *vis medicatrix naturæ* and that self-interest, to say nothing of humanity, would soon teach him not to thwart too rudely its kindly operation.

When this small instalment of equity and justice has been obtained we shall be better able to press for a full measure of civil and economic freedom for those hosts of our fellow-workers, the corn-cutters, the bone-setters, the trichologists, and the herbalists, who, while not exactly hampered by legal restrictions, have not as yet received from the State that amount of favour and encouragement to which they are entitled considering the number of persons who "are in the habit of employing" them (*vide* Midwives Registration Bill). I am, Sirs, yours faithfully,

March 26th, 1898. J. T.

THE DRAINAGE OF BOMBAY.

To the Editors of The Lancet.

Sirs,—I am much obliged for the publicity you have given in The Lancet of Feb. 19th to my report on the sanitation of Bandora, as it will help to make known to your English readers how very different are the fundamental conditions which distinguish sanitary work here from that in England. I regret, however, that my proposals do not commend themselves to your reviewer, who seems to have had no Indian experience. He writes as I would have written in good faith twelve years ago on arriving in the tropics, before I learned to know India, its climate, people, and financial resources for sanitary work. Nothing is more easy than with the aid of a text-book or two to prepare an ideal scheme of sanitation for an ideal people with unlimited money to spend, but to deal with municipalities whose majorities are obstinately averse to change and resolved to protect "property" is quite another business.

A successful sanitary project in India must be a safe and very carefully measured step in the right direction. If the step is too long it fails. The Shone system, for example, would be an ideal means of sewage removal in Bandora and if properly used would be of enormous benefit to the people. But nine-tenths of them are not fit to be entrusted with water-closets in their houses. The other tenth is so widely dispersed that the cost of pipes would be prohibitive. In other words, money would not be raised because the members of the municipal body are not sufficiently educated and earnest enough to be relied on. For such people and such communities projects "far from perfection," but most carefully studied, have the only chance of success.

I am, Sirs, yours faithfully,

Bombay, March 12th, 1898. John Wallace, C.E.

"THE LATE MR. R. R. CHEYNE AND THE PRESERVATION OF VACCINE LYMPH."

To the Editors of The Lancet.

Sirs,—I am glad to learn from Mr. R. Cheyne's letter in The Lancet of March 26th that it is to a fellow countryman, rather than to Müller, that we owe the method of preserving vaccine lymph with glycerine, and I will take care to note the fact in any future reference to the subject. Mr. Cheyne, however, does not appear to be aware that the procedure to which Mr. Chaplin referred in introducing his Vaccination Bill consists in something more than the mere admixture of glycerine with vaccine lymph, which, of course, would constitute no new device. It is now known that vaccine lymph, and more particularly that obtained from the calf, is liable to contain large numbers of what I have termed "extraneous" microbes. These ordinarily tend to increase and multiply in lymph when stored in capillary tubes. About seven years ago in searching for a means of rendering vaccine lymph free from these microbes, none of which are essential to its proper action and some of which are liable to be harmful, I discovered that a sterilised 50 per cent. solution of chemically pure glycerine in distilled water was capable of exerting a remarkable germicidal action on these extraneous micro-organisms, and that when the resulting emulsion was kept at a low temperature and away from the light these were all killed out after an interval of about four weeks—a fact which can be proved by making plate cultivations with the lymph-and-glycerine emulsion from week to week. It is glycerinated calf lymph which has in this way been proved bacteriologically to be entirely free from extraneous microbes of all kinds, whether pathogenic or otherwise, while at the same time perfectly active as vaccine, which it is the intention of the Government to supply in any quantity that may be required. Of special importance also is the fact that if virulent cultures of pathogenic micro-organisms, such as those of erysipelas and tubercle, be experimentally added in considerable quantity to lymph glycerinated in this manner it is found that they are killed out *even more readily* than the non-pathogenic forms usually present, it being impossible to recover living cultures of these microbes after about three weeks' exposure to the action of glycerine.

It was not until the year 1868 that the classical researches of Chauveau and Burdon Sanderson proved that the virus of vaccinia was particulate, and it was subsequent to this date that any scientific study was made of the micro-organisms which occur in vaccine lymph. It is therefore obvious that, whatever may have been the reasons for the use of glycerine nearly fifty years ago, there could then have been no appreciation of its value as a germicide towards any extraneous microbes which might chance to be present in the lymph, although in the late Mr. R. R. Cheyne's mention of glycerine as an antiseptic there would seem to have been an element of prophecy. Moreover, as I pointed out in my evidence before the Royal Commission on Vaccination, glycerine fifty years ago was by no means the pure chemical product which it is to-day, and indeed it has been suggested that its use as an addition to vaccine lymph has in former days been occasionally productive of mischief. This may possibly account for the late Mr. Cheyne's suggestion not having been generally accepted at the time.

In conclusion the method which Mr. Chaplin is proposing to adopt, if of comparatively recent date, is at any rate not of foreign origin, although the German and other Governments have already done me the honour of adopting it.

I am, Sirs, yours faithfully,

March 28th, 1898. S. Monckton Copeman.

"THE EXPERT WITNESSES IN THE LAPORTE CASE."

Messieurs les Rédacteurs en chef,—

Je lis dans votre estimable journal du 19me. Mars, 1898, sous le titre "The Expert Witnesses in the Laporte Case," une note sur la séance de la Société de Médecine Légale de Paris du 14me. courant. Votre correspondant vous a induit en erreur, ainsi que vous pourrez vous en convaincre en lisant ma réponse publiée dans le *Bulletin Médical* et la *Gazette Hebdomadaire* du Dimanche 20me. Mars.

Je compte, Messieurs les Rédacteurs en chef, sur votre impartialité bien connue pour remettre les choses au point.

Veuillez agréer, Messieurs les Rédacteurs en chef, l'assurance de mes sentiments très distingués.

Paris, 22me. Mars, 1898. Dr. L. Varnier.

Je vous adresse par ce même courrier les deux journaux en question.

*** Dr. Varnier points out in the columns of the *Bulletin Médical* of March 20th and the *Gazette Hebdomadaire de Médecine et de Chirurgie* of the same date that there were only three discrepancies between the official documents and the copy.

Copy.	*Official Document.*
Paroi.	Partie.
1500 grammes.	1550 grammes.
Le cervelet et le bulbe sont sains.	Le cervelet et le bulbe sont intacts.

The exact text of the resolution as published in the two journals above mentioned is as follows: "La Société de Médecine Légale avant pris connaissance, à propos d'une expertise récente, *des documents officiels* et les avoir rapprochés *des documents publiés* à l'appui des attaques dirigées par certains journaux scientifiques contre M. le Dr. Socquet, constate *que ces derniers documents ont été incomplètement et inexactement rapportés, ce qui était de nature à égarer l'opinion publique.*"—Ed. L.

"BLACK-WATER" FEVER.

To the Editors of The Lancet.

Sirs,—Mr. Kellett Smith's very interesting note on the above subject[1] raises several questions on which I should like to be allowed to say a few words. I have for years been pointing out the interesting relationships between this disease and paroxysmal hæmoglobinuria, splenic leucocythæmia, chlorosis, and anæmia, and the connexion, most probably causative, between the whole of these diseases and an excess of uric acid in the blood. I have also mentioned the fact that quinine occasionally produces hæmoglobinuria and I should certainly agree with the observers quoted by Mr. Kellett Smith that large doses of this drug may produce, or at least powerfully aid in producing, "black water," as I have pointed out that about one-fifth of the ordinary acid sulphate of quinine is xanthin, which is physiologically and pathologically equivalent to uric acid, so that large doses may add very greatly to the quantity of this substance available for solution in the blood and thus bring about the destruction of red cells observed in men and animals. I may also perhaps be allowed to remind Mr. Kellett Smith and others who may be interested in these matters that my own blood (and I believe that of everyone) varies its quality from day to day, even from hour to hour, with the amount of uric acid passing through it into the urine.

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[1] The Lancet, March 19th, 1898, p. 780.

I have written of "black water" in connexion with the points brought out by my former colleague Dr. Wheaton in a paper in the Transactions of the Pathological Society, vol. xlvi., and I shall not ask for space to consider other points on which I have written at length elsewhere. But with reference to Mr. Kellett Smith's closing paragraph I should like to make the practical suggestion that living on a diet which is free from uric acid and using salicylates between attacks to sweep out the uric acid accumulated in the spleen and elsewhere, as well as that introduced in the form of quinine, might very greatly reduce the amount of available uric acid and mitigate or prevent such troublesome symptoms and sequelæ as congestion of the liver and spleen, vomiting, diarrhœa, and other "bilious" troubles, and even the "black water" itself. And some of these points I have been able to demonstrate practically in the persons of members of the profession who have returned from various malarial countries and have taken the trouble to follow my suggestions. I am, Sirs, yours faithfully,

Brook-street, W., March 28th, 1898. **Alexander Haig.**

CREASOTAL AND GUAIACOL CARBONATE: TWO SPECIFIC REMEDIES AGAINST TUBERCULOSIS.

To the Editors of The Lancet.

Sirs,—In The Lancet of Jan. 22nd, 1898, Dr. Chaumier has published an article on "Creasote and Some of its Derivatives." Dr. Chaumier recommends that creasotal be taken by teaspoonfuls and considers the use of the drug contra-indicated only in fever and diarrhœa. According to the experiences, however, which we have been made acquainted with by the publications of the University Clinics of Berlin, Vienna, and Munich these contra-indications do not exist; on the contrary, the action of creasotal and guaiacol carbonate is very favourable upon the fever of phthisical patients, this disappearing after a relatively short period of treatment with these drugs. The cause by which Dr. Chaumier was led to believe these drugs contra-indicated in fever probably lies in the fact that he employed larger doses than were necessary. It is neither necessary nor is it useful to take the creasotal by teaspoonfuls. The same remedial effects are obtained with the administration by drops, as introduced by Professor von Leyden of Berlin. These small doses, besides being less expensive, are also much better borne by all patients, whereas the strong doses as used by Dr. Chaumier cannot be borne by many patients.

The *Charité Annalen* (Berlin, 1897) recently contained an interesting report on the results obtained with creasotal (creasote carbonate) in the University Clinic of Professor von Leyden. The conclusions arrived at by the experiments made under the direction of the chief surgeons of this clinic show that the remedial effect of the drug is not a merely symptomatic, but a specific one. After the administration of creasote, which drug was formerly also used by Professor von Leyden, it has always been noticed that the appetite disappeared, the general health grew worse, and symptoms of intense disturbance of the stomach and intestines soon followed. The creasotal was free from these noxious by-effects. The following mode of administration was adopted. Each patient began with five drops three times daily, increasing the dose three drops every day until twenty-five drops were taken at a dose. At this they were kept for from one to four weeks—in some cases even for several months; then the dose was diminished in a similar ratio until only ten drops were taken thrice daily, and then eventually the ascending scale was begun again.

The results obtained in von Leyden's clinic are fully detailed in the above-mentioned *Charité Annalen*. Though the greater part of the treatment was carried out during the winter months, when the climatic influences were unfavourable, very good results were nevertheless obtained. The general condition of the patients was markedly improved; fever, night sweats, and all the bad symptoms disappeared entirely after six weeks of treatment; the appetite rapidly increased. Even in cases where the patients had taken creasote before with the effect of causing a complete loss of appetite, under creasotal the appetite increased from week to week. Very much the same thing can be said of the weight, in which up to 16 lb. were gained in three months. Upon the night sweats and the fever the action of creasotal was very favourable. Cough and expectoration gradually diminished and finally disappeared altogether. Wherever the treatment was continued for over six months a marked improvement of the local condition was noticed. The lungs in these cases were partly cured. In some cases the physical symptoms of phthisis disappeared entirely after a treatment of from six to eight months, so that a perfect cure was obtained and the lungs of these patients were perfectly healed and quite normal again. Considering that in these cases only 300 grammes of creasotal were required to obtain a perfect cure and that physicians can obtain from their druggists 1 oz. of creasotal at the average price of 2*s*., it will appear that the expenditure for the remedy, distributed over several months, is no drawback, and that also the poorest patients can afford to take part in the benefits of the drug.

In the report of Professor von Leyden's clinic the author concludes by saying: We think we are entitled to assume a specific action of creasotal. Reviewing our experiences we come to the opinion that any case of incipient or not too far advanced phthisis may be treated with creasotal with the expectation of a good result. Naturally a nourishing diet and general good hygiene must go hand in hand with it. And here is the chief advantage of creasotal over creasote, inasmuch as it improves the appetite and does not irritate the gastro-intestinal canal it permits us to enforce the proper dietetic treatment of the disease at the same time. Very much the same favourable views in regard to creasotal are expressed in the recently published reports of the university clinics of Vienna and Munich.[1] I believe these experiences prove that Dr. Chaumier's objection to the administration of creasotal in fever is deprived of foundation. As above mentioned the presence of fever is, perhaps, to be considered as a contra-indication for the enormous doses of creasotal which Dr. Chaumier employs, while on the other hand the small doses as recommended by Professor von Leyden effect the disappearance of the fever.

In The Lancet of Aug. 8th, 1896, Dr. F. R. Walters expressed his opinion to the effect that creasotal is an excellent remedy against tuberculosis, but that it appears to be too expensive as compared with creasote. I believe also this opinion cannot be agreed with. Here in Germany at least the patient buys the creasote in form of creasotal considerably cheaper than creasote pills and capsules. It must be borne in mind that the creasotal is administered by drops in liquid form, whereas the creasote can rarely be taken in a pure state, but is dispensed in the form of mixtures or capsules. By this its cost is increased so much that creasote in the cheapest emulsion—viz., tinct. creasoti—costs more than twice as much as an equivalent quantity of creasote in the form of creasotal. In the form of capsules creasote is still more expensive. I believe in England there will be an analogous proportion. In consideration of this fact it appears also that from an economical point of view the creasotal treatment is to be preferred to the administration of creasote in tinctures or capsules, so that in every respect the balance is greatly in favour of the new method.

I am, Sirs, yours faithfully,

Radebeul, Germany. **R. Seifert.**

AN UNKNOWN LARVAL PARASITE.

To the Editors of The Lancet.

Sirs,—There has recently come under my notice a parasitic affection of the skin of which I can find no mention in text-books, and I should be glad if any of your readers who have special knowledge of tropical diseases would give me the benefit of their opinion on the matter.

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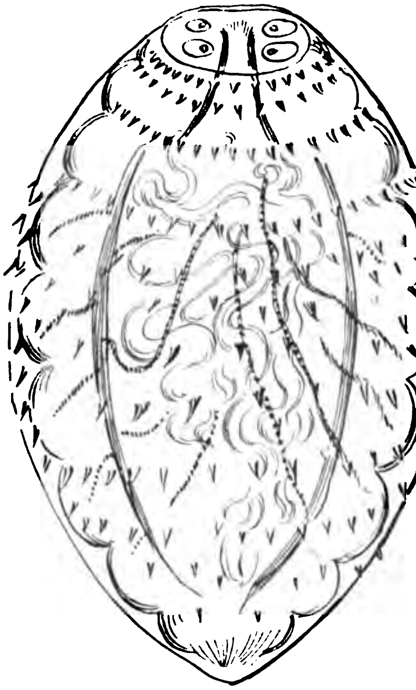
[1] Vide Professor Ziemssen's Annalen der Münchner Krankenhäuser.

Three men started on Jan. 1st to come into Bulawayo from Fort Filabusi, ninety-six miles distant. The journey occupied nine days and although the weather was mostly wet still there were fine days and on such occasions two of the men bathed on every opportunity but the third man abstained from so doing. During the journey they always slept on the open veld (field) at night but were well covered up, although at the Fort it was not unusual for them to sleep with very scanty clothing on. Of the three men who came in one presented himself to me on Jan. 22nd. He stated that on Jan. 20th, when undressed he noticed little red spots scattered over the sides of his chest and putting his hands round beneath his armpits he could feel other and larger pimples on his back. On the 21st the spots caused a great deal of irritation, with pain of a sawing nature, and on the 22nd I saw the patient for the first time. I found that he had scattered over both sides of his trunk a number of what at the time I considered to be boils, which very closely resembled the boils seen at the nape of the neck in many people. A few of these spots were also to be seen in the middle of the back, one on the buttock, and one on the thigh, but the limbs with this exception and the face were free. I told the man to bathe the boils with hot water and squeeze the contents out, and I ordered him some red oxide of mercury ointment. Soon after the patient had left the building one of the hospital orderlies brought me a small worm which he alleged he had squeezed out of one of these spots. When the man presented himself again on the 24th I admitted him and on the 25th I examined these spots closely. They were hard, deep-red in colour, about a quarter of an inch in diameter, and stood up well above the level of the skin; at the apex of each was a small scab. On removing this scab a very small drop of cloudy fluid escaped, which under the microscope showed pus corpuscles and a few red corpuscles but nothing more. Looking now at the spot I could see a small channel blocked by a small black speck, and on gently squeezing the projection from its base upwards out slid a worm. After evacuation of this worm the spot was swabbed with perchloride of mercury solution and it gave no further trouble. The worms varied in size, but on an average they were about a third of an inch long; they were of the colour of an ordinary silkworm; one extremity, the head, was narrow and had dark marks visible through its integuments, and the other extremity was blunt and rounded. The position of the worm in the man's skin was with the head surface-wards and the body lying in a channel extending obliquely down towards the subcutaneous tissue. The body of the worm was annulated from one end to the other and about as thick as a No. 3 gum elastic catheter. They were very energetic in their movements, crawling along like an earthworm without the aid of any feet. Within an hour of removal from the host I placed a worm on a sheet of paper and marking the position of his tail I stirred him up; he crawled exactly three-quarters of an inch in thirty seconds.



A semi-diagrammatic representation of the parasite under the microscope, ⅙ in. objective.

I next endeavoured to examine the worm under the microscope, but I was considerably handicapped by the want of proper appliances. However, I could make out a distinct head from which projected a sort of proboscis with a mouth surrounded by four small circles (? suckers) leading to a gullet which was bounded on each side by a dark streak, probably a blood-vessel; these dark streaks extended down until they became lost amongst coils of intestine. The coils of intestine occupied a central position and were flanked on each side throughout the length of the body by longitudinal vessels from which branches arose on both sides. But what struck one particularly were a great number of hooks scattered over the entire surface of the body. These hooks could be distinguished easily with 1 in. objective; close to the head they were arranged in two definite and closely approximated rings, further down was a second single ring, and over the body generally they were irregularly scattered, finally near the tail the ringed arrangement again obtained although somewhat imperfectly. The hooks themselves had a brown colour and under ⅙ in. objective closely resembled ordinary rose thorns.

In considering the probable life-history of these worms I came to the conclusion that they were most likely a stage in a cycle and I determined to endeavour to see their further development. Accordingly I kept three healthy-looking specimens which I obtained on Jan. 25th and regularly every morning I placed them on fresh raw beef. As soon as they were so arranged they buried sometimes a half of and sometimes the entire body in the meat, and would remain quite quiet until removed for their next meal; on taking them out of the meat their bowels always acted freely. I examined some of their motion and with a ⅙ in. objective could distinguish nothing beyond finely-divided fat. For the first three or four days they grew rapidly, the largest attaining a length of about half an inch, but after this time they did not increase in size. I failed, however, to see the next stage in their life-history, for they all died, the last one about fourteen days after having been removed from the host. I made inquiries from mine prospectors and others and I gathered that these worms are common in dogs and Europeans in the Murchison Range of the Transvaal, Natal, and the Tuli district of Rhodesia. Native races do not seem to be affected. The general opinion was that a fly, of which I could get no reliable description, deposited worms or eggs on the skin. Some said that the "bite" of this fly was painful but others denied this. My patient had no recollection of having been bitten. Again, it is said that these flies infest water-courses, but here again evidence was contradictory. My patient certainly had bathed frequently.

The chief interest, medically, would appear to be in these cases to distinguish them from boils. I found that my method of squeezing out the worms intact and swabbing the wounds with corrosive sublimate solution gave instant relief without any further attention being necessary.

I am, Sirs, yours faithfully,

Frank Arnold, M.B. Lond.,

Resident Surgeon, The Hospital, Bulawayo, Rhodesia.

Feb. 16th, 1898.

ENGLISH SANATORIUMS FOR THE TREATMENT OF PHTHISIS.

To the Editors of The Lancet.

Sirs,—From many years' experience and practice in the Alpine climates I am convinced that such institutions as the above-named could be made to attain a large measure of success; and although the supreme advantage of mountain air would not be available in our somewhat dreary winter climate the nutritious and appetising English food would count for a great deal in the treatment of pulmonary phthisis.

It seems that of late years medical discipline has been regarded by many of those whose state of health would gain by it as becoming rather irksome in some of the Alpine stations. In one famous hotel it is considered "bad form" to be an invalid and many are tempted to "bluff" the disease and join the festive throng. The sensible ones, however, obey their medical man and profit in consequence. There are many people now who visit the Alps for pleasure and it is rather difficult for their sick friends to refrain from participating in a life which is not only unsuited to them as invalids but taxing also to sounder constitutions. Although in most of the hotels the food placed on the table is all that can be desired it can be readily understood by English people that few establishments abroad can provide beef equal to that of the young bullocks fed on Devonshire herbage or mutton of the quality obtained from the Welsh hills, so in this respect any English sanatorium would be at an advantage; but in climatic conditions the British Isles can scarcely vie with the winter climate of the Alps either as to dryness, sunshine, or calmness of the atmosphere. On the other hand, everyone who has had continuous observation of phthisical patients is aware that strict supervision of the case is the all in all. This is scarcely so easy to attain now in every hotel of a leading Swiss health resort. The magnificent climate attracts those who come for the winter sports alone; and some hotel proprietors avow that they do not want invalids. Nevertheless, there are always plenty of the latter class located there or the hotels would not be filled as they are; but these people cheerfully and complacently consider themselves under "climatic treatment" and have a false sense of security engendered thereby. They enter with vigour into all amusements at hand—dancing, skating, tobogganing, walking, &c.—to the utmost extent of their powers. It is only the cautious *poitrinaire* who obtains full benefit of a prolonged absence from home. The ambiguous term "climatic treatment of consumption" is rather misleading and may warrant some invalids in assuming that all other treatment may be neglected to a great extent, or at any rate that the "climatic" remedy permits a maximum of enjoyment with a minimum of caution and no irksome restrictions of rest, quietude and patience anteceding the period when exercise of some kind can be prescribed with advantage.

There are assuredly many who would gladly avail themselves of some home sanatorium where, modestly speaking, two or three months' medical guidance would help to abate the feverishness and cardiac irritability so often accompanying an early deposit of tubercle in the lung; and perhaps train the patient in the way he should go afterwards, or put some flesh on him if emaciated preparatory to going abroad. Sanatoriums in England, especially during the summer months, ought to have as great a range of efficiency and utility as similar institutions established in Silesia and the Black Forest, where climate is certainly a secondary consideration, but medical supervision, diet, and hygiene of first value and importance. A not inconsiderable advantage is the mental effect produced on some patients entering an establishment devoted to one object and conducted under medical supervision which they know to be experienced in the treatment of their malady. They then appear to fall willingly into a determination to pursue the "cure" conscientiously and are saved all the officious meddling of busybodies or hotel acquaintances who, chiefly out of curiosity and want of occupation, inquire into the symptoms and offer remedies or irresponsible advice to disconcert the patient or exasperate the medical attendant.

In a well-ordered abode for receiving cases there need be no superfluous restraint or fussy, mysterious rules. For instance, one cannot see the necessity of enjoining patients to take their temperatures four times a day in the rectum as is the habit pursued in one German sanatorium. It seems to me that the daily life of a patient can be made interesting and pleasant enough without such inconvenient occupations.

I am, Sirs, yours faithfully,

Montreux, Feb. 25th, 1898. TUCKER WISE.

"HOSPITAL ABUSE."

To the Editors of THE LANCET.

SIRS,—As your Commissioner in his article on the above subject in THE LANCET of this week referred to me in connexion with the Bradford Children's Hospital, you will, perhaps, kindly allow me to correct some inaccuracies he has fallen into, as well as to point out some injustices he has, in my opinion, committed. In the first place, as I have always been an ardent advocate of hospital reform I particularly feel any imputation of implication with hospital abuse. I have at no time been "principal surgeon" to the institution. I was from the foundation of the hospital fifteen years ago till last year—when I was appointed honorary consulting medical officer—one of a staff of three honorary medical officers. I was also, no doubt, for the same fifteen years its honorary secretary, a not such an unusual occurrence in a new hospital, I think, as your Commissioner imagines. The Bradford Children's Hospital's constitution was founded upon that of the best similar institutions in existence, with the important qualification that special rules were introduced (notably the rule not requiriing letters of recommendation) to prevent hospital abuse. It is in no manner or shape connected with the Eye and Ear Hospital, nor were its rules at all founded on those of that institution. The fact of its employing the same collector and secretary is purely accidental and in no way affects the management. The Bradford Children's Hospital is the only hospital in the town, and one of the few in the country, that requires, and indeed issues, no "letters of recommendation." It has always acted upon its rule that "sickness, poverty, and childhood" alone qualify for admission. Out of an expenditure of £2083 last year only £62 were received from patients.

The house committee do not see parents for the purpose of "bargaining what they are to pay for the treatment of their children." The rule was adopted some years ago at my suggestion with the sole object of checking hospital abuse. The practice is as follows: Cases are admitted into the hospital upon the authority of the medical officer for the week or of the resident medical officer acting for him. Upon admission a card is sent to the parent requesting his attendance at the next house committee, when his circumstances are inquired into and if he is found to be able to afford to treat the child at home the case is discharged. If not, but still in the opinion of the committee able to pay some trifle, the charitable nature of the institution is pointed out to him and he is invited to give what he is able towards the maintenance of his child, and sums of sixpence are much commoner than those of 10*s*. No one is urged to give and the donation is never either given or received as payment. A large proportion are registered as unable to contribute. Personally I have always been adverse to any payments from patients, but in a commercial community some concession must be made to the commercial instinct.

Hoping to have cleared our hospital from the strictures of your Commissioner, I am, Sirs, yours faithfully,

W. GILCHRIST BURNIE,
Hon. Consulting Medical Officer to the Bradford Children's Hospital.

Bradford, March 30th, 1898.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to the article on "Hospital Abuse" in your issue of March 26th and, so far as it is written with the desire to assist in the remedies of abuses, I myself, in common with all persons interested in hospital work, approve of its intention, but with others I could wish, were it possible, that your Commissioner were able with the admonition to point an effectual remedy for the abuses to which he refers. My purpose in writing to you is merely on behalf of the Bradford Children's Hospital to correct some more or less serious inaccuracies which have crept into the statement. In the first place, it is incorrect to state that "the greater number of the in-patients are made to contribute towards their maintenance in the hospital," and again that the parents have "in fact to bargain as to what they are to pay for the treatment of their children in the hospital," and again that in appearing before the hospital committee "they must expect to be severely questioned as to their ability to pay something if the sufferer is to be admitted as an in-patient." As a matter of fact, the parents of the children do not go before the hospital committee *until* the children are actually in-patients of the institution and far from "bargaining" with their guardians as to what they are to pay or from any compulsion being exercised towards them it is the invariable rule after inquiring into the circumstances of the family to leave the representatives absolutely and wholly free themselves to assess the amount which they think they can give to the institution and instead of the average amount being as your article states, 2s. 6d. per week, I should say that 1s. 6d. would be a fair average, and certainly this estimate is justified on reference to our report, from which it will be seen that the whole of the payments for patients during the past year was £62 12s. Assuming the average to be, as I have stated, 1s. 6d. per week, the cost of a bed in the hospital averages some 15s. or 16s. weekly, and therefore in the case of these so-called paying patients there is a large margin of charity. The qualifications for entry to our hospital are poverty and sickness, but I apprehend that the poverty here referred to never was intended to mean the poverty of the pauper, who has a legal right to attendance in our workhouses, but is rather the poverty of above that class, and below the "affluence" which will admit of the payment for medical advice and for proper and skilled treatment at home, and that in dealing with these cases we are exercising to a full extent the charitable object of our institution. It may be that sometimes persons not answering to this description obtain the benefit of our charity, but I am satisfied that the course we adopt, and I have already shown, is not of an inquisitorial or galling character and is as good a safeguard as has hitherto been found to protect against abuses, as the system of recommendations, which it seems to me is the only other alternative, lends itself far more readily to impositions. From my experience the mere fact of taking payment from the parents of the patients does not induce them in any way to conclude that they are no longer in receipt of charity, or rather (to put it in a preferable manner) receiving benefits far in excess of that for which they pay; and I have never heard any complaints being made such as those referred to, but, on the other hand, we do receive from time to time from so-called paying and non-paying patients alike expressions of gratitude for the benefits received. I should not have thought it necessary to write in reply to your article (although, as you will see, I take exception to the general bearing of it), so far as regards the institution with which I am connected, had it not been for the charge of compulsion in respect of payments made against our committee, as it appears to me that this is of such a serious character that I ought to lose no time in removing the wrong impression which such a statement would be likely to cause, and in doing this I naturally take the opportunity of assuring you that whilst maintaining the efficiency of our hospital we anxiously and jealously watch over the interests of our subscribers and take every precaution possible that the benefits of our charity are not abused.

I am, Sirs, yours truly,

HERBERT J. JEFFERY,

Honorary Secretary, Bradford Children's Hospital.

Bradford, March 30th, 1898.

THE VACCINATION BILL.

To the Editors of THE LANCET.

SIRS,—I wish with your permission to draw attention to the following points in the Vaccination Bill. Some of the opposition to the Act as it now stands is, I am sure, due to the fact that parents who wish to have their children vaccinated gratuitously must perforce go to the public vaccinator and are thus deprived in many instances of the services of their usual medical attendant, who possesses their confidence. If the new Vaccination Bill comes into force as it now stands the public vaccinator having to pay domiciliary visits will become a sort of authorised "tout," calling upon the patients of other medical men and requesting permission to operate on them. He will thus in many instances deprive his *confrères* of a fee.

Having ventured on this criticism, may I suggest the following alterations? Any medical man should, I think, be allowed the usual fee from the sanitary authority for every successful case that is reported to it by him. The sanitary authority should periodically send to the public vaccinator a list of children in the district who have reached the age of twelve months, and as to whose vaccination they have had no return. It would *then* become the duty of that official to call on the defaulting parents and to offer his services. Parents who desire the services of the public vaccinator before the child reaches the age of twelve months should be at liberty to request his services.

I am, Sirs, yours faithfully,

March 28th, 1898. NOT A PUBLIC VACCINATOR.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Symptoms following Inoculation for Plague with M. Haffkine's Prophylactic Fluid.

As might be expected the symptoms following M. Haffkine's prophylactic inoculation vary considerably in different individuals. There are many symptoms, however, which are more or less common to all. It would be likely also that the chief symptoms would resemble in a very minor degree those of plague itself. There are, however, symptoms in plague which have no representatives, so to speak, among the symptoms following inoculation. The first indications of systemic affection occur within six hours after inoculation and consist of a sensation of chilliness, with headache, a rise of temperature and pulse, and a general feeling of malaise. There are no local symptoms at first beyond perhaps a slight red blush at the site of inoculation. The general symptoms increase and continue generally for two or three days. Vomiting sometimes occurs and occasionally diarrhœa. The temperature seldom rises beyond 103° F., more frequently it is below 102°. Weakness is sometimes very marked and the pulse is feeble. Headache is often very severe. Locally an inflammatory infiltration develops which becomes extremely tender. This extreme tenderness is as characteristic after inoculation as that of the enlarged glands in plague. No enlargement of the adjacent lymphatic glands occurs and only very occasionally does suppuration ensue at the site of inoculation. Desquamation of the cuticle over the inflamed area frequently follows. The local symptoms linger for several days after the patient has apparently recovered his usual health, which is most commonly in from four to eight days. The local and general symptoms are sometimes very slight, whilst at other times they are not only very severe but last perhaps eight days or more and are followed by considerable weakness.

The less frequent symptoms, perhaps depending upon personal idiosyncrasy, are very interesting. The minor complaints are joint pains without any swelling, lasting perhaps a fortnight. There is an erythematous rash more or less all over the body and sometimes a distinct urticaria is seen. No papules or pustules have been observed. A certain amount of anæmia and emaciation occurs in a few people, and some complain that they have never felt well since the inoculation. General weakness, loss of appetite, and constipation for some little time afterwards have been more frequently complained of, and a weakness in the lower extremities has been occasionally observed. A few people seem to develop mental excitement and a feeling of unrest; others become irritable in temper for a week or more. Confusion of ideas, a nasty clammy taste in the mouth, and a dry cough lasting for about a week are comparatively common. Nursing mothers have been inoculated without any disturbance to the child and pregnant women have not developed any untoward symptoms. The menstrual period seems sometimes to be anticipated, and if the flow has commenced at the time of inoculation it is subsequently increased in quantity. Sexual excitement has been mentioned as having occurred in a few cases.

It is not surprising on comparison with the effects of other toxin feverish attacks to find that certain ailments should be actually improved. Some asthmatic patients seem considerably relieved and even apparently cured for several months by this inoculation. Chronic eczematous conditions, especially in children, appear also to derive some benefit. Some apparently healthy people have even voluntarily stated that they have improved in their general health.

Such are the symptoms following what is practically a mild dose of the toxin developed by the artificial culture of the plague bacillus. The severer symptoms of plague itself are probably explained by the more frequent and larger dosage of the toxin into the general circulation and perhaps to the actual presence of the bacilli in certain parts. The enlargement of the lymphatic glands so characteristic of plague appears to be due to the presence of the bacillus, as it does not occur after inoculation. Blebs on different parts of the body as well as the cellulo-cutaneous infiltration followed by sloughing, both of which are common in plague, have no representative symptoms after inoculation. The so-called pulmonary variety of plague, attended by extensive lobular pneumonia and œdema, with the presence of bacilli in the sputum, is also unrepresented among the symptoms following inoculation. The headache, the irritability, the mental confusion, the chilliness (which in plague itself is a frequently recurring symptom), the vomiting, the joint pains, the weakness, and the general symptoms of adynamic fever which follow inoculation are all prominent symptoms of the disease. The preparation of M. Haffkine's prophylactic fluid, as well as the statistics relating to plague inoculation, have been described elsewhere. It is sufficient to state that the dose injected for adults varies from 2·5 to 5 c.c., and for children 0·1 c.c. is calculated for each year of age. If a definite reaction follows one inoculation it is generally considered sufficient, otherwise a second dose is administered after a week's interval. Re-inoculation is almost certainly required the following year, but with a recurrence of the epidemic a shorter interval is imperative. It is unknown how long the protection lasts. As a second attack of plague has in several cases been known to occur within six months it would be probably safer for those who are more particularly exposed to the contagion to be inoculated every three months.

March 12th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

A Case of Destitution.

AN inquest was held on March 21st by the city coroner on the body of George Kearns, who had committed suicide by hanging. The evidence given disclosed a pitiful story of destitution which was not relieved by the elaborate arrangements of our Poor-law system. Kearns suffered from chronic phthisis and for a long time had only been able to earn small sums by casual work. He had five children and a wife who had "done a bit of washing" when she could get it, which was two or three times a week. The most ever earned in a week was 6*s*. The rent was 4*s*. 6*d*., which was partly made up by a lodger who paid 2*s*. 6*d*. per week. Once or twice the husband earned sixpence or a shilling by dragging a hand-cart. The food of the family consisted of dry bread and tea. Kearns had once been in hospital, and his wife once sought parish relief—she tried to get milk for a sick baby. The widow in giving evidence said she told the relieving officer that they were starving, but only got some medicine, though the parish doctor gave her a note and told her to use his name. When asked by the coroner why they gave no relief she said, "They told me my husband ought to go and work on a farm, but that work was too heavy for him." Their suffering and destitution were not paraded but concealed, for a neighbour when asked by the coroner, "Had they enough to eat?" said she did not know, for Mrs. Kearns did not tell, but she did not think they had. She knew they had sold all their furniture for rent. This is one of those cases where the ordinary machinery of relief is apt to break down. Here was a delicate, ailing man, worn out with illness and privation, sensitive as to the stigma of pauperism, with a wife able only to make small earnings quite inadequate to enable them to feed themselves and their five children. All this may have told on the poor fellow's mind and so justified the verdict of "Suicide while insane." It is no doubt difficult to adapt the working of Poor-law relief so as to check the tricks of the professional pauper and of those whose poverty is the result of their own vices and at the same time to distinguish and relieve the victims of sheer misfortune who do their best to bear their woes in secret. Much must depend on the acuteness and tact of the relieving officer whose frequent contact with fraud and imposture tends to engender suspicion and is apt to blind him to the occurrence of such cases as this, which might be discovered by the exercise of a little sympathy and tact. Doubtful cases might be referred for investigation to the Manchester Provident Society or to some other of the many voluntary agencies which would be glad to help if there were any means of associating the two agencies. The case was discussed at the meeting of the Manchester board of guardians on March 23rd, and one of the guardians is reported as saying that Kearns was told by the relieving officer to appear before them on Sept. 20th last, which he failed to do. "If Kearns, or his wife, or a representative had appeared the case would have been duly attended to and the family relieved in the usual way." Of course they would, but it is unfortunate that "the usual way" should sometimes, as in this case, be followed by such distressing results. The chairman repudiated "any possible responsibility or blame on the part of the guardians," no doubt correctly, but the system is evidently to blame. A lady guardian said that "Mrs. Kearns is now in receipt of relief, and that all her house contained was some boxes and an old sofa."

The Corporation and the Mersey and Irwell Joint Committee.

An application was made on March 25th at the county police-court before Mr. Yates, Q C., on behalf of the corporation of Manchester for a further extension of time to enable them to deal with the sewage. For the corporation it was represented by counsel that since September, 1896, "the corporation had made great strides towards meeting the requirements of the Joint Committee," for at that time a large quantity of sewage went into the river untreated, while now the whole of the sewage, "with a small exception," was being dealt with. The representative of the Joint Committee, on the other hand, said: "From our point of view the effluent is more than twice as bad as it was when the order was made." He was rather hard on the poor Rivers Committee, saying that they had not shown the least disposition to meet the Joint Committee and that with the exception of a few sparsely populated country districts Manchester was the only authority in the watershed without an efficient sewage scheme. He said, moreover, that "it was absurd for the Rivers Committee to attempt to thoroughly consider every system of sewage treatment." But as a population already exceeding half a million has to be provided for it is obviously desirable to avoid being rushed into adopting an ill-considered scheme. An extension of time till May 11th was granted.

Small-pox at Heywood.

A fatal case of small-pox occurred at Heywood recently. The patient, a young woman, was removed to the Infectious Diseases Hospital but she died in a few days. It is believed that the case was imported, but all attempts to trace its origin have failed.

Anthrax in Mid-Cheshire.

Two outbreaks of anthrax have recently occurred in Mid-Cheshire. One took place a few weeks ago on a large farm at Delamere, where eleven cows died from the disease. The farmer, a Mrs. Snelson, was fined for failing to notify the cases. The second outbreak was reported to the police on March 9th and occurred on the farm of Mr. C. Slater, Woodford Hall. A heifer died within three hours after it was seized with sickness, according to the report, and a bull died in the same way the previous week. At the proceedings at the Eddisbury petty sessions some remarkable facts came out with regard to the outbreak at Delamere. In October last a cow which appeared to be quite well one evening was found dead the next morning. It was skinned and the carcass left on the midden, where some pigs got to it, one of which was taken ill, killed by the shepherd, and buried. The hams, however, were taken away by a butcher and "disposed of." Another cow died soon after and at the end of January and in February several more were taken ill and died. Part of the carcass of the third cow was taken home by the shepherd and given to a dog and to four ferrets. All the ferrets died next day. On Feb. 13th a cow died and was buried but was disinterred by the direction of the police and examined by the veterinary inspector of the county and another veterinary surgeon, who found that this cow and another which they examined had unmistakeably died from anthrax. The farmer was fined £5 and special costs, which punishment does not seem too severe when we know that milk was sold in large quantities from this farm.

March 29th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Cattle Market Accidents in Newcastle-upon-Tyne.

THERE is still one important city in England, Newcastle-upon-Tyne, having in its very centre a large cattle market. Every week to reach this market hundreds of animals—sheep, pigs and cattle—are driven through thoroughfares crowded with passengers and vehicles for the purpose of being bought and sold, after which many of them are again driven from the market to slaughter-houses in the town. It is said that the retention of the market in its present position is a great pecuniary advantage to the town. It has its drawbacks, however. In the Royal Infirmary, close to the market, at the present moment there lies a policeman suffering from a fractured skull the result of a charge from an infuriated bull on its way to the market. A few years ago a boy was in the same institution whom a bull on its way to the market in one of the principal streets of the city gored, tearing open his chest and exposing his heart. On another occasion a bull thrust his horn into the knee of a youth in the same street, with the result that the boy's thigh had to be amputated. These three victims were all in a humble position. Had they been prominent and leading citizens it is more than probable that the cattle market would not still exist in the centre of the city, containing as it does some 200,000 inhabitants and being in some respects one of the most stately and handsome in the country. There can be no doubt whatever that some day the cattle market will be moved and most people think the sooner this is done the better.

Subjects at the College of Medicine, Newcastle-upon-Tyne.

The supply of subjects is now an ample one. For this the College is mainly indebted to the energy and good management of the Professor of Anatomy. Dr. Howden himself personally interviewed the guardians at various workhouses and succeeded in persuading nearly all of them to put in force the provisions of the Anatomy Act with the result that the supply of subjects has now been put upon a permanently satisfactory basis and is sufficient for the requirements of the College.

Small-pox in the North.

The epidemic of small-pox at Middlesbrough is now fairly under control, though upwards of 400 patients are still being treated in hospital. There are 400 vacant beds at the sanatorium. Nearly 1200 cases have occurred in the town. With the exception of a case or two in various towns—Blyth, Newcastle, Sunderland, &c.—the disease has not extended much beyond the immediate neighbourhood of Middlesbrough.

The Chief Constable of Newcastle's Report for 1897.

Captain Nicholls, in his twenty-ninth annual report to the Newcastle-upon-Tyne Watch Committee, states that during the past year there were 294 fewer cases of drunkenness than during the previous year, but he is careful to point out that this, in his opinion, is no evidence of an abstinence from intoxicating drink, but merely an indication of the quality of the discipline exercised by superintendents of police. Newcastle, though wonderfully free from serious crime, has for long been said to be the most drunken of the large towns in England. If the Chief Constable be correct in his opinion—and there is very little doubt that he is—the city may not deserve its unenviable notoriety. Captain Nicholls is in despair as to the best method of dealing with juvenile offenders. 12 children under fifteen years of age were arrested for picking pockets during the year, 18 for house- and shop-breaking; 83 under sixteen years of age were arrested for stealing from shops, houses, and markets, equal to 29 per cent. of the total number of persons arrested for theft; 338 boys under sixteen years of age were arrested for gambling in the streets and 718 for disorderly conduct in the streets; 85 parents were prosecuted for ill-treating, neglecting, or exposing their children. The Chief Constable is doubtful as to the effect of night-shelters for children and would like to see "some of the money collected from the public for the protection of children spent in providing thoroughly suitable persons, both male and female, to supervise young children when trading in the streets and also to visit their homes."

March 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Army Medical New Departure.

MUCH interest has been aroused in medical circles and among the public by the request recently received by each of the corporate licensing bodies in Ireland, emanating from the Secretary of State for War. The Royal College of Surgeons in Ireland has been asked to nominate two surgeons for temporary duty during six months in the Army Medical Department. A similar request has been made to the other qualifying bodies. Dr. T. Myles addressed a letter to the *Irish Times* on March 29th in which he strongly advised young surgeons not to join the army until the promised warrant should appear. The President of the Royal College of Surgeons in Ireland also stated his views in a short communication to the same paper, in which he explained that the nominations were intended to be temporary only and not to affect the continuance of the present system of choice by examination. A meeting of the Council of the College to consider the question was held on March 29th.

The Sanitary Congress in Dublin.

The Sanitary Congress, under the auspices of the Royal Institute of Public Health, will be held in Dublin from August 18th to 23rd next. It will be under the patronage of the Lord-Lieutenant and will probably be very largely attended by Fellows and Members of the Royal Institute as well as by delegates from other sanitary societies. The Lord Mayor has intimated his intention of giving a ball at the Mansion House in honour of the visitors. There will be a banquet, garden-parties, excursions, and other attractions, including a temporary museum for the exhibition of novelties and appliances connected with sanitation. Amongst those who have consented to act as vice-presidents are the following:—Field-Marshal Lord Roberts, V.C., Lord Ashbourne, Sir George Duffey, Sir William Thomson, Sir Christopher Nixon, and Mr. Austin Meldon.

The late Mr. Leonard Lucas, R.N.

Mr. Leonard Lucas, whose lamented death was caused on the morning of March 25th, by a fall from the Irish mail train near Gaerwen, was a well-known citizen of Monkstown, co. Dublin, where he resided since his retirement from the navy as deputy-inspector-general. Mr. Lucas was a J.P. for the county of Meath and one of the directors of the Apothecaries' Hall of Ireland.

Ballynure Water-Supply.

Mr. Blair, dispensary medical officer, Ballynure, has written a strong report to the Larne Board of Guardians on the state of the water-supply of Ballynure. There are, he says, three available sources of public water-supply in the village, one only used by a few people and the other two contaminated. A committee of the guardians had recommended certain changes to be carried out as far back as last autumn. These have not been made and, as Mr. Blair pertinently adds, "The ratepaying portion of the community are beginning to inquire (not, I think, without reason) if the people of Ballynure village have got to pay for the next six years a special sanitary rate of 1*s.* in the £ for the privilege of drinking diluted sewage."

The Union Society, Queen's College, Belfast.

The report presented at the annual meeting of the Students' Union on March 24th was very satisfactory. Six daily, eight monthly, and sixteen weekly papers are taken in the reading room. The College Library Committee supply THE LANCET, *British Medical Journal*, *Nature*, *English Mechanic*, *Athenæum*, and the *Times*. The treasurer's statement for session 1896–97 shows a balance to credit of £42, which is very satisfactory, as this is independent of any interest from the capital fund, which is not yet available, as the interest will be devoted for a few years to paying off a debt incurred in the purchase of an annuity.

The Belfast Ophthalmic Hospital.

The annual meeting in connexion with this institution was held on March 28th. The total number of cases treated in the past year was 1927, and of these 1270 were cases of eye disease, 294 ear cases, and 255 cases of throat affection, while 108 patients were received into the wards of the hospital. During the year the entire sanitary arrangements have been examined and made perfect at a considerable expense. The financial statement was very satisfactory considering that £101 were spent in effecting improvements during the year.

Belfast Corporation (Hospitals) Bill.

This Bill, which has already passed through the House of Lords, came before the examiners of the House of Commons on March 28th for proof of compliance with the further standing orders. There was no opposition and the necessary formal proofs being given the examiners decided that the orders had been duly complied with. The Bill will therefore be reported for second reading.

Litigation by a Medical Man.

At the Cork assizes just concluded Dr. Richard Barrett, medical officer of the Union Workhouse, Macroom, brought an action against Mr. Patrick C. Kelleher, a member of the Macroom board of guardians, for damages alleging that the defendant falsely and maliciously wrote and published certain words meaning that the plaintiff had been guilty of gross misconduct as medical officer in the workhouse, by reason of which plaintiff had been injured in his credit and reputation and in his practice as a medical man. From the evidence it appeared that Mr. Kelleher had written to the board of guardians a letter in which he charged Dr. Barrett with being a "liar" and with being guilty of "infamous conduct." In the course of the letter the suggestion was thrown out that Dr. Barrett had ordered needlessly a superior dietary for one of the patients. This Dr. Barrett denied. The case occupied part of two days in hearing and resulted in the jury awarding £50 damages to the plaintiff. Dr. Barrett also brought an action against Mr. Jeremiah Kelleher, a medical practitioner in Macroom. Dr. Barrett claimed damages in this case for a libel contained in a letter written to the Macroom board of guardians reflecting on the plaintiff's treatment of a hospital patient and amounting to an imputation of professional unskilfulness in his office as medical officer. Before the jury were sworn an agreement was come to by which it was arranged that Mr. Kelleher should withdraw the imputation contained in his letter and accept judgment for 1*s.* nominal damages and £48 costs.

March 29th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Potassium Sulphate and Cirrhosis.

AT the meeting of the Academy of Medicine held on March 22nd M. Richet discussed the various observations which had been communicated by M. Lancereaux confirming the part played by sulphate of potash in the production of cirrhosis. He showed that in the major part of his observations he had dealt with wines only slightly plastered. Wine is most often plastered in the district of the Midi, and it was, therefore, necessary to examine the frequency of cirrhosis in that district. It had been argued that a large number of French wines contained as much as from 4 to 6 grammes of potassium sulphate per litre, and this assertion had had a most disastrous result on the sale of French wines, especially in foreign countries, and on account of the sometimes unfair competition of German and Italian wines. In 1851 a regulation—which was re-enacted in 1880—forbade the plastering of wines to any extent above 2 grammes of potassium sulphate per litre. In 1891 the loi Griffe laid down anew the same proportions. Shortly afterwards, in 1892, M. Richet was sent into Spain to examine and report upon the plastering of Spanish wines. Of 55 samples examined 44 gave a result of less than 1 gramme of potassium sulphate per litre. Before this date, however, the plastering of Spanish wines was very heavy and they often contained as much as 6 grammes to the litre. In Paris, on the other hand, the amount of plastering is small. Even before the regulation of 1891 the mean amount of sulphate of potassium was only 2·50 grammes per litre and the figures have now fallen to 1·40 grammes. Before the regulation of 1891 the Municipal Laboratory found out of 6400 samples only 85 which contained 3 grammes of sulphate of potassium per litre. Since the passing of the law the figure has fallen until the highest amount is only 2·50 grammes per litre. There is therefore no reason to think that the intoxicating qualities of the wine are due to the sulphate of potassium. With regard to the question whether alcohol is responsible for the occurrence of cirrhosis, M. Richet recalled the important investigations of Hanot and his pupil Boix, who found that vinous intoxication is markedly increased by various acids, notably the fatty acids which are produced in the various dyspepsias so often caused by the abuse of wine. Wine acts on the liver by the alcohol which it contains as well as the acids, in addition to the acids produced by gastric fermentation. M. Lancereaux having noticed for many years that sufferers from cirrhosis were almost always wine-drinkers, sought to discover what was the special toxic element in wine. He thought that acids might be the reason, but made no experiments on this point. On the other hand he did make experiments with sulphate of potassium and found that by giving small daily doses to animals he could produce in them a cirrhotic condition exactly similar to that which is found in the cirrhosis of drunkards. M. Lancereaux is therefore, he thinks, correct in considering that sulphate of potassium is to blame in the production of the cirrhosis of drunkards.

Biological Differences between the Bacillus of Eberth and the Bacillus Coli.

At the meeting of the Hospital Medical Society held on March 19th, M. L. Toinot and M. Georges Brouardel said that there were very marked differential characteristics shown by cultures of these two micro-organisms in peptonised bouillon containing some arsenious acid. The bacillus of Eberth exhibits no growth in bouillons containing more than a centigramme of arsenious acid to the litre. It is equally impossible to train this organism, even if the observer begins with bouillons very much more feebly arsenical and goes on by slow degrees to those more strongly arsenical to grow the bacillus of Eberth in a bouillon which is of a higher arsenical strength than one centigramme in the litre. The bacillus coli, on the other hand, from the very first, from whatever source it may be derived, grows well in bouillon containing 1·5 gramme of arsenious acid per litre. Certain samples will even grow from the very first in bouillons containing 1·75 or even 2 grammes of arsenious acid to the litre, and this appears to show that this bacillus exists as various kinds, as opposed to the one kind of the bacillus of Eberth. The bacillus coli is, on the other hand, remarkable for the ease with which it can be trained to grow in an arsenious environment. It is possible by beginning with a bouillon of the arsenical strength of 1·5 grammes to the litre to gradually get it to grow in a medium containing arsenic to the strength of 3 grammes to the litre. Between an organism of this kind, which is so resistant to an enormous dose of arsenic, and the bacillus of Eberth, which is incapable of developing in the presence of the very small proportion of 1 centigramme of arsenic to the litre, there is undoubtedly a remarkable biological difference which may be added to those already noticed, such as the indol reaction and the lactose fermentation test, and which stands on the same footing. The same biological reaction in the presence of arsenious acid offers a method of differentiation from the group of the paracolon bacillus.

Reorganisation of the Army Medical Service.

The Minister of War has just laid before the Chamber the draft of a Bill to modify the composition of the military medical staff, including the military dispensers. According to this Bill the medical military staff, which is only just sufficient for its present duties, is to be increased from 1300 to 1457, but 50 *médecins stagiaires* of the school of Val de Grâce who are not at present included in this number will be for the future considered to have reached the rank of *médecin-aide-major* of the second class without taxpayers being put to any supplementary expense. This law will make it possible to give to regiments of artillery and engineers a third medical man whom they at present lack, and will place the officers of the health department from the point of view of promotion, under conditions more in accordance with the importance of their services. The number of military dispensers is reduced from 185 to 115, which will be enough to supply the military hospitals in time of peace and to meet the needs of mobilisation with the assistance of the dispensers of the reserve and the territorial army.

The Congress of the Obstetrical Society of France.

The Obstetrical Society of France will hold its sixth session in Paris from April 14th to the 16th. The two following subjects of discussion will be submitted: (1) on the Application of Forceps at the Brim in Flattened Pelves in Certain Positions of the Fœtus; and (2) the Treatment of Placenta Prævia.

March 28th.

⁂ In the last paragraph of the letter from our Paris Correspondent printed in our issue of March 19th the word "inexplicable" should have been *irreproachable*.—ED. L.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The "Little White Slave."

ONCE and again THE LANCET has pleaded the cause of Italy's "infanti perduti," and the sad, sad theme has with fresh insistance pushed itself into prominence by the recent discussions in the Chamber of Deputies on the hardships of labour, especially of child-labour, throughout the kingdom. There is no exaggeration in the rubric "Little White Slave" which introduces this letter. It indicates a transaction completed under the eyes of the authorities—a transaction, according to one of our leading journals, the *Tribuna*, "silently negotiated and sometimes certified by the sign-manual of the notary as a true and proper contract." Every year the great seaport of Marseillies witnesses the disembarkation of thousands of Italian children, "raccolti a branchi" (gathered together in droves), whose destination is service under the "impresari," to whom they are sold for purposes of "industry" and of mendicancy more or less veiled—ay, even for purposes of yet darker import—in the great cities of Europe. On this pathetic subject there is no higher authority than the Marchese Paulucci de Calboli, attached to the Italian Embassy in Paris, who, at immense pains and expense, has accumulated the details which should long ago have fructified in the remedial legislation for which they all too eloquently and vainly appeal, details which describe the short-lived career not only of the "models," the shoeblacks, the chimney-sweeps, the "figuristes," and the factory hands of tender years, but of the street performers, the circus "phenomena," the dancing accompanists to the organ-grinder, the victims of other and unmentionable *métiers*, illegally expatriated from Italy year by year. Taken on shipboard, generally at Naples, and mainly from the landward towns of Caserta and the Basilicata, these children are landed at Marseilles after a "middle passage" in which the "padrone" (master), by way of ensuring them to uncomplaining obedience, feeds them only on bread and oranges. From Marseilles they are distributed to the four points of the compass, chiefly *viâ* Lyons and Rive-de-Gier, by arrangements in keeping with the "padrone's" anxiety to elude all collision with the authorities. By false certificates of birth the said "padrone" dodges the French law of 1892, which renders illegal all work exacted from children under thirteen years of age. Checkmated by these "certificates" the authorities are further baffled in their kindly intervention by the declarations (previously extorted from the children by their savage "padrone") that they are "quite happy" in their lives and content with their anticipated "employment," while the "padrone" invariably succeeds in veiling from philanthropic eyes the "antri" (dens) in which their "protégés" are housed. With all his efforts (aided by free outlay of money) the Marchèse Paulucci, for instance, has never been able to see the "little white slaves" at feeding time, when such sustenance as is doled out to them is consumed "in comune" (in common), remote from all outside inspection. Thus it is that Italy's "infanti perduti" live and die—filthily and imperfectly clad, brutalised by hard conditions from which the short sleep of exhaustion is their only respite. Even those of them employed in "industrial" works—say, glass-blowers' factories—are turned out on Sundays and feast-days to beg and the few coppers they pick up from the public are impounded by the "padrone" in consideration of the "holiday" he has allowed them. All this time the astute "padrone" is quite at his ease as regards the law. He can produce not only passports but even, on occasion, the "contract" duly certified by the notary.—To the parents who have sold their flesh and blood he pays in advance the price agreed upon; the hardships or infamies to which the victims are subjected are rigorously kept dark; their cries stifled, and when they die "medical" evidence is forthcoming as to the "malady" from which they have succumbed. On the other hand, they are so terrorised by their "padroni" that they keep silence, tongue-tied in sheer dread of the punishment awaiting their disclosures. "Besides," adds the *Tribuna*, "if it were possible to imagine those livid arms raised in the gesture of accusation, to whom would they speak? by whom would they be understood in their south Italian *patois* which no outsider understands?" And now as to "remedial legislation." The Italian Chamber and Senate in 1873 unanimously voted a law against the employment of children in "mestieri ambulanti" (itinerant occupations); but as against the "furbo padrone" (the astute master) it has turned out a dead letter. Lately rendered more stringent it has made some impression on the traffic in little street vagabonds, but the large industrial factories have absorbed the victims rescued from the thoroughfares. According to the *Tribuna* the remedy must be sought not in invoking foreign Governments to aid in protecting the little Italian "import," but much nearer home. Ought not the Home authorities to be more vigilant? How about the police who so lightly concede passports to the "padrone" and his "troupe"? How about the harbour officials who look on at this yearly shipment of human blood? How about the "parroci" (curates), who instead of invoking the blessings of the Church on the little "emigrants," ought rather to enlighten and admonish the ignorant, avaricious parents as to the fate in store for their offspring? It is "the public opinion" of Italy which in this, as in so many other abuses, is so apathetic, so dormant. There is no movement from within, as in Great Britain with her "prevention of cruelty to children," as in the United States of America with their analogous organisation, to put a stop to the nefarious traffic. The paralysing word "pazienza"—that is, acquiescence in wrong till it somehow rights itself—checks all philanthropy, individual or aggregate, in the Italian kingdom; stifles in the birth all "sense of citizenship" or even all the humanitarian instincts out of which social reform springs; and forces the nation's well-wishers to find consolation in the roundabout, tardy, though ultimately effective processes of external example, stimulating internal initiative in bringing up Italian civilisation to a level with that of other less backward and more masculine races.

March 28th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

"To Prevent Premature Burial."

A BILL is before the Legislature of New York designed to prevent premature interment. It provides that certain mortuaries shall be established in cities and towns of a certain population and prescribes how the mortuaries shall be constructed, regulating the temperature of such and requiring the supervision and inspection by a physician and other attendants. The physician who last attended the deceased or the coroner is required to furnish a certificate to the proper officials certifying that he has made the following tests:—1. That he has made two or more incisions in one or more of the arteries of the deceased and that no blood has flowed therefrom. 2. That he has held the hand of the deceased and the fingers thereof entirely open and the fingers closed together not more than five inches from the flame of a lighted candle, gas lamp, or electric jet, and that there has been no transparent appearance existing. 3. That he has held a mirror, glass, or crystal before the lips and nostrils of the deceased at a distance therefrom of not more than half an inch and that no moisture or sign of moisture has appeared on the said mirror, glass, or crystal. 4. That he has twice or more applied to the skin of the deceased a piece of iron or steel heated red hot for at least the space of ten seconds and that no blister charged with water has formed at the place where the said iron or steel was placed. 5 That he has examined the eyes of the deceased and has found a mucus covering them. The proper officials shall thereupon issue a permit for the removal of the body to the proper place, enjoining that it shall be held for seventy-two hours from the time of death and shall not be buried until a certificate has been granted by the parties in charge and a permit thereupon issued from the Board of Health or other proper officials. The certificates and permits are to be free and the Act shall not apply where death has occurred from small-pox, scarlet fever, diphtheria, Asiatic cholera, or personal injuries, or where decomposition shall be plainly apparent. Penalties are provided to meet violations of the Act.

Placarding Contagious Diseases.

The Board of Health of Philadelphia has issued a circular requiring that hereafter without exception all cases of cholera, small-pox (variola or varioloid), scarlet fever, typhus fever, yellow fever, relapsing fever, diphtheria, diphtheritic croup, membranous croup, or leprosy, shall be placarded. This is to be done by placing a placard at the most conspicuous point of every entrance of the affected premises. Should the medical inspector be in doubt as to what is the "most conspicuous point" or as to the necessity of further placarding, isolation, or quarantine, he shall at once communicate with the chief medical inspector and follow his instructions.

A Remarkable Suit for Malpraxis.

A patient recently brought suit against his medical attendant for $5000 damages for malpraxis. The plaintiff averred that during May last he was suffering from acute pain in the right leg caused by ostitis of the tibia, that he employed the defendant to operate upon it and to remove the diseased portions of the bone, and that the defendant made a mistake and operated on the tibia of the left leg. These facts are true except as to the mistake. After the patient had been anæsthetised the surgeon found that both legs were similarly affected. He asked which one he was to operate upon and the patient's father replied that it was the left leg. He acted upon the decision of the father and operated upon the left tibia. The judge decided that the surgeon had a right to rely upon the decision of the father of the plaintiff in this matter and directed the jury to find a verdict for the defendant.

A Proposed National Society for the Study of Epilepsy.

The medical superintendent of the Craig Colony, Dr. W. P. Spratling, proposes to form a society for the study of epilepsy and he indicates the scope of its work as follows:—1. The scientific study of epilepsy. 2. The rational treatment of the disease. 3. The best methods of caring for dependent epileptics, including (*a*) the construction of proper homes based upon a study of the epileptic's needs as to classification and environment; (*b*) the study of the utilisation of the epileptic's labour for economic, scientific, and ethical reasons; and (*c*) the study of the best educational methods to be employed, including manual, industrial, intellectual, and moral forms and forces. In such a society science, philanthropy, and practical charity may well combine for a common purpose.

Physician's Right of Way.

An ordinance has been passed by the common council and is now in effect in Louisville regulating the rights of way and permits therefor. Section 1 concerns the right of way of ambulances over any other conveyances, while going for or carrying any sick or wounded. Section 2 concerns the wearing of physicians' badges and the right of way granted to such badges. Section 3 has to do with the issuing of permits to practise medicine. Section 4 requires the health officers to obtain a certified list of physicians licensed by the State Board of Health and practising in Louisville, &c., at railroad crossings, &c. Section 6 provides penalties for offences against the ordinance.

The Loomis Sanatarium Training School.

A training school for nurses has been opened at the Loomis Sanatarium at Liberty, New York. The opening class had thirteen members. Miss Helen Kimber, a graduate of the Bellevue training school, is the superintendent. The opening address was delivered by Dr. H. B. Loomis, Professor of Materia Medica in the University of New York. While these nurses will receive regular training as in the other schools special attention will be paid to instruction in the care of patients suffering from tuberculosis. This departure in the way of training is a new one and is justified by the ever-increasing demand for nurses for this class of patients. It is believed that such nurses can be constantly and advantageously employed in health resorts and as travelling companions for young people in the incipient stages of the disease. The course will be of two years' duration.

The Abuse of Medical Charity in New York.

The State Board of Charities reports that in the borough of Manhattan there are 66 dispensaries and that from 57 of these it received returns during the year 1897. They show that 1,043,428 patients in a population of 2,000,000 were treated, an average of 18,305 for each dispensary. Assuming that this would also be the average number for the nine or more dispensaries that did not report, the Board deduces that 1,208,173 persons really received gratuitous treatment during the year at the various dispensaries, and the dispensaries are by no means the only agencies of free medical treatment.

March 19th.

Obituary.

CHARLES WEST, M.D. Berlin, F.R.C.P. Lond.

By the death of Dr. Charles West, which occurred in Paris on March 19th, at the age of eighty-two years, the medical profession loses one of its foremost representatives and one of a school of physicians now almost extinct.

Dr. West was born in 1816 and was the son of a man in a small business in London, who had married the daughter of a Major Johnson of the Durham Fencibles. Mr. West and his wife were Baptists. A few years after his marriage he felt he had a "call" to become a minister among the Baptists and he obtained the charge of a chapel at Chenies, in Bucks. To eke out a not very large income he began to take pupils and soon found himself master of a somewhat flourishing school which before the end of his life he transferred to Amersham. His elder son helped him in the school; his second son, Charles, born in London on Aug. 8th, 1816, had at an early age determined to be a medical man and so was apprenticed to the village apothecary. Here he obtained, what he often regretted in later years had become so rare among medical men, a thorough knowledge of the Pharmacopœia and of dispensing. One of the things which helped him not a little in his practice with children was his habit of making their medicines nice. He often said that the dying out of country surgeries and the enormous increase of the Pharmacopœia were the causes of a very serious ignorance of the real nature of their prescriptions among the profession, and he held that something ought to be done to correct the defect.

After some years at Amersham he went to Germany and, after studying at Bonn, obtained his medical degree at Berlin and at the same time a money prize, which was a great help to him, for an essay on the female pelvis, his name, according to the German custom, being announced with a flourish of trumpets. After studying in Paris for six months he came to London and bought a partnership in the City. This was not a success and the money put into it was wasted. After a time he became connected with St. Bartholomew's Hospital and with the Dispensary for Women and Children in the Waterloo-road. At the former he gave his "Lectures on the Diseases of Women" which founded his reputation. They were remarkable not only for their keen practical observation, but for the very beautiful English in which they were written and which he probably owed not a little to the circumstances of his early life, for amongst the Nonconformist bodies the traditions of the English of the seventeenth century, of Bunyan and Baxter, with its perfect and yet beautiful musical simplicity, has never been lost. These lectures, delivered in a singularly musical voice, were much appreciated and were certainly a new departure in medical literature. At the same time that he was working at St. Bartholomew's Hospital he was trying, but in vain, to induce the committee of the Dispensary for Women and Children to open a children's hospital and when he failed he persuaded, in January, 1850, eight other gentlemen, one of them Dr. Bence Jones, to issue an appeal in favour of establishing such an institution. Meetings were held and appeals issued, written mostly by himself, and after a year's silent work, spent by him partly in investigating children's hospitals abroad, on March 19th, 1851, at a public meeting at which Lord Shaftesbury, then Lord Ashley, was chairman, the Children's Hospital was founded. A fortnight afterwards what had once been the house of the Court physician Dr. Meade, 49, Great Ormond-street, was taken for the hospital. It was in most ways very well suited for the purpose. It had a splendid staircase and a dressing-room, painted with little shepherds and shepherdesses, which became the girls' ward, while behind there were a good garden and a very large room, originally Dr. Meade's museum and afterwards a ballroom, admirably suited for the out-patient department. Little by little the hospital grew in usefulness. Dr. West wrote its early reports and delivered lectures on children's diseases which added to his already great reputation. He also wrote a little book, most touching in its sympathetic wisdom, called "How to Nurse Sick Children," and published it for the benefit of the hospital. About 1869 he was made Foreign Associate of the Académie de Médecine, Paris.

In 1880, unable to stand the London fogs, which had just hastened the death of his friend, E. M. Barry, the architect of the new Children's Hospital, he decided to leave London and practise in Nice during the winters. Though for about ten years more he continued in active service he never really recovered from a severe attack of influenza in 1891. But though his strength was gradually failing he never gave up his interest in the profession and only last year published what was in many respects an enlargement of his address at the opening of the St. Bartholomew's Medical Session in 1850 on "The Profession of Medicine: its Study and Practice, Duties and Rewards." Concerning this book we recently said that "the views of an expert who can look back through a long and honourable series of years are always worth reading. Dr. Charles West sets out many admirable views upon the profession of which he is so distinguished an ornament. The student and practitioner of every degree may learn something from this unpretentious little work. Dr. West is a little hard upon the Royal College of Physicians of London. He must be well aware that the Censor's Board is not a mere *caput mortuum* but does inquire into facts brought to its notice, though perhaps it might show more activity in initiating inquiry. He takes, perhaps, in the evening of his days a somewhat too cheerful view of the 'doctor's rewards.'"

Dr. West never claimed in any way to be a man of science and yet even on account of his methods and practices his books may be worth studying by the younger and more scientific generation. His success was due to the marvellous sympathy with suffering and power of inspiring the feeling that his whole mind and affectionate interests were his patients' for the time being. Children especially, with their wonderful faculty of recognising those who love them, went to him at once. The two bottom drawers of his consulting-room table were a treasure-house of marvellous toys, which assisted him to make his examination accurate and thorough. Though they are doubtless out of date nowadays no young practitioner could fail to be the better and wiser for reading his lectures.

Dr. West became M.D. of the University of Berlin in 1837, a Member of the Royal College of Physicians of London in 1842, and Fellow in 1848. In 1839 he became connected with the Infirmary for Children in the Waterloo-road and was subsequently physician to that institution, and at the Royal College of Physicians he held the office of Councillor in 1860, 1861. and 1869, Censor in 1863–65, and Senior Censor in 1870. He delivered the Croonian Lectures on Ulceration of the Os Uteri before the College in 1854, the Lumleian Lectures in 1871, and the Harveian Oration in 1874 on Harvey and His Times; he was the author of "Lectures on the Diseases of Infancy and Childhood," which reached its seventh edition in 1884 and has besides been translated into nearly every European language; "Lectures on Diseases of Women," a work of which the fourth edition was published in 1879, which has also been very widely translated; "Some Disorders of the Nervous System in Childhood," being the Lumleian Lecture for 1871; "The Mother's Manual of Children's Diseases," second edition, 1887; "Nice and its Climate" (from the French of Dr. Barèty), 1882; and "The Profession of Medicine: its Study and Practice, its Duties and Rewards," 1896. He was married twice, first to the daughter of Mr. N. B. Cartwright, of Stroud, Gloucestershire, by whom he had two children (the Rev. Dr. G. H. West, of Ascham School, Bournemouth, and Sister Margaret of the Community of the Resurrection, Grahamstown); and secondly to the daughter of Mr. Flon.

The following notes on the deceased physician are from the pen of Dr. Charles J. Hare:—

"I knew the late Dr. Charles West as I knew most other London physicians of some forty or fifty years ago and I think there was a mutual attraction and perhaps a community of views on medical subjects which made our meetings in after life agreeable and attractive, I believe, to each other. He early marked out the course of his future career by publishing his 'Lectures on Diseases of Infancy and Childhood,' which at once achieved a great medical popularity and divided the field of favour with the able work of Maunsell and Evanson on 'Diseases of Childhood,' which was then passing through its fourth edition. Dr. West's treatise reached a seventh edition. His very carefully written volume on 'Diseases of Women' (and all his works and lectures were written in most refined and classical English) still further enhanced his reputation and he was considered quite a leading authority on such subjects, but above all as regards children's complaints.

"Dr. West was a master of the English language and this he showed both in writing and in speaking by the marvellous flow of his well-chosen words, by his trenchant antitheses, and by the polish of his well-rounded sentences. I know not whether, Roman Catholic as he became, he had ever studied the charming letters of Ganganelli, the most liberal and the most kindly-hearted of the Popes, but his mode of expression and turn of phrases were very similar (especially when in making a formal well-considered speech he finished off with some telling sentence) to the mode in which Ganganelli habitually wrote. His Harveian Oration in 1874 affords many examples of what I refer to in his style of writing and perhaps I may quote from it a few lines in illustration of what I mean: 'We, with our narrow span of life, are naturally in a hurry for results. What comes not in our own time seems delayed indefinitely and we feel as little children do when they dig up the ground in their impatience to learn whether the seeds they planted have yet begun to sprout. It was thus once supposed that in the realm of nature effect followed cause in quick succession and it was little thought how slow is the action of those powers which have by their continuance upheaved mountains or have hollowed out deep seas. So, too, in the world of intellect the remote consequences of a discovery are long in disclosing themselves, impossible to be foreseen. No gift of second sight showed at the time to anyone the electric telegraph in Franklin's experiment made a hundred and twenty years ago. Harvey admired the skill of the artificer revealed by his researches as it had never been before; but of the practical result of those researches he saw little, and could never have imagined with what accuracy we can now, thanks to his labours, ascertain the nature and seat of disease in each of the four cavities of the heart itself, presage its course, and even where we cannot cure obtain at least an euthanasia for our patient and rob death of half its terrors by depriving it of more than half its suffering.'

"On two occasions especially Dr. West took a very decided part against the admission of women to the medical profession. The first of these was in 1878, when the Fellows of the Royal College of Physicians of London were summoned to consider whether they would grant their Licence to practise physic to women. The rejection of this motion was proposed by Sir George Burrows and was seconded by Dr. West, and the rejection was carried by 63 to 16 votes. On this occasion Dr. West made a very lucid and long speech which was afterwards, with many additions, published as a pamphlet under the title of 'Medical Women—a Statement and an Argument.' The matter was again brought before the College about four years ago and was again rejected, its non-acceptance being on this occasion proposed by Dr. West 'as the senior Fellow present.' His speech was a masterpiece of close argument and of beautiful diction and will probably always be remembered as such by all who heard it whether they concurred or not in his views. It would be out of place to enter here into any details of what he said on either occasion, but he strongly urged that when the proposed change 'implies the removal of old landmarks, the disintegration of old institutions, the gravely modifying the mental and moral characteristics of women and the relation of the sexes to each other, thus in many respects revolutionising society, it is surely worth while to consider the question of comparative loss and gain.' He showed that women generally did not wish for the admission of their own sex to medical examinations and that when they had the chance of consulting 'medical women,' infinitely the majority of them (in fact, *all* but an infinitely small minority) preferred, whatever might be the nature of their ailments, to be treated by men rather than by practitioners of their own sex. He showed by overwhelming evidence that the excuse for medical women in consequence of the prejudice of Eastern nations against males entering the zenanas was, for the most part, a false one; that in truth the medical man is privileged and has access to female patients, whether Mahomedan or Hindoo. One point more—as it was so cleverly and so naively taken up by Dr. West—may be selected from amongst the many which might be given; it is alleged, he says, 'as one of the great reasons for the practice of medicine by women that it would meet the urgent needs of those who were prevented by feelings of delicacy from seeking the advice of men in illness. But, with what some rudely term true female inconsistency, the very ladies who sympathise with this feeling with a sensitiveness which the coarser mind of the man cannot appreciate, yet do not shrink for a moment from the joint medical education of the two sexes and believe that the youths and maidens can visit the deadhouse and dissecting-room in company with no weakening in either of that "hidden strength" which, as the poet tells us, "She that hath that is clad in complete steel."' "

Our brief story of Dr. West's life supplemented by Dr. Hare's notes will enable our readers to understand the nature of the man who is depicted. He was an earnest fighter, a searcher after truth, a lover of his fellow-man, and a devoted son of the medical profession. No one ever held the banner of our profession aloft more strenuously than he did and if sometimes he differed from others as to the method of carrying it no one could ever attribute to him an unworthy or selfish motive.

ARTHUR JEFFARES BARLOW, L.R.C.P. & S. IREL.

ARTHUR JEFFARES BARLOW, who died suddenly at his residence, 179, Hither-green-lane, Lewisham, on March 11th, from cerebral hæmorrhage, was the eldest and only surviving son of the late Frederick Archer Barlow, solicitor, of 14, North Great George-street, Dublin. He studied medicine at Trinity College, Dublin, and graduated L.R C.S. Irel. in 1884 and L.R.C.P. Irel. in 1889. He was articled pupil to Sir George Porter, Bart., and after qualifying held the position of house surgeon at Donegal Infirmary until he went to Hither Green in 1892. Mr. Barlow, who was only thirty-seven years of age, leaves a young widow to mourn her loss.

Medical News.

UNIVERSITY OF GLASGOW. — The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (B., Botany; Z., Zoology; P., Physics; C., Chemistry):—

William Kirkpatrick Anderson (Z., C.), William Armitage (C.), Thomas Ballantyne (C.), Alexander Grey Banks (Z., C), Andrew Baxter (B., P.), Andrew Farm Bell (Z., C.), George Thomson Bogle (C.), Thomas Fraser Bowie (B., Z), Robert Bruce (Z, P.), Robert Bryson (B., Z., P., C.), Ernest Cecil Burnett (B., C.), John Miller Hopkins Caldwell (B), Angus Campbell (Z., P.), John James Young Campbell (B., P., C.), Robert David Campbell (C.), Daniel Lyall Carmichael (B., P.), Edward Seymour Chapman (C.), Walter Bartlett Chapman (Z., C.), George Herbert Clark (C.), Samuel Campbell Cowan (Z., C.), John Shedden Dale (B., C.), David William Davidson (B., P.), Alexander Dick (Z., C.), Mitchell Innes Dick (B., Z.), Hugh M'Millan Donaldson (B., Z.), William Dow (Z., P.), William Elder (B.), George Ferguson (B., C.), James Ferguson (Z., P.), William White George (B.), James Frankard Gilmour (Z., C.), John Miller Gordon (Z., P.), John Guthrie (Z., C.), John Andrew Hagerty (B., C.), David Haig (B., Z.), Saul Hyman Harris (Z., C.), Ronald Dingwall Hodge (Z., C), John Monnette Huey (Z., C.), John Brown Dalzell Hunter (Z., C.), Matthew Hunter (B., P.), William Johnstone Isbister (C.), George Rutherford Jeffrey (Z., C.), William Fletcher Kay (Z.), Alexander Dingwall Kennedy (Z.), Andrew Miller Kerr (Z., C.), Daniel Ross Kilpatrick (B., Z), Alexander King (C.), John Lambie (C.), Alexander Leggat (Z., C), Stanley Everard Lewis (B., Z., P.), William Jamieson Logie (Z., P.), Thomas Walker Love (C.), Thomas Lovett (P., C.), Robert Harry Manson (B., Z.), Robert Menzies (Z., C.), Alexander John Mitchell (C.), Allan Dixon Mitchell (B., P., C.) Samuel Johnston Moore (B., P.), Coll Macdonald (P.), Alexander Armstrong Macfarlane (Z., C.), Alexander Macintyre (Z., C.), Alexander Maclean (B., Z.), Hugh Archibald M'Lean (C.), John Maclean (B.), Alexander M'Gaw M'Millan (B, Z.), George Williamson M'Millan (B., Z., P., C), Dugald Henry Macphail (Z., C.), Andrew Alexander M'Whan (Z.), James Stuart Nicolson (Z., C.), John Dunn Nisbet (B.), Robert Orr (B., P.), John Paton (B), Alexander M'Millan Pollock (B, Z., C.), James Nimmo Prentice (C.), Thomas Rankine (Z), Andrew Reid Reid (Z., C.), John Mark Reid (Z., C.), John Walker Renton (P., C.), William Robertson (Blackwood) (Z.), Thomas Ritchie Rodger (P., C), Norman Cumming Rogers (P., C.), Edward Henry Ross (P., C.), James Russell (Z.), John Samson (Z., C), David Sandler (Z.), Robert Clemens James Schlomka (Z., C.), Frank Donald Scott (B., P.), Malcolm Bernard Gathorne Sinnette (P.), Robert Cassels Smith (B, C.), Donald Steel (C.), John Stewart (Z., C.), John Stewart, M.A. (Z.), John Barbour Stewart (Z., C.), John Allan Thom (Z., C.), William Wagner Turner (Z., C.), Robert Wallace (Z., C.), Thomas Irby Wallace (Z., C.), Alexander Brown Watt (B., P.), Peter Millar Waugh (P., C.), John Forrest Weston (P.), Archibald Simpson Wilson (B., C.), David Ashley Wilson (B.), James Wilson (B., C.), James Wyper (C.), and Watson Young (Z, C.). *Women*—Jane Campbell (P., C.), Minna Edgar (P., C.), Janet Bisland Higgins (B., Z.), Ethel MacLeod Lochhead (P., C.), Alice Moorhouse (P., C.), Emilia Anne Eliza M'Cosh (P., C.), Ethel Jane Mildred Pryce (P.), Martha Hunter Scott (P., C.), Ethel Maria Waldock (B., Z, P.), Edith Christine Wallace (P., C.).

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subjects indicated (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics):—

George Arthur (A., P.), Gavin Barbour (A.), James Oastler Barclay (A., P.), Thomas Thompson Bathgate (A., P.), Alexander Binning (A., P.), Harry Egerton Brown (A., P.), William Herbert Brown (A., P.), John Douglas Brownlie (A., P.), William Adam Burns (P.), Thomas Carruthers, M.A. (M.), Edward Provan Cathcart (A., P.), John Thomson Clark (A.), Robert Clark (A., P.), David Maclure Cowan (M.), George Morris Crawford (M.), Charles Campbell Cuthbert, M.A. (A., P.), Archibald William Wallace Davidson (M.), James Davidson, M.A. (A, P.), James Austin Dickie (A., M.), Frank Lindsay Dickson (P.), John Pinkerton Duncan (A., P.), Leonard Findlay (A., P.), Comyn MacGregor Finlay (M.), Duncan Johnstone Fletcher (M.), John Forrest (A., P.), Alexander Fraser, M.A. (A., P.), Matthew William Fraser (A.), George Gardner (M.), John Gardner (M.), Gilbert Garrey (A.), James Gemmell (M.), Edward Gillespie (A., P.), Hyam Goodman, M.A. (P.); John Gracie (A.), James Macpherson Henry (A., P.), Isaac Mackay Huey (A., P.), Thomas Hamilton Jack (A., P.), Pierce Jones (M.), John Kennedy (P.), Norman Maclean Leys (A), James Dunlop Lickley (A., P.), Donald M'Farlane Livingstone (A., P.), Alexander Logan (A., P.), David Dale Logan (M.), Robert Lunan (P.), Jacob Mains (A., P.), Andrew Mair (A., P.), Robert MacNab Marshall (A., P.), Allan Martin, M.A. (A., P.), William Archibald Mills (P.), Ebenezer Mitchell, M.A. (M.), Alexander Robert Moir (M.), Peter Moir (A., P.), Daniel Morrison (M), James William M'Dougall (M.), Anderson Gray M'Kendrick (M.), George Steventon M'Kinnon (P.), James Mackinnon (A., P.), George Todd Maclean, M.A. (P., M), William Johnstone Maclure (M.), Alfred Robert Maclurkin (M.), Burgess M'Phee (M.), Thomas Neill (M.), David Stewart Paterson (A., P.), Robert Paterson (A., P.), Thomas Stephens Picken (M.), William Barr Inglis Pollock (A., P., M.), Peter Mackenzie Reid (A.), Robert Rennie (P., M.), John Duncan Richmond (A., P.), David Russell (A., P.), David Shannon (A.), Edgar William Sharp (A., P., M), John Steele Smith (A., P., M.), William Stewart Stalker (A.), Andrew Stewart (P.), Frederic Richardson Stewart, M A. (P.); Robert Taylor (M), Robert Bryers Thom (M.), Joseph Swinburne Townley (M.), James Cameron Turnbull (A., P.), Albert Ernest Wainwright (A, P.), George Henry Wildish (M.), Morgan Watkin Williams (P., M.), Alexander Wilson (M.), Thomas Watson Wilson (A., P.), William Webster Watt Wilson (P.), Hugh Patrick Wright (A.), John Young (Glasgow) (A., P.). *Women*: Gertrude Jane Campbell (A., P.), Lizzie Thomson Fraser (A., P., M.), Helen Mary Gordon (M.), Lila Stephenson Greig (A., P.), Mary Forbes Liston (A., P., M.), Jean Marion Farie Marshall (A., P., M.), Karen Margrethe Myhre (M.), Margaret Mitchell Ritchie (A., P.), Mary Ann Thompson Ritchings (M.), Christian Cleland Wood Smith (A., P., M.), Mabel Talbot (A., P.), Edythe Marjorie Stewart Walker (M.).

The following have passed the third professional examination for the degrees of Bachelor of Medicine (M.B) and Bachelor of Surgery (Ch.B.) in the subject or subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health:—

James Napier Baxter (P., M.), James Freeborn Bennett (P.), William Broad (P., M.), Thomas Bullough Calland (M), Alexander Henderson Cassells (P., M.), James Robert Chalmers (P.), William Crerar (P.), John Cullen (P., M.), Charles Coeven Cumming (P., M.), John Lithgow Davie (P., M.), David Carr Douglas (P.), James Drummond (P.), Binnie Dunlop (P., M.), Hugh Campbell Ferguson (P.), William Gibson (P.), James Garden Green (P.), Thomas Inglis (P., M.), Andrew Kerr (P.), Andrew Stewart Lang (M.), John Wilson Leitch, M.A. (M.), Ramsay Miller (P.), Hugh Miller (P.), Ernest Wardlaw Milne (P.), James Hogg Macdonald (P.), Peter M'Fadyen (P.), John M'Gilchrist (P.), Charles Forbes Maclean (P.), Norman Forbes MacLeod (P.), John M'Millan (P., M.), John Patton (P., M.), John Reid (Lanark) (P., M.), William Alexander Riddell (P.), Arthur Robin (P.), James Scott, M.A. (P.), David James Smith (P.), James Johnston Smith (P., M.), William Hart Steel, B.A. (M.), Peter Alexander Steven (P.), Francis Stevenson (M.), Alfred George Stewart (P.), Charles Pinkerton Thomson (P.), Wm. Brown Thomson (P), Arthur Vost (P., M.), Alex. Laurie Watson, M.A. (P.), Alex. Simpson Wells, M.A. (P.), Robert Orr Whyte, M.A. (P.), William Wright (P.), and John Doctor Young (P., M.). *Women*: Jessie Downie Granger (P., M.), Jane Grant (P., M.), Mabel Hardie (P.), Jessie Sophia Beatrix Hunter (P., M.), Mary Longmuire (P., M.), Ina Lochhead M'Neill (P., M.), Jean Effie Prowse (M.), Sara Maude Robertson (P., M.), Catherine Love Smith (P., M.), Gertrude Florence Fleetwood Taylor (P., M.), Sara Whiteford (M.), and Grace Lorrain Young (P., M.).

THE OLDHAM VIGILANCE COMMITTEE.—A meeting of the medical profession of Oldham and the neighbourhood was convened by this committee on Tuesday, March 23rd, to hear an address on Medical Reform from Mr. R. B. Anderson, as the representative of the Corporate and Medical Reform Committee, and to receive the report of the work of the Vigilance Committee in Oldham since January, 1896. The chair was taken by Dr. James Corns, convener of the Vigilance Committee, who, in introducing Mr. Anderson, congratulated the medical men of Oldham on their unanimity and solidarity of opinion. Mr. Anderson then spoke of the various evils that afflict the profession, the first and greatest of which he considered to be overcrowding, leading to discreditable competition, to hospital abuse, and medical aid societies. He also alluded to his own well-known case.

Resolutions were then passed approving of the course taken by the Corporate and Medical Reform Committee and thanking Mr. Anderson for his address.

The late Mr. Augustin Prichard.—The late Mr. A. Prichard bequeathed £300 to the committee of the Bristol Royal Infirmary to found a prize in anatomy.

The Birmingham General Hospital.—At the annual meeting of the governors of the Birmingham General Hospital, held in the board-room on March 16th, the Lord Mayor presiding, attention was drawn to the latest gift of Sir John Holder to the hospital, which is a beautiful medallion bust of the Queen in Carrara marble. The portrait is excellent. The bust, which was greatly admired by the governors, will be let into the wall in the out-patient department, between the tablets recording the laying of the foundation-stone of the hospital by the Duke of York, and the opening of the building by the Princess Christian on behalf of the Queen.

Gifts to Dewsbury Infirmary.—At a special meeting of the board of management of the Dewsbury Infirmary recently held it was announced that Mr. A. H. Kirk of Dewsbury had promised to defray the cost of providing a children's ward of eight cots, together with the structural alterations necessary and the furnishing of the ward. The £750 which were collected in the Diamond Jubilee year with the object of building a children's ward will now be transferred to the maintenance fund. It was also announced at the same meeting that Mr. G. D. Cullingworth had promised to send a cheque for 50 guineas for the purpose of refurnishing the bedrooms of the nurses and servants.

The Northallerton Urban Council and its Medical Officer.—A rather curious *impasse* has been come to at Northallerton. The urban council of that town has advertised for a medical officer of health and only one application has been received—namely, from Mr. C. Tweedy, who has previously held the post. But there is, too, a vacancy upon the Council and Mr. Tweedy is also standing as a councillor. Now it is quite clear that under the Municipal Corporations Act of 1888, Section 12, sub-section 1, that if Mr. Tweedy is elected medical officer of health he is disqualified from being a councillor, for to quote the words of the Act, "A person shall be disqualified from being elected or from being a councillor if and while he ...... holds any office or place of profit other than that of mayor or sheriff in the gift or disposal of the council." The Northallerton council naturally object to being put to the expense of an extra election as they would be if Mr. Tweedy took the office of medical officer of health, then resigned, and then was a candidate for the councillorship, or *vice versa.* Mr. Tweedy appeared before the council and was interrogated as to his intentions and declared his intention of going to the poll for election as councillor. Eventually the consideration of the election of a medical officer was held over until the meeting of the council on April 7th. In the meantime the district is without a medical officer of health.

The Bristol Hospital for Women and Children.—Much friction arose some little time ago between the then house surgeon at the Bristol Hospital for Women and Children, Dr. W. L. Christie, and certain members of the staff of the hospital. The culmination was reached by the publication by Dr. Christie of a series of accusations against the staff charging them with neglect, cruelty and ignorance, while the committee were said to have burked inquiry as to the state of affairs and to have tampered with the records of the patients. To get at the truth of these serious matters a Commission, appointed by Lord Herschell and consisting of Mr. G. W. Askwith, Dr. W. S. Church, the Hon. A. Elliott, Mr. Timothy Holmes, and Mr. Victor Williamson, recently sat for five days, during three and a half days of which Dr. W. L. Christie was heard. He then asked for an adjournment for a fortnight, which the president refused, but said that Dr. Christie might apply by counsel at some future date for leave to cross-examine. This offer Dr. Christie refused. The president gave it as the decision of the Commission that Dr. Christie's charges were untrue and not justified. It is well that this "hospital scandal" has been so definitely cleared up. Dr. Christie seems to have formed quite a wrong idea of the position and duties of a house surgeon and we cannot but agree with one of the Commissioners, Mr. Williamson, who said that in his opinion it would have been better in view of the friction if the committee of the hospital had dispensed with the services of the house surgeon at an earlier date.

Hunterian Society.—A meeting of this society was held at the London Institution on Wednesday, March 23rd, the President, Mr. Cotman, being in the chair.—Dr. Appleford read an interesting paper on Medical Practice in the West Indies. After describing the various medical appointments in the islands he mentioned that the diseases most commonly met with were anæmia ground-itch, jiggers, and yaws. Dirt-eating amounted to a disease, and the habit was chiefly practised by the children of the coolie population. The most favoured dirt was a light-coloured clay, but failing that any clay or soil was consumed. Yellow fever was very prevalent but rarely attacked those who had not resided in the islands for more than a year. The value of Trinidad and Barbadoes as health resorts was pointed out. Dr. Woods then read a paper on the Treatment of Drink Craving and Cardiac Affections by Suggestion. He considered that the morbid craving for alcohol was not thirst but a gastric sensation like hunger. The method of employing suggestion in the treatment of cases of "drink-hunger" was described and the results of 38 cases so treated were detailed. In the treatment of cardiac affections by suggestion much success had also been obtained, both in functional and organic diseases, though the former class of cases had yielded the best results. The method adopted and its rationale were fully discussed.

Presentations to Medical Men.—At a crowded meeting on Thursday, March 24th, at St. Bartholomew's Hospital a presentation of a testimonial and a picture was made to Mr. James Berry, F.R.C.S. Eng., on his resigning the surgical registrarship. Sir Thomas Smith, Dr. Church, Mr. Langton, Mr. Marsh, and many others officially associated with the hospital were present. The interest of the occasion was, however, largely owing to the fact that this was a spontaneous expression of feeling from the house surgeons and dressers who had worked under Mr. Berry. Dr. H. W. Lance, as senior house surgeon, took the chair and Dr. H. B. Meakin made the presentation. The wording of the address was as follows: "This testimonial, together with a painting of St. Bartholomew's the Great, was presented to James Berry, Esq., F.R.C.S., by the undersigned on the occasion of his resigning the surgical registrarship of the hospital, in token of the esteem in which he is held by those who have had the privilege of working under him, their admiration for the excellence of his work, and their sincere wishes for the success of his future career." The picture was painted by Miss Sprague and has since been exhibited at the Ridley Art Club.—On Tuesday, March 22nd, a presentation was made to Dr. A. J. Rice Oxley by the members of the Norwood and Streatham Literature, Science, and Art Society, on the occasion of his retiring from the post of honorary secretary to the society. The society was originally founded by the exertions of Dr. Rice Oxley thirteen years ago and during all that time he has been intimately connected with it and energetically engaged in working it up to a very high standard. The society is one of the most flourishing of its kind, comprises over 400 members, and has had among its lecturers some of the best known names in the world of literature, science, art, travel, and adventure. Dr. Rice Oxley has also been associated with the Norwood Technical Institute since its foundation and has done a great deal of work as chairman of the social side of that institution. The presentation, which took the form of a gold chronometer and a volume on the "Life and Work of Meissonnier," and a gold bracelet for Mrs. Rice Oxley, who had greatly assisted her husband in his secretarial duties, was made by Mr. C. E. Tritton, M.P. for Norwood, in a speech reviewing the life of the society and the work of Dr. Rice Oxley. Rev. John Watson ("Ian Maclaren"), the lecturer for the evening, also took occasion to thank Dr. Rice Oxley in the name of himself and other lecturers for the kindness they had always received at his hands.—On March 25th, at the town hall, Haverhill, on the occasion of the public presentation of the St. John Ambulance Association's certificates, &c., Mr. Thomas Herbert Goodman, M.R.C.S. Eng., L.S.A., honorary lecturer, was presented by the members of the senior and junior classes with a marble clock with inscribed plate.—On March 16th Mr. A. W. Anderson, M.B. Edin., of Dalbeattie, on concluding his lectures to the local ladies' ambulance class, was presented with a silver cheese-dish and flower-pot by the members of the class.—On March 18th Mr. F. Kelly, M.B. Aberd., of Schoolhill, Aberdeen, at the annual supper of the members of the North British railway servants' ambulance class, was the recipient of a curio table in recognition of his services to the class.—On March 17th Mr. J. Cunningham, M.B. Glasg., of Stewarton, Ayrshire, was presented with a tea-set and tray by the Stewarton ambulance class as tokens of appreciation of his lectures on First Aid.—On the same day Mr. R. A. Farrar, M.D. Oxon., of Stamford, Lincolnshire, received at a meeting held in the Technical School, at the hands of the ladies attending his ambulance and nursing lectures, the gift of a leather kit-bag bearing his initials and an illuminated address as acknowledgments of his excellent instructions.—Mr. John Nightingale, M.B. Edin., was the recipient, on March 5th, from the members of the Horsforth St. John Ambulance class, of a handsome set of Shakespeare's works as an appreciation of his lectures to the class.—On March 10th, at Thornaby-on-Tees, on the distribution of certificates to the successful members of the Stockton branch of the St. John Ambulance Association, Mr. E. I. Cowen, L.R.C.P. Edin., M.R.C.S. Eng., of Thornaby, was presented with a pipe and case and a cigar holder in recognition of the instruction on first aid given by him to the branch.—On March 11th, Mr. Albert Ehrmann, L.R.C.P. Lond., M.R.C.S. Eng., of Bitterne, Southampton, was presented as a mark of esteem on the occasion of his leaving that town after a residence there of upwards of seven years by neighbours and friends in the district around with a purse of money, subscribed among others by many patients in humble circumstances. An address was at the same time to have been presented, but it was not quite completed.—Mr. P. E. Adams, L.R.C.P. Lond., M.R.C.S. Eng., who for some time has held the office of house surgeon at the Dorset County Hospital, has, on leaving that institution, been the recipient, as tokens of esteem, from the nursing staff, of an inkstand and a framed photograph of the hospital, given by Mr. Carter, the dispenser.—On the occasion of the distribution of certificates by the Mayor of Eccles to the successful candidates of the London and North-Western Railway ambulance class at the Locomotive Department, Patricroft, Mr. T. Leahy-Lynch, L.R.C.P., L.R.C.S. Edin., honorary lecturer to the class, was the recipient of a gold-mounted silk umbrella as a token of appreciation of his services.

Diphtheria in London.—During the past month the amount of fatal diphtheria recorded in London has remained, for the most part, at a uniformly low figure. In the three later weeks of February the registered deaths from the disease were 45, 33, and 46 respectively; and in the week ended on March 5th the number was 38, being 4 less than the total for the corresponding week of the preceding month, and at the same time 1 in excess of the corrected decennial average for the particular week of March in the years 1888–97. All the 38 deaths were of young persons aged under twenty years, and only 3 were of infants. Hackney was credited with 5 and St. Pancras with 4 of the deaths. In the Outer Ring the deaths registered were numerous—namely, 22, as many as 9 being of persons in the West Ham sub-districts of Plaistow, Leyton, and Walthamstow, and 4 of persons in the Edmonton district. In the week ended March 12th, the registered deaths from diphtheria in London fell to 33, and were 3 below the corrected decennial average for the week. All were again of young persons aged under twenty-years, and only one was of an infant. Wandsworth district had the highest number of deaths—namely, 5, and Camberwell came next with 4 deaths. In the Outer Ring the registered deaths from diphtheria continued numerous, 19 being the total, of which again 9 belonged to West Ham sub-districts; Plaistow having 5 credited to it, while the Edmonton Union again had 4 recorded deaths. In the week ended on March 19th, the total number of deaths from diphtheria registered in London rose slightly to 36, but was nevertheless 3 below the corrected decennial average for the week, the eleventh of the registration year. All were of young persons under the age of twenty years, 6 being of infants and 24 of children under five years of age. Shoreditch and Poplar sanitary areas had each of them 5 deaths. A great fall was witnessed in registered deaths from the disease in the Outer Ring, only 10 being recorded, of which 4 occurred in the West Ham districts and 3 in Hendon district. Last week, however, there was a rise in the amount of fatal diphtheria, both in the county of London and in the Outer Ring. In London itself, the registered deaths numbered 53, a number identical with that in the last week of the past registration year, and higher than that of any subsequent week; a number too, that was 17 in excess of the corrected decennial average for the corresponding period of 1888–97. All the deaths were of persons aged under twenty years, 5 being of infants, and 36 of children under five years of age. Hackney was credited with 7 deaths, St. Pancras and Battersea each with 5 deaths, and Bethnal-green with 4 deaths. In the Outer Ring the 10 registered deaths of the preceding week gave place to 16, of which 7 were in the West Ham registration district.

Association of Asylum Workers.—The annual meeting of the Association of Asylum Workers was held at 11, Chandos-street, Cavendish-square, on Monday, March 28th, when Sir James Crichton Browne, F.R.S., presided. The report showed that the number of ordinary members of the association at the end of 1897 was 2534. An employment bureau has been organised under the auspices of the association with a view of helping to raise the character of asylum service, and an appeal had been issued for help for the movement generally. Mrs. Creighton, in seconding the motion for the adoption of the report, said she wished every success to this association. Nursing in asylums was among the noblest kind of work, and everyone who undertook the important duties involved ought to feel they had received a call to perform them. On the motion of Mr. Mocatta the meeting approved the proposal to establish a home or homes of rest for asylum workers.

Irish Medical Schools' and Graduates' Association.—At the annual general meeting of this association (which now numbers upwards of 700 members) held on St. Patrick's Day at the Café Monico, the President, Dr. E. D. Mapother, being in the chair, the following were declared after the ballot to be the members of council for the year 1898–99:—P. S. Abraham, M.D. Dub., chairman; Sir W. Thomson, President of the Royal College of Surgeons in Ireland (Dublin), President-elect; Professor James Cuming, M.D. R.U.I. (Belfast), R. Heath, M.D. R.U.I. (St. Leonards), H. H. Phillips-Carew, M.D. Dub. (Reading), and Professor Alex. Macalister, M.D. Dub., F.R.S. (Cambridge), Vice-Presidents; and Sir John Banks, K.C.B., M.D. Dub. (Dublin), J. P. H. Boileau, M.D. Dub., Brigade-Surgeon-Lieutenant-Colonel (Trowbridge), Campbell Boyd, L.R.C.P. & S. Irel., J. A. Browne, M.B. R.U.I., M. J. Bulger, M.D. Dub., G. Roe Carter, M.R.C.P. Irel., F. W. Davis, F.R.C.S. Irel., Inspector-General R.N., Sir James N. Dick, K.C.B., J. Donelan, M.B. R.U.I., R. Fegan, M.D. St. And., L.R.C.P. & S. Irel. (Blackheath), Sir B. Walter Foster, M.D. Erlang., C. H. Hartt, L.R.C.S. Irel., H. Macnaughton-Jones, M.D. R.U.I., W. H. Lloyd, M.D. St. And., Inspector-General R.N., Sir W. MacCormac, Bart., President of the Royal College of Surgeons of England, F. A. de T. Mouillot, M.D. Dub. (Harrogate), C. Dawson Nesbitt, M.D. Dub., R. T. A. O'Callaghan, F.R.C.S. Irel., J. Russell Ryan, M.D. Dub., E. Irwin Scott, M.D. St. And. (Brighton), T. Gilbart-Smith, M.D. Dub., Sir W. Stokes, M.D. Dub. (Dublin), F. J. A. Waring, M.D. Brux. (Brighton), and Gerald F. Yeo, M.D. Dub., F.R.S. (Totnes), with the honorary secretaries, James Stewart, B.A., F.R.C.P. Edin. (Clifton), and P. Johnston Freyer, M.A., M.Ch. R.U.I., Surgeon-Lieutenant-Colonel. Mr. R. Jocelyn Swan was re-elected honorary treasurer and the honorary auditors elected were H. G. Thompson, M.D. R.U.I. (Croydon), and W. E. St. Lawrence Finny, M.B. R.U.I. (Kingston).

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Lunacy Laws.

In the House of Lords on Friday, March 25th, the Lord Chancellor introduced the Bill of the Government to amend the Lunacy Laws.

Sick Nursing in Ireland.

Mr. Gerald Balfour, Chief Secretary for Ireland, has made it known that he hopes to be able to introduce a Bill which among other thing will give power to boards of guardians in Ireland to subscribe to nursing institutions for the benefit of the sick poor in their districts.

HOUSE OF COMMONS.

THURSDAY, MARCH 24TH.

Precautions against Anthrax.

Sir M. White Ridley, in answer to Mr. Fortescue Flannery, said that the special rules have been served on all employers known to be engaged in the sorting of dangerous classes of wools and in all save four cases where the employers have still the right to object they have actually come into force.

Flogging in the Army.

Dr. Farquharson asked the Secretary of State for India if he could state to the House how often during the years from 1890 to 1898 corporal punishment had been inflicted for breaches of prison discipline in military prisons in India.—Lord George Hamilton replied that there had been 304 cases during the years from 1890 inclusive up to date in which corporal punishment had been inflicted in military prisons in India for breaches of prison discipline.

Asylum Accommodation in Ireland.

Mr. Gerald Balfour, replying to a question on the above subject by Mr. Hayden, said that the Belfast District Asylum was seriously overcrowded. The new asylum at Antrim was not yet ready for occupation, though it was approaching completion. The determination of the officers and staff of the new asylum was at present under consideration so that there might be no delay in the transfer of the patients when the asylum was completed. It was the case that there were 300 patients under care and treatment in the buildings erected at Portrane. The patients were under the charge of the resident assistant medical officer. There was a legal difficulty in the way of appointing a resident medical superintendent for the new asylum at Portrane.

County Infirmaries in Ireland.

Mr. Gerald Balfour, in answer to Mr. Jordan, said that if the Irish Local Government Bill passed with reasonable speed through committee the Government would probably bring forward a clause dealing with county infirmaries. He was not, however, in a position at this stage to state what form their proposals, if made, would take.

The London Water Supply.

Mr. Harry Samuel asked the President of the Local Government Board if he was aware that there had lately been a partial water famine in the East London district; and if so, what steps Her Majesty's Government intended taking in the matter.—Mr. Chaplin replied: I am not aware of any recent water famine in the East London district, but in consequence of the question of the hon. Member I have inquired of the company and they state in reply that the assumption of a partial water famine is without foundation, that no complaints have been received by them, that their storage reservoirs are all full, and that the supply to the consumers has been continuous.—Mr. Buxton asked the right hon. gentleman whether he would direct his inquiries to the persons who had complained.—Mr. Chaplin replied that the Local Government Board had received no complaints.

Prisons Bill.

At this sitting of the House Sir M. White Ridley made a statement with regard to the Prisons Bill. The primary object of the Bill, he said, was the creation of powers for applying differential treatment to the prison population as far as was consistent with the proper punishment of criminals and the maintenance of discipline and the protection of society. It provided for amalgamation of administration, so that in future the inspectors now available only for the work of the local prisons should have their duties extended to the work of the convict prisons, and it enabled the Secretary of State to frame rules for both local and convict prisons, an arrangement which would bring all our prison rules within the purview of Parliament. The Bill gave power for he classification of persons, and as regards hard labour it enabled regard o be had to the sex, age, industry, and conduct of the prisoner. Having explained various provisions for the classification of prisoners he Home Secretary said that the Bill gave power to release a prisoner n payment of a portion of the sum for the non-payment of which he ad been committed. It also abolished punishment cells and made urther provision against overcrowding and it extended the powers of isiting committees. Speaking of the Bill generally the right hon. gentleman said it was not to be regarded as a revolution in prison dministration, but rather as a careful and cautious experiment.

FRIDAY, MARCH 25TH.

Foreign Milk.

Major Rasch asked the President of the Local Government Board hether his attention had been called to the prosecution of the Callow ark Milk Company by W. H. Temple, inspector under the Food and rugs Act, in which Mr. Cassal, public analyst, stated that the milk, elieved to be Dutch, contained forty grains of boric acid to the gallon, hich was forbidden to be used in Holland and Germany except in milk pecially reserved for exportation to England; and whether, considering he high standard required from the British farmer, he could check the nportation of the adulterated article.—Mr. T. W. Russell, on behalf of r. Chaplin, said: I understand that the magistrate has not yet given is decision in the case referred to and under the circumstances it does ot appear to me that I can make any statement in the matter.—Major asch: Is the hon. Member aware that tens of thousands of gallons of rench milk are landed at Southampton every day, which is only made aleable by the presence of some antiseptic?—Mr. Russell: Reports that effect come to the Local Government Board and I hope the hon. entleman will repeat his question after the decision of the magistrate.

Vaccination in Scotland.

Mr. Crombie asked the Lord Advocate whether, in the event of the accination Bill recently read the first time becoming law, the aximum period during which a child might remain unvaccinated ould be longer in England than it was in Scotland; and whether he ould introduce at an early date a Scotch Bill dealing with this bject.—The Lord Advocate replied: The hon. Member has correctly ated the possible effect of the Vaccination Bill to which he refers. The maximum period in Scotland, as he is no doubt aware, is six months, but with a power to the medical officer if the child be not in a fit state for vaccination to extend the period by means of a certificate to be in force and renewable thereafter for a further period of two months. Also, in insular, Highland and other districts certain provisions of the Act may be modified with the approval of the Lord Advotate. This system has hitherto worked successfully and there seems no necessity, so far as Scotland is concerned, for any legislation.

The Tuberculosis Commission.

Mr. Chaplin, in answer to Mr. Field, said that he had reason to believe that the Tuberculosis Commission would agree to their report at no distant date. As to the modification of prosecutions pending the issue of the report he had no authority under which he could give any instructions.—Dr. Farquharson asked the right hon. gentleman whether the Government would provide time for the discussion of this important question.—Mr. Chaplin replied that this was a matter for the Leader of the House.

Vaccination Prosecutions.

Captain Norton asked the President of the Local Government Board whether, in connexion with the proposed new Vaccination Act, it would be possible to stop prosecutions under the existing Act.—Mr. Chaplin replied that he had absolutely no power in connexion with the proposed Act or otherwise to direct that prosecutions under the existing Acts should cease.

Debate on the Army Medical Department: Concessions Announced.

When the House was in Committee of Supply on the Army Estimates a debate took place on the affairs of the Army Medical Department.

Dr. Farquharson referred to the absence of proper competition for the appointments of the Department and its cause. He did not think, he said that there was any chance of a return to the old regimental system, but this, he thought, medical men were entitled to demand, and that was that in this, as in other countries, there should be a Royal corps within which the medical officers should have distinctive rank.

Mr. Powell Williams, Financial Secretary to the War Office, said he was glad of this opportunity of announcing the views and intentions of the Department on this subject. There was nothing that the Secretary of State desired more than that there should be a complete understanding between the War Office and the medical profession and that the flow of candidates into the medical branch of the service should cease to be interrupted. The two claims on which greatest stress had been laid were that the compound title should be exchanged for a simple title representing rank in the army or in the corps and that the medical branch of the service should be united into one corps. His honourable friend had used the word "Royal." That title could only be given by special grant of Her Majesty, but he was happy to state that the Secretary of State was perfectly willing to give effect to the desire that the medical service should be united with the corps, and as soon as arrangements could be made the medical branch of the service would be formed into what would be called the Army Medical Corps. As to titles he would say that army titles were conferred upon medical men in the hope that those titles would meet the wishes of the profession. The Secretary of State saw no reason why a surgeon should be called a surgeon-major any more than a chaplain should be called a chaplain-major and he was perfectly willing to abolish the compound titles and to allow officers of the medical branch of the service to call themselves by the same titles that were applicable to officers of the other branches, so that in future according to the rank of the medical officer he would be called colonel, major, captain, or lieutenant of the Army Medical Corps. Hitherto some medical officers had enjoyed the honorary rank of major-general. That rank implied a general command and army medical men did not ask for a general command; and to give them rank above that of colonel in their corps might lead to some confusion. Upon this question the Secretary of State had not given a final decision, but certainly army medical men would be given rank up to that of colonel and would stand on the Army List in accordance with the rank and seniority their title gave. He was glad to hear that these concessions would be deemed satisfactory and he was sure that the Department would hail with satisfaction a renewal of the cordial understanding with the medical profession which formerly existed.

Sir William Priestley gave the House some statistics as to the number of candidates for the army medical service in recent years. These, he said, showed that there was discontent with the present conditions of the service and that the best men were not attracted to it. Medical officers claimed a status in the army, a substantive rank; they wished to be regarded as an integral part of the army and not as mere camp followers, as they had been called by some who were antagonistic to them. Hitherto, it might be said, they had scarcely been fairly treated by the combatant officers; they had been constantly exposed to humiliations and social disadvantages, which they very much resented. As a result of their not being part of the regiment, as they used to be, they had been left out of social functions and were not included in that caste which was, he believed, so exclusively maintained by combatant officers. They were no longer held to be brothers in arms. He was told that they had again and again been treated with contumely by combatant officers and he believed that one distinguished combatant officer had said that the medical officers had no more right to be called captains or colonels or to be included among the officers of the army than he had to be regarded as the Archbishop of Canterbury. The medical officers claimed to be received as gentlemen by gentlemen and to be treated with no less respect than other officers. They dressed wounds under fire and were exposed to all the dangers of combatant officers. Medical officers had to undergo a more stringent examination than combatant officers and many of them were University graduates. Yet he knew of two brothers who entered the army, one in the combatant branch and the other in the medical service, and the latter was refused admission to the officers' club and kept outside their social circle to which the former was admitted. The smooth working of the new arrangement must depend in a great measure on the wisdom and tact of the commanding officers. Without that the concessions made to the medical officers would create greater friction and make things worse than before.

Dr. Farquharson congratulated the Secretary of State on his pluck in holding out against the tactics of the military advisers of the War

Office who had till now prevented this concession to medical officers and expressed hopefulness of the beneficial effect of the concession.

Captain Norton put forward the suggestion that the appointment of Director-General of the Army Medical Department as one of the prizes of the profession should be for five instead of for seven years.

Mr. Johnston and Mr. Hemphill spoke of the state of feeling among medical men in Ireland with regard to the service.

Colonel Blundell expressed the opinion that the relations between the medical and the combatant officers would not be satisfactory until every medical officer was attached to a particular regiment.

Captain Sinclair spoke in the same sense, though he should like very much to see the scheme now proposed succeed.

Mr. Brodrick, Under-Secretary of State for War, said the Department could not fail to be gratified by the manner of the reception accorded to their proposals. It was natural when one concession was made that others should be asked for, and he was not surprised therefore that an appeal had been made for a return to the regimental system. He would point out, however, that there was great objection to that on the ground of expense. In order to carry it out they would have to add sixty officers to the Medical Department, and he was quite sure that if the War Office were to set up an addition to the establishment which was not needed in order to preserve the army in health they should very soon find a motion made in the House of Commons to cut it down. The suggestion that the Director-General should no longer be appointed for seven but for five years was one which he should be pleased to bring before Lord Lansdowne for his consideration.

The House then proceeded to the consideration of other business.

Monday, March 28th.

Medical Officers of Irish Asylums.

Mr. Gerald Balfour, in reply to a question by Mr. William Redmond, said that he had received a memorial from medical superintendents and medical officers of district lunatic asylums in Ireland as to their position under the Local Government Bill, and he would give it his attention. He must not, however, be understood as giving any pledge that the representations of the memorialists would be acceded to.

Tuesday, March 29th.

Oysters and Typhoid Fever.

Sir William Priestley asked the President of the Local Government Board whether, in view of the report concerning a fresh outbreak of typhoid fever from eating oysters, he proposed in the near future to take steps which would, as far as possible, prevent oysters being supplied from polluted sources and, while giving greater security to the public, would assist in rehabilitating the oyster industry.—Mr. Chaplin replied that the question of legislation on this subject was receiving his attention, but he could not at present make any more definite statement in the matter.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

Anderson, T. L., M.B. Melb., has been appointed a Resident Medical Officer to the Freemantle Hospital, Western Australia.

Boase, R. Davey, L.R.C.P. Lond., M.R.C.S., has been re-elected Medical Officer for the Penzance Port Sanitary Authority.

Bond, Eleanor C. M.D. Brux., L.S.A., has been appointed House Surgeon to the Belgrave Hospital for Children, London, S.W.

Bullmore, W. King, M.D. St. And., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Falmouth and Truro Port Sanitary Authority.

Chater, J. S., M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Senior House Surgeon to the Royal Surrey County Hospital, Guildford

Cooper, H. W., M.D. Balt., U.S.A., has been appointed a Resident Medical Officer and Vaccinator at the Carcoar Hospital, New South Wales.

Cox, J. W., M.B., Ch.M. Edin., has been appointed a Government Medical Officer and Vaccinator for the District of Nymagee, New South Wales, vice H. R. H. Peare.

Dick, J. A., M.D. Edin., has been re-appointed an Honorary Visiting Medical Officer to the Randwick Asylum, New South Wales.

Dixson, T. S., M.B., Ch.M. Edin., has been re-appointed an Honorary Consulting Physician to the Randwick Asylum, New South Wales.

Evans, Thos., M.R.C.S., L.S.A. Lond., has been re-appointed an Honorary Consulting Surgeon to the Randwick Asylum, New South Wales.

Flashman, J. F., M.B. Syd., has been appointed a Junior Medical Officer to the Hospital for the Insane, Callan Park, New South Wales.

Forbes, Arthur D., M.B. Aberd., has been appointed Medical Officer for the Seventh Sanitary District (Horsmonden) of the Tonbridge Union.

Greenwood, H. Harold, M.R.C.S., L.R.C.P., has been appointed Senior Assistant Medical Officer to the Derby County Asylum.

Hislop, W., M.B. Univ., N.Z., has been appointed a Public Vaccinator for the districts of Waikonaite and Palmerston, New Zealand.

Hobling, John Henry, L.S.A. Lond., has been appointed Medical Officer by the Bideford Rural District Council.

Hunt, J. S., L.R.C.P. Edin., M.R.C.S., has been appointed Manager of the Stock Department of Queensland.

Hyde, G. E., L.R.C.P. Lond., M.R.C.S., has been appointed an Honorary Consulting Surgeon to the Worcester Infirmary.

Jaffrey, Francis, F.R.C.S. Eng., has been appointed Assistant Surgeon to the St. George's Hospital, London.

Kiernander, H. B., L.R.C.P., L.R.C.S. Edin., has been appointed Surgeon to the Emud Bay Railway Company, Tasmania.

Lawson, T. C., M.R.C.S., L.S.A., has been appointed Medical Officer for the Fourth Sanitary District of the Devizes Union, vice S. F. Holloway, resigned.

Lloyd, J. D., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Chirk Rural District Council.

McKenna, J., M.D., Ch.M. Irel., has been appointed a Public Vaccinator for Shepperton, Victoria, Australia, vice J. W. Harbison, resigned.

Maddox, W. G., L.R.C.P. Lond., M.R.C.S., has been appointed an Honorary Medical Officer to the Launceston Hospital, Tasmania.

Mason, James, M.D. Brux., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., D.P.H. Camb., has been appointed a Public Vaccinator for the district of Otaki, New Zealand.

Millard, R. J., Jun., M.B., Ch.M. Syd., has been appointed a Senior Medical Officer for the Hospital for the Insane, Kenmore, New South Wales.

Myers, Charles J., M.R.C.S., L.S.A., has been appointed Medical Officer of Health by the Louth Rural District Council, vice R. Domenichetti, resigned.

Newmarch, B. J., L.R.C.P. Lond., M.R.C.S., has been appointed an Honorary Secretary to the North Sydney Hospital, New South Wales.

Nicholl, E. H. B., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer to the Mudgee Hospital, New South Wales.

Nisbet, W. B., M.B., Ch.M. Edin, has been appointed acting Health and Medical Officer for Townsville, Queensland.

Peterkin, Geo., M.B., C.M. Edin., D.P.H., has been appointed Medical Officer of Health and Police Surgeon for Forfar.

Pike, C. J., M.B., Ch.B. Lond., M.R.C.S., has been appointed an Honorary Medical Officer for the Launceston Hospital, Tasmania.

Pitcher, S. W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Officer of Health for the Shire of Creswick, Victoria, Australia, vice W. Corry, resigned.

Pratt, F., M.R.C.S., L.S.A., has been appointed Medical Officer by the Northam District Council, vice E. Rouse, deceased.

Pullen, F. B., L.R.C.P. Edin., L.F.P.S. Glasg., has been appointed a Surgeon for the Walsh District Hospital, Montalbion, Queensland.

Purdey, J. M., M.B., Ch.B. Melb., has been appointed an Honorary Medical Officer for the Launceston Hospital, Tasmania.

Robinson, R. A. McW., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Government Medical Officer and Vaccinator for the district of Coolamon, New South Wales.

Stock, W. H., L.K.Q.C.P. Irel., L.F.P.S. Glasg., has been appointed acting Public Vaccinator for Clifton-hill, Victoria, Australia.

Suckling, C. W., M.D. Lond., M.R.C.P., M.R.C.S., has been appointed a Consulting Physician to the Queen's Hospital, Birmingham.

Swindale, John Aston, M.B., B.S. Durh., has been appointed House Surgeon to the Royal Lancaster Infirmary, Lancaster, vice W. H. Steele, resigned.

Symes, R. H., L.K.Q.C.P. Irel., L.R.C.S., has been appointed Medical Officer for Hughenden, Queensland, vice J. S. Hunt, resigned.

Vickers, Charles W., M.R.C.S., L.R.C.P. Edin., L.S.A., D.P.H. Lond., has been re-appointed Medical Officer of Health for Paignton, Devon.

Vickers, C. W., L.R.C.P. Edin., M.R.C.S., D.P.H., has been re-appointed Medical Officer of Health by the Paignton Urban District Council.

Walsham, W. J., F.R.C.S., has been appointed Surgeon to St. Bartholomew's Hospital, London.

Whicher, A. H., M.R.C.S., has been re-appointed Medical Officer of Health by the Midsomer Norton Urban District Council.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Birmingham City Asylum.—Clinical Assistant. Board, lodging, and washing provided.

Birmingham General Dispensary.—Resident Surgeon. Salary £150 per annum, with an allowance of £30 per annum for cab-hire, and furnished rooms, fire, light, and attendance.

Bury Infirmary.—Junior House Surgeon. Salary £80 per annum, with board, residence, and attendance.

Cornwall Works Medical Association and Dispensary, Smethwick, Birmingham.—Medical Officer. Salary £400 per annum, payable monthly, with certain midwifery fees payable by the patients.

County Asylum, Rainhill, near Liverpool.—Assistant Medical Officer, unmarried. Salary commencing at £100 per annum, with prospect of increase to £250, with furnished apartments, board, attendance, and washing.

County Borough of Croydon.—Chemical and Analytical Adviser to the Beddington Irrigation Farm Committee. Salary £120 per annum, payable monthly, subject to a certain annual percentage deduction. Applications to the Town Clerk, Town Hall, Croydon.

Darenth Schools for Imbecile Children, near Dartford, Kent.—Assistant Medical Officer, unmarried. Salary £160, rising £20 annually to £200, with board, lodging, attendance, and washing, subject to statutory deduction. Applications to the Clerk to the Board, chief office of the Board, Norfolk House, Norfolk-street, Strand, London.

Derby County Asylum.—Second Assistant Medical Officer, unmarried. Salary £100 per annum, rising to £120, with board, lodging, and washing. Applications to B. S. Currey, Esq., St. Michael's Churchyard, Derby.

East London Hospital for Children, Glamis-road, Shadwell, E.—Medical Officer for the Casualty Department, for six months. Salary at the rate of £100 per annum.

Gateshead Dispensary.—Assistant Medical Officer. Salary £120 per annum, increasing by annual addition of £10 to a maximum of £150 per annum without board or lodging.

General Hospital, Nottingham.—House Surgeon for two years. Salary £100, rising £10 a year to £120.

Hants County Asylum, Fareham.—Third Assistant Medical Officer, unmarried. Salary £100 per annum, increasing to £125 after twelve months' service, with furnished apartments, board, washing, and attendance.

London Temperance Hospital, Hampstead-road, N.W.—Resident Medical Officer for one year. Salary 100 guineas per annum, with board, lodging, and washing.

Metropolitan Asylums Board.—Assistant Medical Officer at the Fountain Fever Hospital, Tooting-grove, Lower Tooting, S.W., unmarried. Salary £160 the first year, £180 the second year, and £200 the third and subsequent years of service, with board, lodging. attendance, and washing, subject to statutory deduction. Applications to the Clerk to the Board, Chief Office, Norfolk-street, Strand, W.C.

Metropolitan Hospital, Kingsland-road, N.E.—Assistant Physician and also House Physician. Salary of the latter at the rate of £40 a year, with board and residence.

Monkwearmouth and Southwick Hospital, Sunderland.—House Surgeon. unmarried. Salary £80 per annum, with board, residence, and washing.

Parish of St. Giles, Camberwell.—Assistant Medical Officer for the Workhouse at Gordon-road, Peckham. Salary £120 per annum, with furnished apartments outside the Workhouse, and an allowance of £1 1s. weekly in lieu of board and washing. Applications to the Clerk to the Guardians. 29, Peckham-road, S.E.

Queen Charlotte's Lying-in Hospital, Marylebone-road, London, N.W.—Assistant Resident Medical Officer, for four months. Salary at the rate of £50 per annum, with board, residence, and washing.

Royal Hants County Hospital, Winchester.—Honorary Physician.

St. Bartholomew's Hospital, London.—Assistant Surgeon.

Seamen's Hospital, Cronstadt.—Resident Medical Officer. Salary £180 per annum, free lodging, lights, fuel, and attendance. Bachelor or widower without children. Applications to the Chairman of Hospital Committee, British Consulate-General, St. Petersburg.

Victoria Hospital, Burnley.—Resident Medical Officer. Salary £80, increasing by £10 per annum up to £100, with board, &c.

Victoria Hospital, Folkestone.—House Surgeon. Salary £80 per annum, rising to £100, with board, residence, and washing.

Wolverhampton and Staffordshire General Hospital.—Two Honorary Assistant Physicians.

York Dispensary.—Resident Medical Officer to visit and attend sick poor at their own homes, unmarried. Salary £150 a year, with furnished apartments, coals, and gas. Applications to W. Draper, Esq., De Grey House, York.

Births, Marriages, and Deaths.

BIRTHS.

Haywood.—On Monday, March 28th, at Drayton House, Erdington, the wife of F. G. Haywood, L.R.C.P., L.R.C.S., of a daughter.

Long.—On March 24th, at The Beeches, Greenodd, Ulverston, Lancs., the wife of Frank T. Long, M.R.C.S., L.R.C.P., of a son.

Ogden—On March 20th, at Sandyford-road, Newcastle-on-Tyne, the wife of Ogden Watson Ogden, M.D., of a daughter.

Wilson.—At Denham House, Goldhawk-road, London, W., on March 28th, the wife of James Wilson, M.D., of a son.

MARRIAGES.

Harris—Fawckner.—On March 24th, at Dock-street Church, Newport Mon., by Rev. Arthur Mursell, of London, uncle of the bridegroom, assisted by Rev. E. Walrond Skinner, of Newport, Frank Drew Harris, M.B. Lond., of Cowley-hill, St. Helens, Lancs., to Isabel Mary, elder daughter of J. Follett Fawckner, Esq., of Newport, Mon. No cards.

Schofield—McMillan.—On March 24th, at St. Michael's, Chester-square, S.W., by the Rev. Canon Fleming, M.A., B.D., S. R. Schofield, M.B. Lond., of Queen's Club Gardens, West Kensington, son of S. K. Schofield, of Seafield, Waterloo, Lancashire, to Lily, only daughter of the late Rev. John McA. McMillan, M.A., LL.D.

Torney—Dodd.—On March 23rd, at Christ Church, Surbiton-hill, by the Rev. Ralph H. Sneyd, M.A., cousin of the bridegroom. assisted by the Rev. H. J. Watney, George Parsons Torney, Medical Superintendent. Bracebridge Asylum, Lincoln, eldest son of the late Thomas Torney, Esq., M.D., of Dublin, to Mildred Florence Ethersey, fourth daughter of the late Captain A. I. Dodd, of Ditton-hill, Surbiton, and Moulmein, Burmah.

DEATHS.

Galton.—On March 26th, 1898, at 128, Brixton-hill, S.W., Edmund Hooper Galton. F.R.C.S., aged 61 years.

Grosvenor.—On Tuesday, March 29th. 1898, at his residence, Greville Lodge, Churchdown, Gloucestershire, rather suddenly, William Grosvenor, L.R.C.P., L.R.C.S., late of 9, Greville-place. Maida-vale, London, third son of the late William Grosvenor, of Alsager, Cheshire, aged 66 years.

Hoare.—On March 23rd, at Clifton House, Aston Manor, Birmingham, Reginald Ratcliff Hoare, F.R.C.S., aged 54.

Moynan.—On March 24th, at his residence, Woodstock-road, Redland, Bristol, William Arthur Moynan, M.D.

Shepherd.—On March 30th, at Myddelton-square, E.C., Surgeon-Lieutenant-Colonel William George Shepherd, M.D., F.R.C.S., late 1st Middlesex Rifle Volunteers, aged 83 years.

Troup.—On March 28th, at Douro-place, Dover, Surgeon-Lieutenant-Colonel Robert William Troup, late Medical Staff, aged 56.

Watson.—On March 28th, at Leonard-place, Kensington, John Watson, M.D., in his 84th year.

Wheatley.—On March 30th, at 79, King Henry's-road, N.W., Maria Wheatley, sister of the late Benjamin R. Wheatley, for many years Resident Librarian of the Royal Medical and Chirurgical Society, aged 73 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

It is most important that communications relating to the Editorial business of The Lancet should be addressed *exclusively* "To the Editors," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of The Lancet *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

The Index to Vol. II. of 1897, which was completed with the issue of Dec. 25th, and the Title-page to the Volume were given in The Lancet of Jan. 1st.

VOLUMES AND CASES.

Volumes for the second half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

A POINT IN HOSPITAL ABUSE.

To the Editors of The Lancet.

Sirs,—*Re* the advertisement "Facilities for Clinical Study," &c., in The Lancet of March 26th. It has hitherto been customary for qualified practitioners to be allowed to occasionally attend the clinical instructions given at the various metropolitan hospitals. It would now appear by this advertisement that they will in future be excluded unless willing to pay a comparatively heavy fee, which amounts to the hospitals encouraging patients to apply at these institutions and then asking the practitioner to pay for the privilege of seeing the patients who should properly be his patients.

I am, Sirs, yours faithfully,

Grosvenor Club, March 28th, 1898. Frederick W. Collingwood.

THE ADVERTISING OPHTHALMIC SPECIALIST.

We have received a circular emanating from the "London Ophthalmic Institute," accompanied by a little work by "our consulting specialist, one of the leading refractionists of the day." The refractionist's name is D. Shepperd and there is one statement in his book with which we are in most hearty accord—namely, where he says: "One of the greatest curses existing 'in

Great Britain to-day is the trade carried on by quack opticians." Mr. Shepperd, however, as we learn from the secretary's letter, "in order to ascertain the existence of astigmatism now so prevalent ...... will specially diagnose each case separately." This is indeed a favour. Mr. Shepperd's views upon cataract are that "it is frequently caused by the want of using glasses in proper time, from using improper glasses, or from the use of common lenses." This pathology is quite new to us. We should like to know how many cases of commencing glaucoma Mr. Shepperd has "diagnosed" as commencing cataract.

THE CAUSE AND THE TREATMENT?

To the Editors of THE LANCET.

SIRS,—I have a patient, aged forty-eight years, who for the past twelve months has been suffering from vertigo, or a sense of swimming in the head and impending falling when either walking or standing still. For some years he has been used to a good quantity of stimulants and has smoked considerably, and whilst under these influences the giddiness is better and he feels steadier, but afterwards he is much worse. He has tried going without stimulants and tobacco for a week at a time without much improvement. My patient has a ruddy complexion and is of a highly nervous and excitable temperament. The urine is free from albumin and sugar, the apoetite is good, he sleeps well, and except for the dread that he may fall down when walking along the street feels quite well. Moving objects, and especially bright ones, increase the giddiness. He is astigmatic and wears astigmatic glasses.

Will anyone be good enough to suggest the probable cause of the condition and the best line of treatment to adopt in such a case?

I am, Sirs, yours faithfully,

March 30th, 1898. MEDICUS.

AN IMPROVED CYCLE SADDLE.

THE accompanying illustration shows an improvement in the Esmond Cycle Saddle which has already been noticed in THE LANCET of Oct. 2nd, 1897, p. 863. In the old form of saddle, while fulfilling the claims made for it of reducing vibration and obviating perineal pressure, there was a tendency for the "seat" to slip and remain on one side. As will be seen from the illustration the inverted V-shaped supports from which the saddle is swung are fastened to the bar supporting the saddle by a rivet. This prevents any other movements than those which the saddle is intended to take—namely, a longitudinal swing and a rocking movement from side to side. The saddle can be obtained at 10 and 12, Eastcheap, London, the price being 21*s*.

A BOOT TREE.

MESSRS. DOWIE AND MARSHALL, of 455, West Strand, send us a description of a boot-tree which by a mechanical device can be made to stretch a boot at any part without putting it out of shape. These trees, which fit into any boot, are provided with a number of brass studs or knobs which act as dies and sink a hollow into the leather at any point desired in order that there may be an absence of pressure on a corn, bunion, enlarged toe-joint, &c. The trees are sold at 25*s*. per set including stretching knobs.

SO-CALLED.

To the Editors of THE LANCET.

SIRS,—If you were to take notice of a peculiarity but what also seems to me an inelegancy in medical writings, you might do much to eliminate it—at least from our own more classical literary work. I refer to the bastard compound "so-called." Perhaps not a number of THE LANCET or of any other medical journal is published in the course of the year in which it is not to be found over and over again. The classic lecture on Heart Diseases delivered at the Royal College of Physicians of London and published in to-day's impression is disfigured at least twice by the expression and in most of our textbooks it breeds like a bacterium. What is the meaning of the term? It seems to me somewhat like a confession of ignorance on the points to which it refers. Cannot our ignorance be clothed in a garment that will less openly display it? Does the term occur in any other science? I have looked for it there with tears. What are we to have next? Possibly the "so-called" science of medicine or the "so-called" science of surgery—who knows?—I am, Sirs, yours faithfully,

March 26th, 1898. F. W. WRIGHT.

AN OLD SUGGESTION.

To the Editors of THE LANCET.

SIRS,—The Hospital Reform Association will be conferring a boon both on the profession and on the public if they can get the hospital authorities to require that in-patients should, when possible, bring a certificate from the doctor who has been in attendance. This is often necessary to the safety of the patient, and will at the same time help to check the abuse of charity, as in a case where I was called to attend a woman suffering from aphasia with partial paralysis. Her husband was earning good wages and there was one child. The woman was quite unfit to be moved, and was slowly improving when one morning she was taken to the hospital, where she died within twenty-four hours. Death was probably accelerated by the journey. It appears to me that the hospital authorities are at fault in not having required a medical certificate before venturing to move the sick person. There is little doubt but that much blame rests with the higher ranks of the profession who tacitly encourage these abuses, and with those practitioners who, being well-established, neglect the opportunities which not infrequently present themselves of raising the status of the profession.

I am, Sirs, yours faithfully,

March 3rd, 1898. VI ET ARTE.

"TWO QUERIES."

To the Editors of THE LANCET.

SIRS,—In reply to the first query of "M.R.C.S." in THE LANCET of March 19th I would suggest a trial of the "Henson Anatomical Saddle." Having made a point of testing almost every variety of bicycle saddle I unhesitatingly recommend the "Henson." "M.R.C.S." must be prepared, however, having been accustomed to another pattern, to persevere with the "Henson" at least a week before all its virtues will become evident.

I remain, Sirs, yours faithfully,

J. SCOTT CHALLICE.

Lower Gilmore-place, Edinburgh, March 24th, 1898.

To the Editors of THE LANCET.

SIRS,—In reply to M.R.C.S.'s inquiry in THE LANCET of March 19th, if he will try a Christy's American Saddle I am sure he will like it. I have tried a number and I find it cooler and less fatiguing than the others, but he must have a little patience at first, for it takes some little time to get accustomed to it.

I am, Sirs, yours faithfully,

Beckington, Bath, March 21st, 1898. W. G. EVANS.

To the Editors of THE LANCET.

SIRS,—We note an inquiry in your issue of March 19th from "M.R.C.S." as to whether certain garments "are as good as Jaeger's wares for rheumatic patients." Will you permit us to say that inasmuch as we *only* sell pure wool goods whoever buys genuine Jaeger is safe.—We are, Sirs, yours faithfully,

DR. JAEGER'S SANITARY WOOLLEN SYSTEM CO., LTD.,
LEWIS R. S. TOMALIN, Managing Director.

London, March 23rd, 1898.

LONDON UNIVERSITY COMMISSION BILL, 1898.

To the Editors of THE LANCET.

SIRS,—Is there any chance of provision being made in the new University for London scheme whereby medical men may proceed to the examination for the M.D. degree without going through the intermediate steps? I am, Sirs, yours truly,

March 25th, 1898. G. P., M.R.C.S., L.R.C.P.

*** We think not.—ED. L.

A GRAVE PUBLIC DANGER.

THE following letter appeared in the *Daily Telegraph* of Tuesday last. We quote it because it so exactly bears out a recent article which appeared in our columns:—

TO THE EDITOR OF "THE DAILY TELEGRAPH."

> SIR,—Having just escaped a serious accident, will you kindly allow me space in your columns to describe it for the good to the public?
>
> Like nine-tenths of the younger women of the day I have been using xylonite (imitation tortoiseshell) combs to keep back my hair, quite unconscious of the risk I thereby ran. But a few days ago I was kneeling in front of an ordinary sitting-room fire and within five minutes the heat ignited my comb, which flared up, setting my hair on fire, only the prompt action of a brother, who threw a rug over me and stifled the flames, saving me from being severely burnt. We had some difficulty in disentangling the remnants of the comb, which burnt rapidly, destroying all the hair near it and also burning the skin itself.
>
> Considering the extensive use of these combs by all classes and their very inflammable nature, surely legislative action should be invoked to restrict, or even prohibit entirely, their manufacture and sale. Yours faithfully,
>
> London, March 28. ONCE BURNT.

◆

Lambda.—(1) We cannot classify medical degrees in their order of merit. (2) The diplomas mentioned are every whit as hard to obtain as the degrees mentioned. (3) The difficulty lies in the fact that "Dr." is an academic title for some medical men only but a popular title for all.

Medicus.—The marked paragraphs are very objectionable, but we cannot see any internal evidence of the complicity of the eulogised medical man and our correspondent supplies no such evidence. We therefore prefer to believe him rather sinned against than sinning.

Dr. J. A. Beattie Crozier.—The indiscreet friend has often given this trouble. Our correspondent is advised to disavow complicity, though no one is likely to suspect him of the same.

Mr. C. E. Abbott should communicate with the inventor of the new bicycle saddle, Mr. Walter Wiglesworth, L.R.C.P., L.R.C.S. Edin., 57, Darnley-road, Hackney, N.E.

A Subscriber (P. P.).—Certifying surgeons under the Factory and Workshop Act are appointed by the Inspector of Factories. Address the Home Office, S.W.

Antisepsis.—The woman should be cautioned. As, however, no harm has occurred we cannot advise our correspondent to speak to her employer.

Mr. Basil Belmont.—The two universities have for practical purposes the same standard of examination.

An Old Subscriber (R.L.) is thanked for the suggestion.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.). Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (6th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (7th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

FRIDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (9th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (4th).—ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.—8 P.M. Paper:—Mr. W. Rushton: The Use of Gutta Percha in Conservative Dentistry. Casual Communications:—Mr. S. K. Apthorpe: (1) Antral Empyema with Ear Complication; (2) Fracture of Upper Left Central Incisor and Loss of the Right Central in a patient of ten years.—Mr. C. West: Abnormal Retention of Temporary Teeth combined with Dichotomous Digits.

MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Evening. Mr. J. H. Morgan: Case of Fracture of Condyle of Femur.—Mr. G. R. Turner: Case of Neuralgia successfully treated by Injection of Osmic Acid.—Dr. F. J. Smith: Case of Multiple Angioma.—Dr. R. Maguire: (1) Case of Congenital Heart Disease; (2) Case of Tremors. ? Disseminated Sclerosis.—Mr. W. H. Battle: (1) Case of Intracapsular Fracture of the Femur in a Boy; (2) Case illustrating the advantage of the Treatment by Coley's Fluid in Inoperable Tumours.

TUESDAY (5th).—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Prof. Kanthack: The Distribution of Leprosy Bacilli in the Tissues and the Origin of Giant Cells in Leprosy.—Mr. J. G. Shattock: Mollascum Contagiosum in Two (mated) Bunting Sparrows.—Mr. H. J. Curtis: Adeno-chondroma of the Right Submaxillary Gland.—Dr. P. Kidd and Dr. Habershon: Primary Lymphosarcoma of the Pleura.—Dr. Habershon: Primary Sarcoma of the Lung.—Mr. C. F. Beadles: Two Cases of Myxœdema, one of which was associated with Trichinæ in the Muscles.—Mr. G. B. Hunt: Extreme Contraction of the Stomach with some remarks on the Pathology of the Condition.—Dr. L. Dickinson: Aneurysm of the Thoracic Aorta which Ruptured Externally.—Dr. Parkes Weber: (1) Liver showing an Early Interlobular Type of Cirrhosis from a Case of Suppurative Pylephlebitis; (2) Cirrhosis of the Liver in a Child. Card Specimens:—Mr. P. Furnivall: Fœtus with Hernia.—Dr. H. D. Rolleston: A Localised inflammation with Effusion into the Lower Sac of the Peritoneum due to Pancreatitis.

RÖNTGEN SOCIETY (11, Chandos-st., W.).—8 P.M. Paper:—Mr. J. Wimshurst: The Influence Machine and its advantages for lighting X-ray Tubes. To be followed by a Discussion.

WEDNESDAY (6th). — OBSTETRICAL SOCIETY OF LONDON. — 8 P.M. Specimens will be shown by Dr. Handfield-Jones, Dr. Macnaughton-Jones, Dr. E. Dawson, Dr. J. Phillips, and others. Papers:—Mr. W. Heape (introduced by Dr. W. S. A. Griffith): The Menstruation and Ovulation of Monkeys and the Human Female.—Dr. H. R. Spencer: Two Cases of Fibro-myoma of the Uterus removed by Operation from Women under twenty-five years of age.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (4th).—THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Mr. W. C. Tyndale: House Drainage.

LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. Whistler: Tuberculosis of Larynx.

TUESDAY (5th).—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Moral and Impulsive Insanities and Lunacy Law.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Impetigo.

WEDNESDAY (6th). — LONDON POST-GRADUATE COURSE. — Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Disinfection and Disinfectants.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Discussion on the Desirability of making Water-shed Areas and Sanitary Districts Co-terminous (opened by Mr. R. E. Middleton).

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr. R. D. Pedley: Dental Diseases in Children. (Post-Graduate Course.)

THURSDAY (7th).—LONDON TEMPERANCE HOSPITAL.—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration to Senior Students.

LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Mr. Jonathan Hutchinson: Clinical Lecture.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 31st, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 25	29·82	N.E.	0·34	49	38	32	34	35	Snowing
" 26	29·54	ENE	0·25	45	40	34	36	38	Overcast
" 27	29·37	E.	0·10	56	42	36	38	39	Raining
" 28	29·39	N.E.	0·03	51	43	36	37	38	Raining
" 29	29·44	S.W.	...	79	50	38	38	40	Hazy
" 30	29·51	S.E.	...	88	54	36	37	39	Foggy
" 31	29·70	E.	...	81	51	39	42	44	Fine

During the week marked copies of the following newspapers have been received: *Bradford Observer, Hull News, Shrewsbury Chronicle, South Wales Daily News, Times of India, Pioneer Mail, Retford News, Birmingham Argus, Newcastle Chronicle, Daily Mail, Loughborough Examiner, North British Daily, Keighley News, Worthing Gazette, Glasgow Evening News, Architect, Eastern Morning News, Newry Telegraph, Coventry Standard, Builder, Yorkshire Post, Suffolk Chronicle, Scotsman, Bristol Mercury, Tunbridge Wells Advertiser, Derbyshire Times, Cheltenham Mercury, Brecon County Times, Liverpool Daily Post, Bury Guardian, Herald of Wales, Arbroath Guide, Staffordshire Advertiser, Norfolk Chronicle, Leeds Mercury, Preston Herald, Oban Telegraph, Manchester Guardian, Retford Times, Citizen, Sussex Daily News, Leicester Post, Lowestoft Standard, Montrose Review, Kent County Examiner, Carlisle Express, East Kent Times, Sanitary Record, Public Health Engineer, Local Government Chronicle, Hertfordshire Mercury, Mining Journal, Reading Mercury, City Press, Local Government Journal, Surrey Advertiser, Dewsbury District News, South London Chronicle, Australasian Medical Gazette, Weekly Free Press and Aberdeen Herald, Bristol Times and Mirror, Morpeth Herald, Todmorden News, Stratford Express, Barnsley Chronicle, Western Mail, Norwood Review, West Middlesex Herald, Lichfield Mercury, Keene's Bath Journal, Huntingdon Advertiser, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Mr. C. E. Abbott Cheltenham; Messrs. Armour and Co., Lond.; After-Care Association. Lond., Secretary of; Mr. A. E. Abrahams. Lond.; Dr. James Adam, West Malling.

B.—Dr. T. Buzzard, Lond.; General S. Breck, Washington, D.C., U.S.A.; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. Burgoyne, Burbidges, and Co., Lond.; Messrs. Brady and Martin, Newcastle-on-Tyne: Bury Dispensary Hospital, Hon. Secretary of; Messrs. J. Bell and Co., Lond.; T. B. Browne, Ltd., Lond.; Messrs. Bowen and McKechnie, Lond.; Mr. J. Brown, Greenock; Mr. C Birchall, Liverpool; Mrs. Barlow. Lond.; Birmingham City Asylum. Medical Superintendent of; *Birmingham Daily Post*; Mr. B. Belmont, Lond.

C.—Mr W. F. Clay, Edinburgh; Mr. T. A. Collinson, Middlesbrough; Dr. A. E. Cope, Lond.; Mr. J. R. Collyer, Peterborough; Messrs. R. Cain and Sons, Liverpool; Mr. A. C. Cole, Lond.; Camera Club Co., Lond., Secretary of; *Canadian Medical Review*, Toronto, Editor of; Christy Saddle Co., Lond.; Mr. F. Collins, Halling; Messrs. Cassell and Co., Lond.: Cortland Wagon Co., Lond.; C. B. L., Lond.; Mr. C. Cotton, Ramsgate; Central London Throat and Ear Hospital, Lond., Secretary of; Messrs. J. and A. Churchill, Lond.; Cornwall Works Medical Association, Smethwick, Secretary of; Dr. J. B. Crozier, Lond.; Mr. A. Carter, Lond.; Dr. L. Cobbett, Cambridge; Dr. J. Corns, Oldham; Messrs. Carnrick and Co., Lond.

D.—Mr. L. C. Dillon, Bracebridge; Dispenser, Bishopston; Messrs. S. Deacon and Co., Lond.; Messrs. J. Defries and Sons, Messrs. Domeier and Co., Lond.; Messrs. Dowie and Marshall, Lond.; Messrs. Down Bros., Lond.; *Deutsche Medicinische Wochenschrift*, Berlin, Editor of; Messrs. Dixon and Hunting, Lond.; Mr. E. Darke, Lond.; Mr. C. A. Doran, Rochdale.

E.—Mr. B. Eaton, Bilston; Surgeon-Captain H. M. Earle, Peshawur, India; *Engineering News*, New York, Associate Editor of.

F.—Mr. W. T. Freeman, Reading; Mr. T. Fisher, Garstang; Mr. W. Faulkner, Exeter; F.R.C.S E., London; Mr. R. Fletcher, Lond.

G.—Dr. F. W. Gunn. Widdrington; General Medical Council, Lond., Registrar of; Glasgow University, Assistant Clerk of; Miss R. M. Gorham, Yoxford; Mr. L. Gane, Houghton-le-Spring; Glasgow Matriculation Office, Assistant Clerk of; Gwalia, Bloomsbury; General Hospital, Nottingham, Secretary of; Gateshead Dispensary, Hon. Secretary of.

H.—Mr. J. Heywood, Manchester; Messrs. Hughes and Lancaster, Lond.; Hovis Bread Flour Co., Macclesfield; Mr. Garrett Horder, Lond.; Dr. S. Hyde, Buxton; Mr. F. R. Humphreys, Lond.; Mr. W. Hyde, Stockport; Mr. H. Hilliard. Lond.; Dr. C. J. Hare, Lond.; Dr. W. S. Hedley. Lond.; Dr. A. Haig, Lond.; Mr. S. G. Hall, York; Mr. C. Hedwith, Christchurch, N.Z.; Mr. G. F. Hilcken, Lond.; Mr. J. C. Hyam, Dublin; Mr. J. Heywood, Lond.; Messrs. Harrison and Brass, Elgin; Hampshire Chronicle Office, Winchester; Hants County Asylum, Clerk of.

I.—Imperial Live Stock Insurance Association, Lond.; Ickringills, Keighley. Secretary of; Irish Medical Schools' and Graduates' Association, Hon. Secretary of.

J.—Dr. H. Macnaughton-Jones, Lond.; Messrs. Johnsen and Jorgensen, Lond.; Jenner Society, Gloucester, Secretary of; *Journal of Medicine and Science*, Portland, U.S.A., Editor of; Mr. R. A. Jackson, Kirbymoorside.

K.—Mr. B. Kühn, Lond.; King's College Hospital, Lond., Warden of; Dr. J. J. Knox, East Molesey.

L.—Mr. H. K. Lewis, Lond.; Mrs. A. J. Lappin, Gilford; Dr. Leech, Manchester; London Temperance Hospital, Secretary of: Dr. H. S. Lunn, Lond.; Mr. T. Laffan, Cashel; Liskeard Rural District Council, Medical Officer of Health of; Mr. S. H. Long, Norwich; Mr. C. Low, Shepherd's Bush; Messrs. Lee and Nightingale, Liverpool; Mr. J. W. Leake, Lond.

M.—Dr. H. Macdonald, Dundalk; Mr. A. L. Matthews, Lond.; Mr. C. J. Myers, Louth; Mountjoy Brewery, Dublin; Messrs. May, Roberts, and Co., Lond.; Messrs. F. L. May and Co., Lond.; Mr. P. Metz, Birmingham; Maltine Manufacturing Co., Lond.; Mr. R. de Martini, Adderbury; Mr. Henry Morris, Lond.; *Moonshine*, Lond., Editor of; Messrs. Merryweathers and Sons, Lond.: Dr. Mackay, Crook; Messrs. Maple and Co., Lond.; Monkwearmouth and Southwick Hospital, Sunderland, Secretary of; Messrs. C. Mitchell and Co., Lond.; Male Nurses' Temperance Coöperation, Secretary of; Mr. T. C. Maxwell, Lond.; Dr. A. Mackenzie, Leeds; Mr. S. B. Mehta, Aden; Messrs. Mather and Crowther, Lond.; Mr. H. G. Moore, Ongar.

N.—Newcastle, College of Medicine of, Secretary of; G. Newnes, Ltd., Lond.; N. W., Lond.; *New Orleans Medical and Surgical Journal*, Editors of.

O.—Mr. E. Owen, Lond.; Mr. J. E. O'Conner, Lowestoft; Messrs. Orridge and Co., Lond.

P.—Mr. Punshon, Farnborough; Peritus, Lond.; Mr. R. Potter, Haverhill; Mr. M. Pittard, Cardiff; Mr. F. Page, Newcastle-on-Tyne; Mr. C. F. S. Perowne, Lond.; Dr. H. Peck, Aughton; Dr. P. Pope, Lond.; Messrs. Payton and Co., Lond.; Parish of St. Giles Camberwell, Clerk of; Mr. B. L. Powne, Chard.

R.—Mr. J. P. Roughton, Kettering; Messrs. Reynolds and Branson, Leeds; Messrs. J. Richardson and Co., Leicester; Mr. H. Rose, Aylesbury; Dr. T. Robinson, Lond.; Royal London Friendly Society, Lond., Superintendent of; Registered Nurses' Society, Lond., Secretary of; Rainhill County Asylum, Secretary of; Revolution Cycle Co., Dublin; Messrs. Robertson and Scott, Edinburgh.

S.—Mr. W. T. E. Sumpter, Sheringham; St. Andrew's Hospital, Northampton, Secretary of; Messrs. Swan Sonnenschien and Co., Lond.: Sociedad Propagandista del Clima, Málaga; Miss J. F. Strange; Mr. T. Smith, Lond.; Messrs. S. Smith and Co., Lond.; Shrewsbury (no name); Sigma, Lond.; Messrs. Street and Co., Lond.; Städtische Kur and Bade Verwaltung, Homburg-v.-d.-Höhe; Smithsonian Institute; Washington, U.S.A.; Dr. C. H. Sers, Lond.; Dr. Squire, Lond.; Mr. E. M. Spencer, Tavistock; Society of Arts, Lond., Secretary of; Messrs. Salt and Son, Birmingham; Messrs. Street Bros., Lond.

T.—Dr. J. C. Thorowgood, Lond; Tenant Tradesmen's National Union, Lond., President of: Mr. R. F. Tobin, Dublin; Mr. L. G. Tollputt, Kettering; T. L., Malmesbury; Mr. C H. Tattersall, Salford: Taunton and Somerset Hospital, Accountant of.

V.—Victoria Hospital. Burnley, Secretary of; Victoria Hospital, Folkestone, Secretary of.

W.—Mr. F. Wilder, Purley Hall; Wills, Ltd., Lond.; Mr. E D. Walker, Darlington; Mr. W. Whittingham, St. Anne's-on-the-Sea; Mrs. A. Williams, Ben Rhydding; Mr. F. W. Wright, Surrey; Mr. J. H. Wigham, Leeds; Mr. C. H. Whiteford, Plymouth; Dr. R. T. Williamson, Manchester; Messrs. Wright, Mundy, and Co., Lond.: Rev. G. H. West. Bournemouth; Mr. W. D. Watson, Leigh-on-Sea; Mr. W. L. Woolcombe, Plymouth; Mr. T. M. Watt, Lond.; Messrs. Willings, Lond.

Y.—Yorkshire College, Leeds, Registrar of.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. R. R. Anderson, Fern Hill; Mr. C. Abbott, Burghead; A. G., Lond.; Mr. A. Littlejohn, Lond.; Messrs. Allen and Hanburys, Lond.; A. M., Harborne: Mr. G. C. B. Atkinson, Long Clawson; Apotheke, Lond.; A. Z., Lond.

B.—Mr. W. H. Bennett, Lond.; Berrows' Worcester Journal Co., Worcester; General B. Boyd, St. Leonards-on-Sea; Messrs. Barber and Co., Derby; Barnes, Southport; Beta, Lond.; Battery, Lond.; Barker, Lond.

C.—Mr. R. Coffee, Aspull; Clavicle, Lond.; C. M., Lond.: Chronos, Lond.; Mr. K. W. Cross, Newcastle-on-Tyne; Clericus, Lond.; C., Lond.

D.—Dr. Dewar, St. Helens, Auckland; Dr. P. J. Daly, Cork; Mr. L. Denny, Blackwater: Mr. T. Donovan, Rosscarbery; Dudley, Lond.; Mr. G. L. Daube, Frankfurt-on-Main; Mr. G. Duke, Kilmarnock; D.P.H., London.

E.—Esmond Cycle Saddle, Lond.; Ex-House Surgeon, Lond.

F.—Messrs. Fletcher, Fletcher, and Co., Lond.; Mrs. A. Fryer, Lond.; Mr. J. Fitzgerald, Cork; Mr. H. K. Fox, Cork; F. M. L., Lond.

G.—Mr. H. L. Gill, Halifax; Mrs. Galton, Lond.; Golfer, Lond.; Messrs. Gilyard Bros., Bradford; G. P., Lond.; Mr. C. Graham, Lowestoft: G. P., Hackney Downs; Dr. J. Gordon, Aberdeen.

H.—Mr. A. G. Hudson, Leominster; Mr. F. G. Haywood, Erdington; Harlech House, Pembroke; H. S., Lond.; Mr. R. Hedden, Wantage; Mr. J. D. Hadden, Lond.; Mrs. L. Hitch, Hollington; Mr. G. Hermanni, jun., Lond.: Mr. J. Hawkings, Lond.; H. F., Lond.; Dr. J. Hinshelwood, Glasgow; Mr. A. N. Hoare, Birmingham; Mr. J. Harold, Lond.; Mr. J. E. Hancock, Kingsclere.

I.—Ingluvin, Lond.

J.—Mr. F. F. Jones, Llanfyllin; Dr. Jones, Lond.

K.—Dr. J. P. Kitson, Cleobury Mortimer; Dr. Keys, Castlefin; Dr. C. S. Kilner, Bury St. Edmunds; Mr. P. K. Krishnakar, Triplicane; Kent, Lond.

L.—Mr. H. B. Long, Soham; Dr. H. Lund, Manchester; Dr. Lamb, Brechin; Llanelly Hospital, Secretary of; Dr. D. Lawson, Banwell: Mr. J. L. Leckie, Pontypridd; Mr. J. H. Lowry, Belfast.

M.—Mr. A. C. McLean, Kington; Meddyg, Lond.; M.D., Bradford; Messrs. Matthews Bros., Lond.: Martis, Lond.; Metacarpus, Lond.; Medicine, Lond.; Mona, Lond.: Medico, Lond.: Middlesbrough Sanatorium, Medical Superintendent of: Malo, Lond.; Dr. J. Merson, Willerby; Mr. A. T. Morgan, Bristol; Mr. F. A. Monks, Lond.: Dr. G. A. Mason, Lond.; M.D., York; Mrs. Mackey, Hodnet; Mr. R. Marshall, Huelva, Spain; Metropolitan Machinists' Co., Lond.; M.D., Wellington; M. O. H., High Wycombe; Mr. W. L. G. Morgan, Bournemouth.

N.—Neuron, Lond.: North, Lond.; Norfolk, Lond.; Norman, Liverpool.

P.—Dr. T. W. Parry, Youlgreave; Preston and County of Lancaster Royal Infirmary, Secretary of; Phenacetin, Lond.; Mr. D. Polley, Chelmsford; Messrs. W. Porteous and Co., Glasgow; Price's Patent Candle Co., Lond.

Q.—Quiero, Ealing.

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The Lumleian Lectures

ON

THE PRINCIPLES WHICH GOVERN TREATMENT IN DISEASES AND DISORDERS OF THE HEART.

Delivered before the Royal College of Physicians of London on March 24th, 29th, and 31st, 1898,

BY SIR RICHARD DOUGLAS POWELL, BART.,
M.D. LOND.,
FELLOW OF THE COLLEGE; PHYSICIAN EXTRAORDINARY TO HER MAJESTY THE QUEEN; AND PHYSICIAN TO THE MIDDLESEX HOSPITAL.

LECTURE III.[1]

Delivered on March 31st.

MR. PRESIDENT AND FELLOWS,—The treatment of acute heart failure may perhaps be best referred to in connexion with that acute disease in which it is frequently met and of which it too often forms the fatal turning point—viz., pneumonia, in which disease the invalidating conditions affecting the heart are (1) stress of labour; (2) blood-supply and nutrition impoverished and vitiated; and (3) innervation, excited and debilitated by the effects of shock and pyrexia. How are we to meet, and it may be to anticipate, heart failure under these circumstances? This is really the kernel of the problem before the physician in every case of severe pneumonia. All rational treatment of the early stages of pneumonia tends to lessen the blood-pressure in the lungs. It is in the latter stages, towards the crisis, when the lungs are most extensively consolidated, when the nervous excitement of early pyrexia is yielding to exhaustion, and when the blood aeration is most defective, that acute heart failure is apt to supervene. A running pulse, irregular from loss of vagus control, is the first symptom, soon to be followed by œdema of the unconsolidated portions of the lungs frothing up through the bronchial tract to produce that ominous tracheal rattle with which we are too familiar; these are the signs of heart failure threatening life. There can be little doubt that an exhausted nerve centre is at the root of most of the cases of cardiac failure rather than mere overstrain from impeded pulmonary circulation and there are two symptoms which especially tend to heart failure and are largely instrumental in causing the nerve exhaustion which brings it about—viz., a temperature above 104° F. and sleeplessness. It will be generally noted that the failure comes on suddenly; there may have been one or two preliminary warnings of partial collapse with running pulse and cold extremities from which the patient may rally but which are generally followed by more severe and often fatal attacks. At the very commencement of such signs ammonia, which my experience would lead me to infer after a few days of usefulness tends rather to produce cardiac depression, should be changed for a mineral acid of which dilute phosphoric acid is the best. Some digitalis or strophanthus should be added to the mixture and strychnine should be given separately either in an extra quantity of stimulant or subcutaneously if the absorbing powers of the patient are at all doubtful. But the most powerful remedial agent is oxygen, since it attacks one of the chief causes of cardiac failure by securing a supply of oxygenated blood to the coronary vessels and the pulse will be observed to become slower and fuller under its influence. It should be at hand in all severe cases and should be given in good time as an occasional inhalation. Whilst as a rule we need not in pneumonia attach much importance to a high temperature, in any case where heart failure threatens it must be reduced to a safer level—i.e., by a degree or two—by hot or cold sponging or, if necessary, by the dripping cold pack. Another question presses at about this time; it is that of sleep. Most cases of pneumonia get frequent short snatches of "dog sleep," which is all that we can expect and serves to tide them on to the crisis; but who has not witnessed that wide-eyed delirious vigil in pneumonia, and especially in influenzal pneumonia, in which the mind is painfully alert and the senses preternaturally acute, sleep being entirely absent? I am in the habit of suggesting help for wakefulness in pneumonia in the form of a small dose of 10 gr. or 20 gr. of sulphonal taken in hot fluid at 8 or 9 P.M., and with this preliminary a 20 gr. dose of bromide taken at 10.30 is often sufficient to secure some restful sleep. When the temperature is high a single dose of from 7 to 10 gr. of phenacetin may be added to the bromide. When delirium is a marked feature hyoscin in doses of $\frac{1}{200}$ gr. subcutaneously and repeated once or twice may be used sometimes with great advantage. Cases of persistent sleeplessness almost invariably prove fatal with heart failure, a running pulse, the cardiac action becoming at last merely peristaltic as the blood-clot accumulates in the auricles. Bromides, chloral, sulphonal, are almost useless and with the gathering serum in the tubes one hesitates to give opiates. And yet I believe that in these severe cases morphia should be given to secure a few hours' sleep and to give the nervous system time to recuperate and to allow of some restoration of heart power before it is too late. I have seen some cases in which death has appeared to be averted by (1) a strong dose of food and stimulant; (2) $\frac{1}{3}$ gr. morphia with atropine; and (3) aeration being maintained by the oxygen current being frequently played over the mouth and nostrils for a few minutes at a time. The oxygen may be warmed as it enters the bag by passing it through a coil of tubing immersed in hot water. It has seemed to me that strychnine has rather favoured this peculiar sleeplessness of patients when utterly exhausted, but its power as a cardiac stimulant is unrivalled and its use in cases severe enough to lead up to this condition is quite essential and it may be renewed on the effects of morphia passing.

The remarks I have just made are applicable to heart failure in pneumonia and I have endeavoured to indicate the measures that tend to avert it and to combat it when present. I have not dealt with the treatment of pneumonia in any other sense, for to treat the vast majority of cases of pneumonia with alcohol, strychnine, oxygen, morphia and the like would be at best like storming a mud hut with Armstrong guns; to use dangerous remedies in cases which require only the gentlest treatment and careful nursing is a great blunder. The fatigue of heart that follows such tempestuous periods is sometimes very great. It is partly nerve fatigue and is associated with an often greatly depressed temperature lasting for many days. It is in part also muscular fatigue. The pulse either remains quick and very soft or it may become very slow and vacillating. Patients should always remain in bed until the temperature, which after the crisis frequently descends considerably below the normal, has had at least a sufficient interval to return to or near the normal range, and cardiac and nerve tonics such as strychnine, caffein, and the hypophosphites will prove valuable on convalescence. Exercise in these cases must be cautiously resumed, keeping well within the limits of fatigue until heart power is quite restored. Acute heart failure in other diseases and from other causes requires a similar handling, varied to meet varieties in the case. Time will not permit me to allude to them further. I should like, however, to draw attention to the great value of oxygen inhalations in the treatment of heart failure in old people due to fatty degeneration of the organ. In these cases, which are characterised by the usual signs of a rather large and feebly acting heart, together with irregularity of rhythm, there being perhaps twenty or thirty beats fairly reaching the wrist, whilst amongst them are twice as many beats which only very imperfectly do so. Cheyne-Stokes breathing is another remarkable symptom in these cases which is especially apt to supervene after any fatigue and to come on during sleep. This form of breathing bears no direct relationship to the pulse and is probably an associated degenerative neurosis. The employment of oxygen inhalations several times in the twenty-four hours has a decidedly strengthening influence upon the heart, no doubt by sending some extra-oxygenated blood through the coronary arteries, and it also lessens the Cheyne-Stokes breathing and refreshes the patient. Strychnia is the most useful cardiac stimulant in these cases.

Coming to that large class of sub-acute or chronic heart failure dependent upon degeneration or other changes in the heart wall, we find them separable for the purposes of treatment into those in which the impairment is temporary and remediable, as from (1) anæmia; (2) fatty infiltration; and

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[1] Lectures I. and II. were published in THE LANCET of March 26th and April 2nd, 1898, respectively.

(3) over-strain; and into those in which it is permanent as in (1) fatty or fibro-fatty change from coronary disease; (2) chronic fibroid change from other causes, syphilis, alcoholism or associated with chronic high arterial pressure in gout, renal disease, &c.; and (3) senile changes. In anæmia the atonic and badly nourished heart frequently yields before the blood-pressure, is slightly enlarged, irritable in function, and besides the usual hæmic bruits presents a murmur at the mitral area. Such cases are frequent in hospital practice and it may be said that the routine treatment of cases of chlorosis bad enough to come into hospital is a fortnight's rest in bed with the necessary laxatives and ferruginous tonics and further treatment at a convalescent hospital.

The heart is capable of being severely taxed, provided it be a healthy organ in a fairly young subject, without being overstrained, the difference being that between functional fatigues and actual damage to valve or muscular wall. Of course too frequently repeated over-taxation will cause permanent enlargement with some change in the muscular texture not only of the heart but also of the vessels. It is, however, prolonged taxation of the heart extending over the period of fatigue that is very apt to cause changes of a more or less permanent kind which constitutes over-strain. The irritable heart of soldiers described by Da Costa, the forms of heart disease found so frequently in lightermen and professional athletes, are of this source. It is extremely important that in young people undergoing active growth and development sports should be so arranged as not habitually to tax the heart and circulation beyond the period of fatigue, the point to be remembered being that young people can do almost anything in short spells or spurts with rest between, but their hearts will not bear with advantage prolonged and fatiguing exertion, the reason being that nutrition changes of waste and restoration are quick and cardiac innervation excitable. In full-grown adult life great exertion can be more prolonged and as life advances the heart is much more liable to damage from quick spurts of effort than from prolonged and steady exertion. In my belief with perhaps the single exception that in some cases long runs and paper-chases are not sufficiently supervised with regard to the varied ages and physique of the boys the usual public school sports are admirably adapted for them. I would here make an observation which is probably in accord with the experience of others, although I have not seen it alluded to—viz., that in young people, especially boys between seven and twelve years of age, it is common to find the heart relatively large, the apex beat slightly outside the normal, the impulse of the left ventricle relatively strong. I believe this condition to be by no means abnormal and that it is attributable to the restless activity of early youth and to the cardiac development being somewhat ahead of the pulmonary. It would be an error to regard it as morbid. As an instance of what I mean by over-taxation of the heart in young people which would lead to over-strain I may quote the following case. I was a short time ago consulted about a fine, high-spirited little lad, aged fourteen years, well-built, full of courage, and who had been a successful competitor in most school sports. These had probably done him no harm. But in the holidays he was allowed to associate in sports with older people. He would do bicycle races with his elder brothers; he would go out for whole long autumn days shooting with grown-up sportsmen; in fact, he pursued to extreme fatigue sports for which he was unfitted, and the result was a degree of hypertrophy and dilatation of the heart which caused him to be refused for the public service and he was then brought to me for an opinion.

My own limited experience of those who have overdone it in training is that they become anæmic, that their cardiac innervation suffers and that the ventricles yield from impairment of muscular nutrition. An anæmic condition of such patients and an occasional hesitation in the cardiac rhythm are the earliest phenomena. The treatment of an overtaxed heart and the lighter degrees of overstrain is simply a short period of complete rest followed by steady but carefully graduated exercise, calculated to maintain cardiac and general muscular circulation and nutrition without exciting the heart's action or increasing the blood-pressure. I think special heart exercises are better avoided; we do not want to make heart "crocks" of our young people. Children have great powers for complete recovery in their rapid renewal of tissue. Overstrain of unsound hearts is, of course a matter of daily experience and is the immediate cause which brings such cases under observation. Its treatment is involved in that of the heart disease upon which it supervenes.

Ulcerative Endocarditis.

The significance of infective endocarditis was, as is well known, first recognised by the late Dr. Senhouse Kirkes in 1853. He was followed by Virchow, and you yourself, Sir, in the pages of that mine of pathological wealth, the Guy's Hospital Reports,[2] were amongst the pioneers of modern clinical medicine who recognised the essential characters of the disease. Its pathology will be broadly covered for our present purpose by saying that it is a disease most commonly (61 cases out of 69, Coupland) supervening upon valve changes the result of former endocarditis, that it is produced by the lodgment and local cultivation of microbes, and that its secondary results are occasioned by the toxins yielded to the blood by such organisms and by the detachment of microbe bearing fibrinous emboli occluding vessels in various organs and parts. That the organisms regarded as capable of setting up infective endocarditis are of more than one kind,[3] but that streptococci and staphylococci pyogenes are the most frequently found, pneumococci next in frequency, gonococci and others occasionally met with. It is stated that in some cases organisms have been found peculiar to the lesions. The disease is frequently started from infection through septic surfaces or centres, endometritis, otitis, gonorrhœa, intestinal or faucial sloughings, &c. In other and a numerous class of cases the disease arises without any intermediate illness from exposure to sewer-gas emanations, but in the latter cases in my experience it has almost always happened that previous valve lesions from former endocarditis have existed.

The facts which stand salient with regard to infective endocarditis are the frequent concomitance on previous valve defect and exposure to sewer gas emanations of septic absorption, and these factors will be found to underlie and initiate the whole pathology of the disease in the vast majority of instances. They are in my belief the objectives of our prophylactic and therapeutic treatment. A due recognition of these facts will add to the care with which on sending a patient convalescent from rheumatic fever with endocarditis to a seaside or country resort we should satisfy ourselves as to the sanitary condition of the house to be occupied. Obviously the first inquiry in any case presenting symptoms suggesting infective endocarditis is into his sanitary surroundings and into every possible source of autogenetic infection, such as otitis, chronic gleet, pelvic abscess, and the like, and to at once deal with any such defect. The next point which strikes the clinical observer is the fact that with a mild remittent fever there are associated more or less periodical outbreaks of high temperature with great fluctuations of from a few hours' to two or three days' duration.

A gentleman, a former member of our profession, recently remarked on a public occasion that apart from surgical measures the only function left to the healing art was of a prophylactic kind. I can only trust that when that gentleman's time shall come to be smitten with illness it will be of a kind accessible to surgery. He might, indeed, point in justification of his satire upon those who have to deal with the more occult phenomena of disease to the position which therapeutics stand with regard to infective endocarditis at the present moment. We can often prevent this appalling malady; we may sometimes nip in the bud by prophylactic measures its dire development. What can we do in its treatment? Of drugs arsenic is the only one under a course of which I have seen this disease get well. I do not remember to have seen any appreciable result from quinine, sulphocarbolates, guaiacol, mercury, or other remedies of the anti-periodic or antiseptic class. But in the face of the dreadful mortality of at least 80 per cent. of the cases that prevails arsenical treatment must promptly be abandoned for any more promising remedy. And looking to the pathology of the disease it would seem that in the modern development of serum therapeutics there is most to be hoped for in its future treatment.

It is hazardous to trust the reports of any new method of treatment until a sufficient time has elapsed for the favourable cases which have brought it into vogue to be duly apportioned to those in which it has failed. There have been recently reported four cases treated by the anti-streptococcus serum with the very encouraging result of three

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[2] Guy's Hospital Reports, 1870, vol. xv., p. 33.

[3] Dr. Dreschfeld (Allbutt's System of Medicine, vol. i., p. [illegible] enumerates twelve kinds of organisms as having been found

SERUM TREATMENT OF ULCERATIVE ENDOCARDITIS.

No.	Observer.	Sex.	Age.	Duration of illness before first injection.	Leading symptoms.	Date of commencement of injections.	Dose.	Number of injections.	Result.
1	Dr. Harrington Sainsbury.	M.	13 years.	72 days.	Cough, streaks of blood, and clot sputum; temperature 104·4° F. Enlarged heart; double murmur at the apex; dulness at both bases + left. Streptococci in the blood; erythematous rash.	Aug. 17th, 1896.	20 c.c. first; 10 c.c. subsequently.	6	Recovery; normal temperature, Sept. 2nd, 1896.
2	Dr. A. E. W. Fox.	M.	36 years.	19 days.	Muddy complexion and slight jaundice; temperature 104·6° F. Heart: first sound reduplicated, ending in slight whiff; soft systolic murmur in pulmonary and aortic areas; emboli in certain vessels.	Nov. 19th, 1896.	10 c.c. (10 c.c. twice a day 23rd to 29th). Injections again Dec. 1st.	15	Died (Dec. 2nd, 1896). Verified by post-mortem examination.
3	Dr. Margaret Pearse.	F.	16 years.	48 days.	Dyspnœa and palpitation; temperature from 101° to 103° F. (once 105°); pulse 116; rheumatic pains in the shoulder. Heart enlarged; mitral systolic; double aortic; fluid in the pericardium (pericarditis) and right pleura. Spleen enlarged and tender.	Dec. 24th, 1896.	2½ to 20 c.c.	8	Recovery; normal temperature, Jan. 11th, 1897.
4	Dr. J. A. Washbourn.	F.	21 years.	61 days.	Pale and thin; rigors; perspirations; pain in the joints; diastolic bruit left side of the sternum.	March 24th, 1897.	20 c.c. until last 2 weeks when gradually diminished.	60	Recovery normal temperature, May 6th, 1897.
5	Dr. J. F. Goodhart.	M.	18 years.	78 days.	Pale, anæmic; dyspnœa; giddy; faint; pain over the heart; temperature from 100° to 101° F., intermittent; old cardiac disease known to exist; systolic bruit all over precordia, but especially the aortic area; the spleen was enlarged; trace of albumin and sometimes blood in the urine.	Nov. 28th, 1897.	20 c.c. (4 times), 10 c.c. once.	5	Failure.
6	Dr. Percy Kidd.	F.	19 years.	—	Anæmia; remittent pyrexia; temperature from 103° to 99° F.; enlarged and tender spleen and liver; albuminuria; retinal hæmorrhages; petechiæ; hypertrophy and dilatation of the left ventricle; aortic stenosis; bronchitis.	—	5 to 20 c.c., 420 c.c. in all.	23	Death (confirmed by post-mortem examination).
7	Dr. Percy Kidd.	F.	30 years.	About 3 months.	Rheumatoid pains; pyrexia moderate and of remittent type; tender enlargement of the spleen and liver. Heart: hypertrophy and dilatation of the right and left side; mitral stenosis and incompetence.	—	5 c.c. to 25 c.c.	9 in first 5 days; omitted for 2 months; then 3 or 4 more.	Death.
8	Dr. A. E. Sansom.	M.	39 years.	About 10 days (5 in hospital).	Irregular characteristic temperature; infarction of the spleen and kidney.	—	10 c.c. 6th and 7th days.	2	Death (confirmed by post-mortem examination).
9	Dr. J. F. Goodhart with Mr. C. Christopherson.	—	—	—	Very pronounced case with cerebral embolism.	—	10 c.c.	4	Failure.
10	Dr. Stephen Mackenzie.	M.	25 years.	15 weeks.	Pyæmic abscesses; temperature; rigors; systolic murmurs at the apex and base.	—	10 c.c.	21 in 11 days.	Died (confirmed by post-mortem examination).
11	Dr. W. P. Reynolds and Dr. J. Young with Dr. J. F. Goodhart.	M.	45 years.	85 days.	Wasting; profuse sweating; evening rise and morning fall of temperature; soft systolic bruit at the apex; pain in the cardiac region.	Dec. 14th, 1896.	10 c.c.	3	Died (verified by post-mortem examination).
12	Dr. M. Prickett with Sir Richard Douglas-Powell.	M.	—	145 days.	Irregular pyrexia extending over more than 5 months' progressive anæmia; endocardial murmur; repeated attacks of vomiting; dropsy towards final stages of illness.	Aug. 4th, 1897.	—	11	Died.

recoveries. It must not be concluded, however, that this represents anything like a just account of the results of the treatment. A considerable and as yet unpublished experience at the various large hospitals and in private has already gone far to moderate enthusiasm for this method of treatment. I have here a table of all the cases that have come within my personal knowledge through inquiry amongst my friends and at some of the principal London hospitals. They are 12 in number, which include the 3 successful cases already published, 7 deaths and 2 in which no favourable result has ensued. We must allow for the fact that in some of these cases the anti-streptococcus serum has, from a natural hesitancy with regard to its efficiency and some timidity of possible risks in its employment, been only employed in later and almost hopeless stages of the disease when already large embolic detachments have set up centres of cultivation in many positions, so that the above table need not be regarded as so discouraging as would at first appear. It may be laid down as a principle governing treatment by this particular serum that the more distinct the history of a previous endocardial lesion and a subsequent exposure to infection through a suppurative medium or a sewer gas sepsis the more appropriate the case for the treatment. This rule would discourage its employment in cases in which the pneumococcus, gonococcus, or some other microbes divergent in character from the strepto- and staphylo-cocci were concerned, and if with the recognition of this principle and its earlier and bolder carrying out more encouraging results are obtained it will certainly follow that analogous measures will be found for the circumvention of the other forms of microbic action. A further point in the natural history of infective endocarditis is well illustrated in Chart 1—viz , that towards the close of the case when the vital powers are at a low ebb the temperature tends to fall apart from any treatment and the reactions to embolic incidents are much less marked or do not occur at all. It is possible that thus, if the serum be used late in the case, it may have effects attributed to it which should be otherwise accounted for.

I will venture now to allude to a case treated by the subcutaneous use of another material—viz., yeast—which, although it occurred four years ago and struck me very much at the time, it did not seem then advisable to publish, for as it stood it might perhaps equally well illustrate the value of a treatment or the fallacy of drawing any deduction from a single case. I had some months previously seen a case of infective endocarditis of long standing with Sir W. Broadbent in which he had for a time employed yeast given by the mouth with the apparent effect that during the several weeks of the treatment the temperature had preserved a lower although not a normal range; the patient, however, became nauseated and would not continue the remedy and finally died from the disease.

A young man, aged twenty-one years, with slight defect at the aortic valve, lived in a room over an archway which covered a former inlet of the Thames and presented a surface of stagnant Thames mud, sometimes dry, often wetted with surface water from the extended basement of an ancient building. He was given to violent exercises—bicycling, gymnastics, and engineering work—and the presumption is that he overstrained an old-standing valve lesion. On May 15th, 1895, he dined out with a friend and was taken ill with vomiting and faintness in the train going home. He was seen by Mr. Davis, of Dorset-square, on the 16th, when he had a temperature of 102° F., general malaise, and a cardiac murmur of aortic regurgitant character. The temperature continued raised for four days, when I saw him in consultation with Mr. Davis. The heart condition did not seem to account for the temperature and from the first some more general cause was suspected. There were no rheumatic symptoms nor were there any special symptoms of enteric fever. On about the eighth day he had a severe rigor and the temperature, which had been ranging between 102° and 100°, suddenly amounted to 105°, running down again to 100° in a few hours; after fluctuating at the original level for four or five days another rise to 105° would take place with a rigor as before. Sometimes a second rigor would closely follow the first with a corresponding acute rise of temperature. With the rigors there was sometimes sharp pain over the splenic region and the spleen was distinctly enlarged. On June 1st he was removed to a perfectly sanitary nursing home, but the symptoms remained unaltered. Salicylate of soda was at first administered and quinine was then given in 5 gr. doses without result and moderate doses of arsenic were tried, but these drugs did not influence the symptoms. The aortic regurgitant murmur became very marked and a curious, rough, somewhat churning, but mainly systolic murmur was heard over the left auricular region. On July 1st injections of yeast culture (a fairly concentrated cultivation of yeast in saccharine water prepared by Messrs. Burroughs and Wellcome, was employed, from 20 to 30 minims of the yeast being injected into the cellular tissue each second day, and these were steadily continued until September 1st. Sir W. Broadbent joined us in consultation on July 14th, when it was noted "the murmur is most audible to the left of the sternum and is not affected by inspiratien but prolonged during expiration." The deep cardiac dulness was increased both upwards and to the right. The systolic rough bruit was much more loud and rough during high pyrexial periods. There were never any signs of renal emboli. Soon after the commencement of the yeast treatment he had acute right pleurisy with some effusion. This began with two or three of the usual rigors in quick succession and upraisings of temperature, but the temperature remained high for a few days. With this interruption the intervals of four days between the rigors which had pretty steadily been observed appeared broken by the yeast injection and prolonged to six or seven days. The temperature became normal, or nearly so, in the intervals and altogether normal about August 14th three months from the commencement of the illness with complete cessation of rigors. The patient went to Brighton on Sept. 1st and rapidly convalesced and has remained active and well since.

In this case the yeast culture was obtained from Messrs. Burroughs and Wellcome. It was an inconvenient and unstable preparation, although it seemed to serve a very good purpose. Dr. De Bacher of Paris seems to have originated the yeast ferment treatment of microbic diseases and it was from a reference (after my observation of Sir W. Broadbent's case) to his experiments[4] with "Backerin," an aseptic preparation of fermentable material containing the yeast fungus, that I was induced to use the yeast preparation subcutaneously. "Backerin" could not be obtained at this time and I have not been able to procure it since. De Bacher[5] explained the efficiency of the yeast fungus in microbic diseases by the cells attracting into their interior and finally killing various microbes and thus helping the germicidal function of the white corpuscles.

I have used yeast subcutaneously in four other cases, in one of the four using it also in the form of dry yeast in 30-gr. doses by the stomach, but I cannot say that any marked result followed. The cases were, it is true, all rather advanced with splenic and other embelisms. One case was a sequel to gonorrhœa, one to suppurative otitis, and the other two of less defined source. Dr. Vaughan,[6] Professor of Hygiene and Physiological Chemistry at Michigan in 1894, advocated the use of solutions of nuclein and nucleinic acid in the treatment of microbic diseases. Dr. Vaughan contrasts the toxin diseases with those in which the phenomena presented are due to more direct microbic action—in the one class there being an acute intoxication of the system by the action of microbes or ferments of very limited life duration, in the other a more continued life and virulence of the organism; and he regards the nucleins as possessing practically no influence as antitoxins whilst being powerful indirect germicides. From experiment he finds the subcutaneous injection of nuclein to increase the number of white corpuscles both in healthy and tuberculous persons, the increase being variable in degree from slight to threefold and principally of the polynuclear cells. This increase is most evident at the fifth hour and disappears after the forty-eighth hour. Dr. Vaughan[7] bases the assumed efficacy of his nuclein treatment of microbic disease upon the observations of Fodor, Nutall, Buchner, and others, showing that the germicidal properties of blood serum depend upon constituents yielded

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[4] Journal des Sciences Médicales de Lille, 1893, review of MM. De Bacher's and Bruchet's experiments by Professor Lemière.

[5] Les Ferments Thérapeutiques, Paris, 1896, pp. 75, et seq.

[6] The Nucleinin and Nuclein Therapy, Transactions of the Michigan State Medical Society, Medical News, New York, Feb. 27th, 1897. The Physiological Action and Therapeutic Uses of Yeast, Nucleinin Acid. With especial references to its employment in Tuberculosis. V. C. Vaughan, M.D.

[7] Loc. cit.

CHART 1.

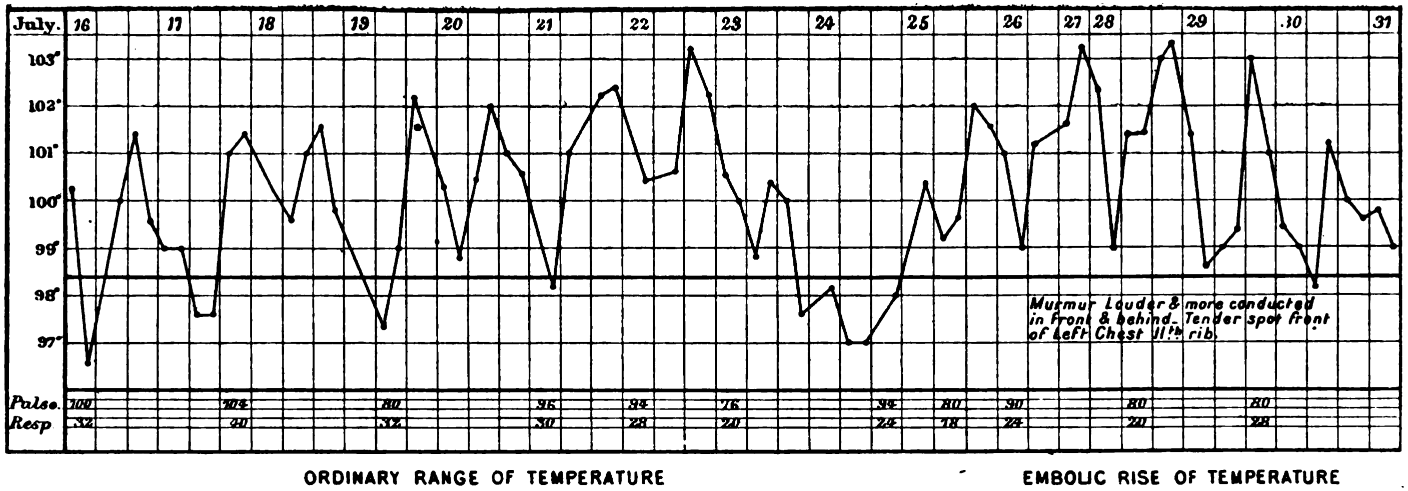
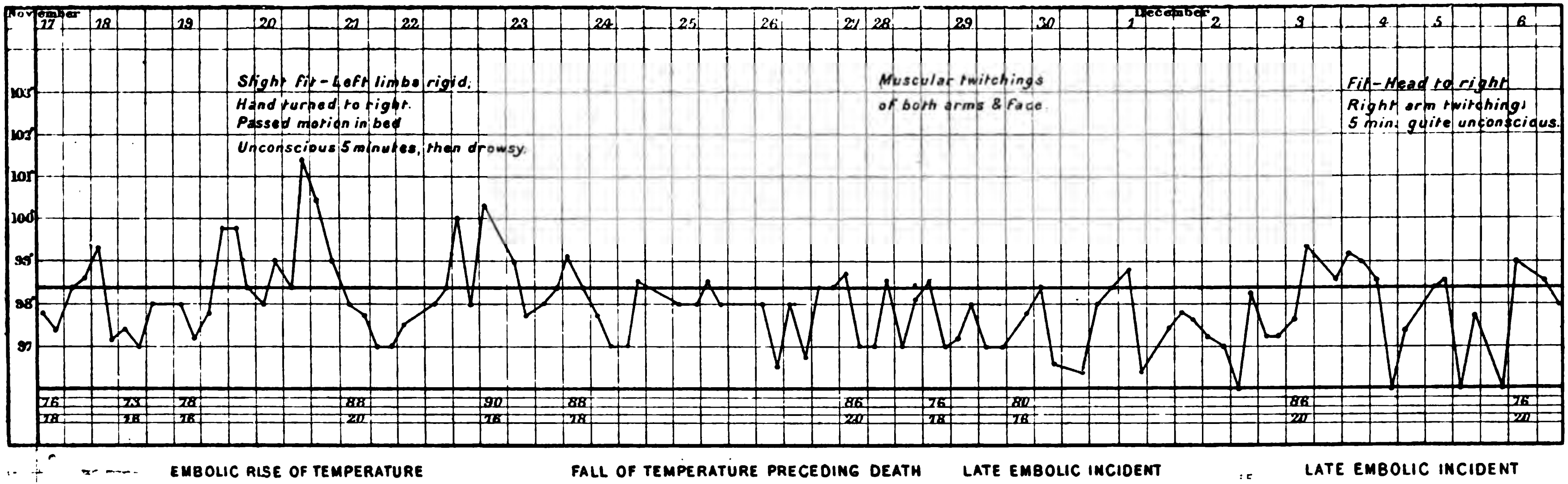


Chart illustrating the temperature of a case of ulcerative endocarditis. Between the dates July 26th and July 30th is a well-marked embolic rise of temperature.

CHART 1—(*continued*).



It will be noticed that after the fall of the temperature preceding death reactions to embolic incidents hardly occurred.

to it by the white, and especially the polynuclear white, corpuscles, arguing that this natural resistance to bacterial disease will be strengthened by a physiological increase of these corpuscles induced by the introduction of the most distinctive constituent of these cells—viz , nuclein.

The dose of the nuclein for subcutaneous use is 20 minims and upwards of a 1 per cent. solution[8] or a teaspoonful of a 5 per cent. solution by the mouth taken between meal-times. It is needless to say that the strictest antiseptic cleanliness with regard to syringes and preparation of the skin surfaces is absolutely necessary in the subcutaneous use of the preparations. I do not for a moment claim to express any opinion as to how far this treatment may prove useful in infective endocarditis. I am not aware that it has been tried except in the treatment of tuberculosis, although it has been advocated both in the form of the original preparations of Dr. De Bacher and as nuclein solutions in the treatment of all microbic affections. It occurred to me that nuclein derived from the young yeast cells may have been the material responsible for the apparent usefulness of yeast in Sir W. Broadbent's and my cases and that it was worthy of trial in cases at all events in which anti-streptococcus serum would not be applicable. The only case of infective endocarditis in which I have used nuclein is one seen by me in consultation with Mr. Christopherson of Hastings, of which I append a chart (Chart 2). The effect appears very striking, the temperature falling to the normal, but after an interval of eighteen days it again rose with what appears to be an embolic incident.

The principal object of massage is to stimulate the arterial circulation in the muscle, to hasten the venous currents, and to promote also the passage of lymph through the lymphatic vessels. The metabolism of the body is maintained and secondary, and therefore primary, digestion improved in those who from any cause are unable to take active exercise. It is at once apparent that we have here a means of helping on the convalescent stage of acute heart affections and of combating the tendency to stagnant circulation in those who are disabled by chronic heart disease. Still more useful is the treatment in maintaining the circulation and mildly but sufficiently stimulating the coronary circulation in those who, bed- or sofa-ridden from any other cause, on that account tend to impairment of heart nutrition and suffer from chilly extremities, feeble pulse, torpid digestion, and passive congestion of the lungs. In regard to acute heart affections, it will be gathered from what has already been said that the treatment is not to be advised. Most cases of acute endocarditis occur in young people whose hearts are not disposed to degeneration and whose muscles, although they become weak, recover with a rapidity and develop an energy which has to be restrained rather than encouraged. The heart is always in exercise, the coronaries are in full function, and whilst there is any activity or softness about the valve lesions our object is in no way to excite the heart to increased action. The thermometer is our guide and so long as there is any daily rise of temperature all such treatment, unless for some very special reason, should be discouraged.

CHART 2.

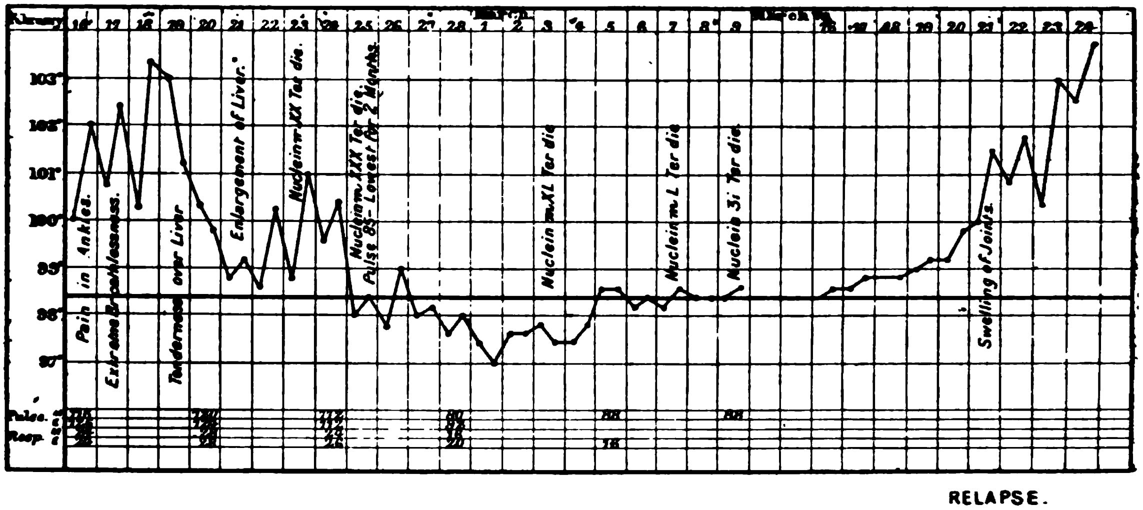


Chart illustrating the temperature of a case of ulcerative endocarditis treated by nuclein. (Under the care of Sir Richard Douglas Powell and Mr. Cecil Christopherson.)

I regret that time has not allowed me to allude more fully to some forms of cardiac disease, more especially to the subject of senile and prematurely degenerative diseases of the heart. A reference to them must have been somewhat discursive, for whilst they admit of much management they necessarily allow of little direct treatment. And, indeed, in trying to seek out points for treatment which are scattered here and there amidst groups of symptoms I fear I have already been too discursive. My endeavour has been to illustrate the principles of treatment rather than to touch upon details, the recognition of the neuropathic state, the principle of rest, of exercise, of drug administration, of restrictions in diet upon which we formulate our more precise management of individual cases. Finally, by a due acceptance in cardiac therapeutics of the principle of submission we may better help the patient to acquiesce in his restricted life, caged within the narrowed conditions under which alone it can be maintained and continue useful.

Exercises have been reduced to a system in three grades: massage, the resistance exercises or their equivalent in the mechanical methods introduced by Zander of Stockholm in 1872,[9] and others, and graduated walking exercises of Oertel.

Resistance exercises, now so well known by the name of Schott or Nauheim exercises as to require no description, are governed by more complex principles and considerations. By being brought to act successively against regulated resistance every set of muscles in the body can be exercised, and by graduating the degree of resistance and securing a short rest after each set of movements every gradation in the severity of the exercises can be obtained. Certain special effects are claimed by Dr. Schott and his disciples to be produced upon the heart under almost all forms of disablement and disease by the graduated exercises in combination with aerated brine baths, but although the effects of these two treatments are a little confused it seems clear that in Dr. Schott's opinion the benefit of the exercises in these cases arise from the following considerations: 1. The periodical and regulated stimulation of the heart leads to increased action, the muscles of that organ obeying the natural law of the relation between exercise on the one hand and nutrition or growth on the other as surely as do other muscles in which the changes are more apparent to the eye. 2. It is further maintained by Dr. Schott and his coadjutors that contraction of the dilated heart and distinct gain in the force of the pulse, as well as relief of dyspnœa, &c., are clearly observed to be rapidly induced by both baths and gymnastic exercises.

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[8] Prepared by Parke, Davis and Co.

[9] Groedel: Petersburger Medicinische Wochenschrift, No. 13, 1897.

3. Schott, apparently as a later observation, finds that the gymnastic course is capable of inducing the same results as the baths, the heart being stimulated to more complete contraction by reflex stimulation of the cardiac centres through the influence of exercise upon the motor nerves—i.e., similar in effect to the influence of aerated brine water upon the sensory nerves reflecting upon the same centres; and in this opinion Dr. Bezly Thorne agrees. Whilst I think no one could for a moment dispute the accuracy of the first proposition, which is, indeed, a matter of everyday knowledge, there do not seem to me to be any sufficiently trustworthy data in support of either of the other two. The occurrence of shrinking of the cardiac area as an immediate effect of the bath or resistance exercises has been denied by very competent observers (Groedel, Guntz, Leyden) and the question of baths and exercises producing their alleged effects by reflex influence upon nerve-centres is still undecided. 4. Dr. G. Oliver has thrown some scientific light upon the effect of exercise in showing by a very simple experiment that the mass of blood in the muscles is thereby increased, so that, e.g., an arm after exercise would displace a larger volume of water than before. 5. Dr. Oliver[10] has further shown that as a result of muscular exercises the blood thickens, the proportion of corpuscles in a given measure being increased, and he attributes this to the transfer of fluid ingredients from the blood into the substance of the muscles and lymphatic spaces. 6. Dr. Oliver quotes Brunton and Tunnicliffe's experiments in confirmation of the previously recognised effect of muscular exercise in first raising and secondly lowering the blood-pressure. 7. It is probably true that the circulation through muscles in action is more rapid and easy (after the first pressure effect of the muscle upon the vessels has passed off) and that the determination of blood to them may relieve the congestion of other organs. It is difficult to see how such replacement of blood should have any special effect in depleting the chambers of the heart except by facilitating the general circulation. 8. The effect of resistance exercises in slowing the pulse is not constant and would naturally vary with the degree of exercise and the condition of the circulation beforehand. Walking smartly across a room once or twice will often diminish the rapidity and increase the force for the time of a quickly and weakly acting heart.

The effect of the Nauheim exercises may, then, be said to be a stimulation of the heart's action with some steadying effect and increased completion of systole—an improved circulation through the coronary vessels and an increased mobility of the blood by its readier passage in greater bulk through the muscles, thus relieving stagnation in the great internal organs, especially on their venous side. In what cases are these exercises to be advised? The employment of the carefully graduated and observed exercises of Schott and Oertel may be regarded as a counsel of perfection to be advised for certain cases only as a preliminary to the return to that measure of active life of which their heart condition admits and as a guide indicative of what that measure will be and by what degree of ordinary exercise it may be arrived at. Resistance exercises are especially adapted for the initial treatment of those flabby, irritable, "stuffy" hearts, if I may use the term, as applied to cases of fatty infiltration and impaired metabolism, which are met with in people of venous plethora. In cases of chlorosis with dilated heart after a preliminary week or two of complete rest the Schott treatment is valuable if combined with a dry, bracing climate and some chalybeate. In the first commencing failure of heart in chronic valve lesions the treatment may be employed combined with a more or less complete cessation from all other exercises and similarly after such cases have been restored up to a certain point by digitalis treatment. Further, certain cases in which from the symptoms and signs we recognise the presence of atheromatous change in the coronary vessels, the treatment may be cautiously tried in combination with much rest. These cases are characterised by a certain degree of plethora and by breathlessness, attended with cardiac pain on arriving at a certain stage of walking or inclined walking exercise. If the treatment be mainly confined to these lines it is undoubtedly an aid to our therapeutics.

There are other cases again in which it should not be employed. All cases of acute endocarditis, whilst there is any trace of activity of lesion remaining are still more unsuitable for this than for the massage treatment. Cases of advanced cardio-vascular changes of the nature of sclerosis and particularly when associated with granular kidneys are absolutely unsuited. In cases of introspective people with neurotic hearts, the treatment is best avoided. The numberless cases of imaginary weak hearts that would naturally flock to specified "cures" require a diagnosis and a better occupation than that of indoor gymnastics. The exercises have in my experience not proved successful in tachycardial cases. For exphthalmic goitre in the early stages they seem eminently unfitted.

A still more pronounced treatment is the Oertel treatment of graduated walking exercises with a dietary restricted in fluids. A dry, highly nitrogenous diet with avoidance of fats and a very sparing allowance of starch, with fluids restricted to 36 ounces a day all told, and steady walking exercise for distance and steepness of ascents adapted to the condition of the patient. The gentlest incline walks can be arranged with frequent rests or the exercise can be pushed to the point at which deep gasping respirations are excited and a profuse action of the skin is produced. This treatment is fully described in Ziemssen's Cyclopædia. It has been replaced very much by the Schott exercises, to which, however, it may be regarded as a sequel. The guiding principles and restrictions of its use are sufficiently obvious. Its chief advantage is that it is undertaken in the open air. There is no doubt that some of the discomfort which ensues from massage and passive exercises, the unexpected sense of fatigue and languor, may often be attributed to want of good air in abundance adapted to the increased oxidation produced. And this leads me to mention another point of great importance in the treatment of impaired hearts, the desirability of the patients taking full inspirations, especially during the limited open-air exercise allowed to them. The constant aspiration of the elastic lung as an aid to the circulation is scarcely yet appreciated in practical medicine. I endeavoured to emphasise its importance many years ago as a force of constant action even through the whole period of expiration and as increasing with the inspiratory expansion of the lungs.[11] I have been in the habit often of advising bedridden people to take an occasional series of deep inspirations with the view of lessening venous stagnation. Dr. Oliver, in his Croonian lectures, and quite recently in his remarks at the British Balneological and Climatological Society, has drawn attention to the effects of deep, slow inspirations with firm contraction of the abdominal parietes in emptying the hepatic and other abdominal veins and in increasing splanchnic vasomotor tone.

All the points which have been noted with respect to formulated exercises are common to other less regulated kinds of exertion of similar degree and severity. The wielding of a salmon rod is a resistance exercise equal to and more amusing than any of those of Nauheim. My friend Dr. Oliver would find the muscles swell, the blood thicken, the blood-pressure at first rise and then fall, the venous currents quicken and internal congestion relieved after a similar manner. Any physiologist might see the same phenomena on a milder scale when observing the enthusiastic golfer with his whole mind occupied and his every muscle braced and restrained in accomplishing some delicate stroke of the game. The "sense of strength" in billiards is only another still more delicate balance of muscular work. We have since the beginning of the world been undergoing in our sports and pastimes resistance exercises—every one set of muscles checked and regulated by the opposing muscles. But exercises have not been organised in any graduated scale calculated to be beneficial and not harmful for those whose hearts are weak or partially disabled. Hence, although we have many of us seen for years past, perhaps since the teachings of Stokes sank into the professional mind, the beneficial effects of well-advised and guarded exercise in cases of heart disease, it is nevertheless certain that we have learned from the advocacy of elaborate exercises by Beneke, Oertel, and Schott, and Dr. Thorne a greater confidence in their use from a more precise knowledge of their effects. Exercises of most varied kinds can be devised suitable to all degrees of cases in which any exercise at all is desirable. Level walks with frequent pauses, similarly taken inclined walks combined with a numbered succession of deep inspirations, golf, croquet, cricket, fishing, shooting, tennis, cycling and such-like sports taken in the open air can be graduated with considerable nicety, and are certainly as a rule to be preferred to mere gymnastics within doors.

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[10] Recent discussion at the British Balneological and Climatological Society. See THE LANCET, Feb. 5th, 1898.

[11] On Some Effects of Lung Elasticity in Health and Disease. Transactions of the Royal Medical and Chirurgical Society, vol. lix., 1876.

Formerly weak-hearted people were not allowed to move; now they are made to walk. The swing of the pendulum is tending perhaps too much towards exercise. Schott, in his paper in THE LANCET in 1891,[12] with the exception of aggravated cases beyond the reach of any treatment, allows only two conditions of heart to contraindicate the treatment by baths and resistance exercises—viz., aneurysm and progressive arterio-sclerosis, and not all cases of the latter. One has witnessed many an apparent triumph of quickly restored strength and apparent well-being in young people with acute endocarditis who have been too soon allowed to resume their exercises. It is only in the later months that the effects of the chronic deforming arteritis of the strained softened valve are manifested.

The strong brine and aerated baths of Nauheim and other places are unquestionably of much service in some circulatory disorders. They are perhaps most suitable for cases of chronic rheumatism and gout associated with high arterial tension and secondary cardiac disturbance. In cases of functional excitement of the heart's action in connexion with quiescent or only imperfectly compensated valvular affections they may be used. In the latter cases at first in combination with more or less complete rest rather than with graduated exercises. In the high tension and less quiescent cases the higher temperatures, calculated to lower tension and to stimulate surface circulation, are more useful. In the more neurotic cases with sound hearts the more tonic and comparatively lower temperatures may be employed of shortened duration. It is well pointed out by Dr. Groedel that the baths and exercises are two separate therapeutic agents and that in perhaps only 20 per cent. of the cases are they usefully employed in combination, although massage may be more frequently employed. Beneke, who originated the bath treatment at Nauheim, was very sound in his doctrine to avoid all gymnastic exercises until after the lapse of six months from any acute endocarditis.

ANTI-STREPTOCOCCIC SERUM.

BY LOUIS COBBETT, M.B. CANTAB., F.R.C.S. ENG.

THE object of this paper is to inquire whether the anti-streptococcic serum has justified the claims made for it, and whether it should be used for the treatment of streptococcal disease in man. Already a considerable number of cases which have been treated with the serum have been reported; it is not, however, my intention to discuss these reports here, because from the nature of streptococcal diseases it is difficult to arrive at a sound judgment as to the effect of any method of treatment, and because in my opinion the serum should be proved in the laboratory beyond any possibility of doubt to be capable of controlling experimental streptococcal infections in animals before it is used even tentatively in cases of human sickness. This paper, therefore, will deal with the history of anti-streptococcic serum and the more important laboratory researches which have been made with it.

Since it is still uncertain whether there is one streptococcus or whether there are many streptococci which are pathogenic to man it is necessary to bear in mind that a serum which protects against one streptococcus will not necessarily protect against all streptococci. Two questions, therefore, present themselves for consideration: (1) has it been shown to be possible to obtain from an immunised animal a serum which will protect against the streptococcus used to immunise that animal; and (2) if so, will this serum protect against all the streptococci which are pathogenic to man?

Serums possessing protective and remedial properties have been obtained from animals immunised against many of the pathogenic micro-organisms. Of these the anti-tetanic and anti-diphtherial serums alone have a well-marked antitoxic power. Some others have a feeble antitoxic action, but they owe their protective power chiefly to the fact that they lead indirectly to the death of micro-organisms in the animal body. The mechanism by means of which they do this is not thoroughly known, but it may be stated that the serums have little, if any, more direct bactericidal action than the normal serums of the same animals and that the destruction of the microbes is associated with some vital reaction on the part of the animal.

The anti-streptococcic serum belongs to the class of anti-bacterial rather than to that of antitoxic serums. The hope therefore that it will prove of value in cases of streptococcal disease in man must be based on the success already obtained with such serums and not upon the far greater success achieved by diphtheria antitoxin. Many experimenters have immunised animals against the streptococci. H. Roger was the first to investigate the anti-bacterial and protective properties of the serum of these animals. He found that the streptococcus grew as freely in the serum of an immunised as in that of a normal rabbit. But while it had acquired no direct bactericidal power it was, nevertheless, not without action, for cultures of virulent streptococci when grown in it were found to be harmless.[1] From this observation he concluded that the streptococci had become attenuated by the serum. It is curious that he did not attribute the harmlessness of the injections to the action of the serum upon the animals which received it along with the streptococci, for he went so far as to show that the serum in question had some curative power.[2] On this point he says: "If one injects the serum into the veins of a rabbit and at the same time inoculates it with a virulent culture one can see that the animal survives, but it is on condition that it has received a large quantity (5 to 6 c.c.) of the serum." Now in the majority of the experiments which he took to show that the serum attenuated the microbe he had used no more than 1 c.c. of culture in the serum and this, he thinks, was insufficient to immunise the animal. This conclusion was probably erroneous, for Bordet[3] has recently shown that the daughter cultures of streptococci grown in the serum of an immunised animal (Marmorek's) have lost none of their virulence; and that the same is true of the parent cocci themselves if they be washed free from the serum in which they have grown.

Roger's observations may be said to have started the serum therapy of streptococcal affections. In 1892 Behring[4] asserted that to obtain a remedial serum for human streptococcal affections was only a matter of industry and recommended for this purpose the immunisation of horses. Mironoff,[5] working with a culture which he had received from Roger, immunised rabbits by various procedures. He states that their serum was capable of conferring immunity on other rabbits and also of favourably influencing the course of a septicæmia already in evolution. But the experiments which he gives are not very conclusive because the culture used was so weak that the control animals did not die for many days. In 1895 several experimenters were at work at the production of the anti-streptococcic serum, including Petruschky in Berlin, Borneman in Vienna, and Denys and Leclef in Louvain, when on Feb. 23rd, at the Société de Biologie in Paris, Marmorek[6] and Charrin and Roger[7] simultaneously made a communication on the subject. Marmorek had obtained a streptococcus of extraordinary virulence which killed rabbits in a dose of 0·00,000,000,001 c.c., preserved its virulence in cultures, and produced a toxin far more active than those hitherto prepared. With living cultures and with toxic filtrates he had succeeded in immunising animals and had obtained a serum which had very active preventive and curative powers. Charrin and Roger had immunised a mule with cultures concentrated and heated to 115° C. They stated that "the serum is curative like the serum of vaccinated animals," but they gave no experiments. They also reported some cases treated with the serum. Soon after this Marmorek[8] published his researches more fully. His streptococcus had come from a case of tonsillitis and had attained its extreme degree of virulence by repeated passages through mice and rabbits. He had devised a culture medium consisting of one part of human ascitic fluid and two of bouillon, or, better still, two parts of human serum and one of bouillon, in which the microbe would grow without losing this extreme degree of virulence. With living cultures of this streptococcus he had immunised a number of animals, including horses and donkeys, and from them had obtained his active serum. In order to measure the protective power of the serum he found by experiment the smallest quantity which would protect a rabbit of from 1500 to 1800 grammes weight against ten times the minimal fatal dose of virulent streptococci injected from twelve to eighteen hours later. The best serum which he had been able to obtain was of such strength that 0·2 c.c. sufficed to do this (see Table I.). The serum also possessed some curative power when injected after the streptococci, but larger quantities were then necessary: thus, 1·0 c.cm. given three hours after infection with ten times the fatal dose succeeded in saving the life of a rabbit and 5 c.c. cured an animal five hours after inoculation. Doses of 5 c.cm. repeated at intervals of six hours were more effective than a single injection. From liquid cultures of his very virulent streptococci he obtained toxic filtrates more powerful than any hitherto produced. Of these 1 c.c. would kill a rabbit of medium size. The possession of this toxin enabled him to determine whether his serum had any antitoxic power, with the result that it was found to have some such power but in far less degree than its power of protecting against the living micro-organisms. For example, from 3 to 5 c.c. protected against the single fatal dose, while smaller quantities only prolonged life.

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[12] THE LANCET, May 23rd and 30th, 1891.

[1] H. Roger: Modifications du Sérum à la suite de l'Érysipèle, Comptes Rendus de la Société de Biologie, 1890.

[2] H. Roger: Contribution à l'Étude Experimentelle du Streptocoque de l'Érysipèle, Revue de Médecine, Paris, 1892.

[3] J. Bordet: Contribution à l'Étude du Sérum Anti-streptococcique, Annales de l'Institut Pasteur, 1897.

[4] Behring: Untersuchungs-ergebnisse betreffend den Streptococcus Longus, Centralblatt für Bakteriologie und Parasitenkunde, Jena, 1892.

[5] Mironoff: Immunisation des Lapins contre le Streptocoque et Traitement de la Septicémie Streptococcique par le Sérum du Sang des Animaux immunisés, Archives de Médecine Experimentelle, Paris, 1893.

[6] A. Marmorek: Le Streptocoque et le Sérum Anti-streptococcique, Comptes Rendus de la Société de Biologie, 1895.

[7] Charrin and Roger: Essai d'Application de la Sérum-therapie au Traitement de la Fièvre Puerpérale, Comptes Rendus de la Société de Biologie, Paris, 1896.

[8] Marmorek: Le Streptocoque et le Sérum Anti-streptococcique, Annales de l'Institut Pasteur, vol. ix., 1895. Streptococcus und das Antistreptokokken-Serum, Wiener Medicinische Wochenschrift, 1895. Ref. by Borneman, Centralbatt für Bakteriologie und Parasitenkunde, Jena, Band xix.

With toxic filtrates also he immunised a horse, injecting 1260 c.cm. in the course of two months, but the serum of this animal was only slightly active and could not be compared with that of an animal treated with living culture. Whether it possessed any antitoxic power he does not say.

Simultaneously with the publication of Marmorek's researches and in the same number of the "Annales de l'Institut Pasteur" there appeared a paper by Gromakowsky[9] from Parlowsky's laboratory, in which he recorded how he had immunised rabbits with the streptococcus erysipelatis and had obtained a serum of which the subcutaneous injection of 2 c.c. protected rabbits from the subsequent introduction of culture into the peritoneal cavity in quantities slightly larger than those which killed the control animals. Another serum only retarded death, while of a third 4 c.c. subcutaneously injected three hours after the peritoneal injection of a lethal dose of culture preserved the life of the animal. Thus he had a small amount of success, but he used large quantities of serum and a feeble streptococcus.

Shortly after the appearance of Marmorek's discovery Professor Denys and J. Leclef[10] in Belgium published the results of an independent investigation of the same problem. Marmorek had used, both for immunising his animals and for testing his serum, a very virulent streptococcus, which when injected subcutaneously caused death by septicæmia without local lesion. Denys and Leclef state that they used a streptococcus which at first of moderate virulence, had been reinforced until 0·00,000,01 c.cm. of an 18–24 hour bouillon culture injected under the skin of the rabbit's ear would cause severe erysipelas. But in the experiments which they give it appears that much larger quantities, 0·02, only caused erysipelas of moderate severity and do not seem to have proved fatal to any of the animals. They immunised four horses, two with living cultures and two with filtrates. The serum obtained from these animals they tested by injecting small quantities into rabbits and subsequently inoculating their ears with living culture. The protective power of the serum was shown by the absence of erysipelas. There seems no doubt that their serums were able to protect against this feeble infection, as the following experiments show:—

Experiment I.—0·25 c.c. of serum protected against 0·001 c.c. of culture.

Experiment II.—0·1 c.c. of serum protected against 0·002 c.c.; 0·02 failed.

Experiment III.—0·05 and 1 c.c. of serum protected against 0·02 c.c.; 0·1 to ·25 failed.

Experiment IV.—From 2 to 4 c.c. of serum protected against 0·02 c.c.

Experiment V.—From 0·5 to 1 c.c. of serum protected against 0·01 c.c.; 0·25 failed.

Experiments I., II., III. were made with the serum of the animals injected with filtrates, and Experiments IV. and V. were made with the serum of the animals injected with living culture. In their hands the two methods gave equally good results and they claim to have succeeded where Marmorek failed in producing an active serum by means of injections of filtrates; but it must be pointed out that their tests were far less severe than his.

Dr. W. Bulloch,[11] in the autumn of 1895, continued the work of immunising horses against the streptococcus which had been begun by Dr. Armand Ruffer in the Institute for Preventive Medicine in the spring of that year. He used a streptococcus obtained originally from a case of erysipelas in man and which had been raised in virulence by passage through rabbits. He reported experiments in which the serums obtained from three horses were tested on the rabbit against the streptococcus employed for immunising the horses. The serum was injected subcutaneously and the culture into the veins. Of one serum 0·05 c.c. protected against ten times the dose of culture which proved fatal to the control animal, while 0·02 c.c. and 0·01 c.c. failed to do so. Of another 0·01 c.c. protected against four times the dose which proved fatal to the control, while 0·008 c.c. and 0 001 c.c. failed. Of the third serum 0 02 c.c. and probably 0·05 c.c. protected against ten times the lethal dose, while 0·01 c.c. failed.

The work of Marmorek attracted a good deal of attention and several bacteriologists set themselves to test the strength of his serum. Astonishment and disappointment were the result; neither in the hands of Petruschky, Aronson, nor Borneman, and more recently of Van de Velde, did it appear to have any protective power. Merieux and Niemann, Bordet and Courmont, on the other hand, found it active. It is necessary, therefore, to go carefully into the matter in order to find if possible some explanation for the conflicting experiences of these experimenters.

Petruschky[12] tested Marmorek's serum against a streptococcus which had come originally from a case of septicæmia in man and which had been raised to a high degree of virulence for the rabbit by repeated passage through the body of that animal. To his surprise he failed to find in Marmorek's serum any protective power whatever; although the dose of culture was so small (0·00,000,1 c.c.) that two out of three controls failed to become infected, yet none of the animals treated on the previous day with 0·25 c.c. of the serum survived. He also tested the protective power of his own and Marmorek's serum against wound infection of the rabbit's ear. Now, though with his own serums he had never been able to save a rabbit so infected from death, yet he had now and then observed death delayed, and in these cases an inflammation of the ear had occurred. This appearance of a local reaction, together with a survival of the animals for several days after the controls were dead, he looked upon as evidence of an increased power of resistance on the part of the animals which could only be attributed to the action of the serum. Even this increased resistance Marmorek's serum was unable to confer, though as much as 5 c.c. were injected into the animals. It occurred to him that the serum might have become useless for some unknown reason or that, while active against the streptococci used to produce it, it possessed no power of protecting against the streptococcus which he used. He therefore wrote to Marmorek asking for fresh samples and for cultures of his streptococcus. Marmorek cordially complied, sending also some tubes of his ascitic bouillon. Petruschky repeated his experiments and the results were the same as before. Although it was stated on the bottles of serum that 0·05 c.c. would protect against ten times the minimal fatal dose, yet even 0·2 c.c. failed to protect against a dose which failed to kill all the control animals. Space does not permit me to give an account of all the experiments, but it is sufficient to say that several very careful experiments were made with the result that Marmorek's serum proved equally useless both against Petruschky's and Marmorek's streptococci. Petruschky also subjected the anti-streptococcic serum of Professor Merieux and Professor Niemann of Lyons to the same series of tests, with the result that it also proved entirely worthless.

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[9] D. Gromakowsky: Immunisation des Lapins contre le Streptocoque, Annales de l'Institut Pasteur, 1895.

[10] Denys and Leclef: Contribution à l'Etude du Sérum Anti-streptococcique, Bulletin de l'Académie Royale de Médecine de Belgique, 1896.

[11] W. Bulloch: Streptococcus Pyogenes and Anti-streptococcus Serum, THE LANCET, May 2nd, 1896.

[12] J. Petruschky: Ueber die verschiedener Erscheinungsformen der Streptokokken-Infektion und so weiter, Zeitschrift für Hygiene, Band xxii. Ueber Antistreptokokken-Serum, Zeitschrift für Hygiene, Band xxii. See also Untersuchungen über Infektion mit Pyogenen-Kokken, Zeitschrift für Hygiene, Bande xvii. und xviii, 1894. Versuche mit Antistreptokokken-Serum, Centralblatt für Bakteriologie und Parasitenkunde, 1896.

Petruschky[13] had also an opportunity of testing the protective power of Marmorek's serum on the human being when, under the direction of Professor Koch, he was inoculating with erysipelas patients who were suffering from inoperable malignant tumours. Among these was a young woman who showed herself susceptible to repeated attacks of the disease and therefore offered a good opportunity for the trial of anti-streptococcic serum. Marmorek's, Aronson's, and Petruschky's serums were given on different occasions in doses of 10 c.c. twenty-four hours before inoculation with streptococci. The inoculations were each time successful either immediately or after a repetition and the serum appeared to exert no influence upon the course of the infection. The inoculation was made on each occasion with a streptococcus which came from a case of human peritonitis.

It is interesting to compare the details of the experiments of Petruschky and Van der Velde, on the one hand, with those of Merieux and Niemann and the single experiment reported by Marmorek on the other. Of these the following are selected as examples :—

MARMOREK'S SERUM v. MARMOREK'S STREPTOCOCCUS.

TABLE I.—*From Marmorek.*

Weight of rabbit.	Serum.	Culture 18 to 24 hours later.	Result.
1500 grammes	0·2 c.c.	0·00,000,1 c.c.	Lived.
" "	0·2 c.c.	"	"
" "	0·1 c.c.	"	+ 10 days.
" "	0·1 c.c.	"	+ 11 days.
" "	—	"	+ 30 hours.
" "	—	0·00,000,01 c c.	+ 30 hours.

TABLE II.—*From Merieux and Niemann.*

Weight of rabbit.	Serum.	Culture 18 to 24 hours later.	Result.
—	0·1 c.c.	0 00,01 c.c.	Lived.
—	0 2 c.c.	"	"
—	0·5 c.c.	"	"
—	0·1 c.c.	0 00,001 c.c.	"
—	—	0·00,01 c.c.	+ 3rd day.
—	—	0·00,001 c.c.	+ 2nd day.

TABLE III.—*From Petruschky.*

Weight of rabbit.	Serum.	Culture next day.	Result.
1500 grammes	0·05 c.c.	0·00,000,1 c.c.	+ 4 days.
1700 "	0·1 c.c.	"	Lived.
1805 "	0·1 c.c.	"	"
1790 "	0·2 c c.	"	+ 2 days.
1230 "	0·2 c.c.	"	Lived.
1820 "	—	"	+ 3 days.
910 "	—	"	+ 19 days. From other causes.
890 "	—	"	Lived.
1420 "	—	0·00,000,001 c.c.	"
1450 "	—	"	"
860 "	—	"	"

TABLE IV.—*From Van de Velde.*

Weight of Rabbit.	Serum.	Culture next day.	Result.
—	0·5 c.c.	0·00,01 c.c.	+ 26 hours.
—	0 5 c.c.	0·00,000,1 c.c	+ 28–34 hours.
—	0·5 c.c.	0 00,000,001 c c.	+ 20 hours.
—	0 5 c c.	0 00,000,000,1 c.c.	+ 38 hours.
—	—	0·00,000,001 c.c	+ 36 hours.
—	—	"	+ 24 hours
—	—	0·00,000,000,1 c.c.	+ 36 hours.
—	—	"	+ 30 hours.

If one compares Petruschky's experiments with those of the other writers mentioned one is struck by the fact that so many of his control animals recovered. This at first sight makes it appear that his test was a lenient one, but that this deduction is not sound the following considerations will show. He used a culture of *maximal virulence*—that is to say, one which killed rabbits no matter how few the cocci which had gained entrance into them. The evidence of this was that if a number of these animals were injected with a small quantity of a highly diluted culture, those which did not die from acute septicæmia showed no ill effects whatever. Into those no streptococci had found their way. It must be clearly understood that one cannot dilute a culture of streptococci as we can dilute a liquid or even as we can dilute a fine powder in suspension. The streptococci stick together in chains of greater or less length and often in little tangles composed of many chains. However much we dilute and shake we shall not succeed in breaking up these masses into their component parts. Thus it happens that if one injects into each of a series of animals 1 c.c. of a 1 in 1,000,000 dilution of streptococcus culture for example, some animals will receive comparatively large doses while others will receive no streptococci at all. Thus the minimal fatal dose of streptococci cannot be determined. The smallest dose which is certainly fatal can indeed be found by experiment, but this will have no constant relation to the theoretical minimal fatal dose because the length of the chains and the tendency to form tangles varies enormously in different cultures. In some the organisms exist in the form of diplococci and short chains. Such cultures are capable of being fairly uniformly distributed when diluted and of such the smallest dose certainly fatal in practice will approximate to the theoretical minimal fatal dose. But it is quite otherwise with cultures which consist of long chains collected together into tangled masses. Of such the smallest certainly fatal dose may contain perhaps many hundred cocci and if these be vary virulent then it will be many hundred times as large as the theoretical minimal fatal dose. Thus the severity of the test with ten times the certainly fatal dose may vary enormously in the hands of different experimenters. Now Marmorek stated in his original paper that while 0·2 c.c. of his serum would protect against ten times the fatal dose, this quantity was altogether insufficient when the test was made with larger quantities of culture. Moreover, he said that his culture was so active that if more than a certain quantity be injected death will result no matter how much serum has been previously given. It is possible therefore that some may have failed to find any protective power in his serum because their tests were too severe. It seems certain that in Marmorek's own experiment his serum exhibited a real protective power and that his good results are not to be attributed to a failure of infection, as Petruschky hints, because those animals which received a dose of serum insufficient to save their lives nevertheless lived ten and eleven days, while the controls died in thirty hours. It is clear that these animals were infected because they ultimately died. And one must conclude therefore that the serum was at least able to prolong life.[14]

Immediately after Petruschky, Aronson[15] published some similar experiments made with Marmorek's serum. He used a streptococcus obtained from the pus of a case of phlegmon, the virulence of which had been raised by passage through rabbits until 0·00,000,001 c.cm. killed a rabbit of 1000 grammes in two days. He employed an alkaline bouillon containing 0·5 per cent. of peptone and 0·1 per cent. of glucose. He was struck by the great variation in the virulence of his culture and remarks that the method of testing anti-streptococcic serum is very uncertain and does not approach in accuracy, even remotely, to the Ehrlich method of testing anti-diphtheria serum. Under these circumstances it was natural that he should test the serums of the horses with which he was himself immunising alongside of Marmorek's serum, intending to use the latter as a standard. It was thus that to his surprise he discovered that in his hands at least Marmorek's serum was entirely worthless. In a dose of 1 c.c. it did not even delay death. He also tested the serum made by Merieux and Niemann in Lyons and found it no better.

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[13] Petruschky: Specificität des Erysipel-streptokokkus, Zeitschrift für Hygiene, Band xxiii.

[14] It is a pity that he does not state whether these animals suffered from any local lesion.

[15] H. Aronson: Ueber Antistreptokokken-Serum, Berliner Klinische Wochenschrift, 1896.

The serum of his own horses was not without a certain protective power. Animals which received from 0·4 to 1 c.c. ecovered from an infection which killed the controls in less han forty-eight hours. He, however, discovered that after being kept three months preserved with 0 5 per cent. of phenol it had almost entirely lost its activity; 1 c.c. did not roduce any effect and even 4 c.c. only prolonged life for ine days. Judging by the opalescent appearance of Marmorek's serum he thought that it also had been preserved with phenol and to this he attributed its worthlessess. Petruschky,[16] however, who criticises this conclusion, oes not think the evidence sufficient to establish it and ays that in the samples of Marmorek's serum which he imself used he found no trace of phenol. Aronson's experiments, made with the same serum at different dates, are ot strictly comparable with one another, because the viruence of the streptococcus used to test them had increased n the meantime, so that the dose given on one occasion was 00,01 and on the other 0 00,001 c c. Nevertheless the uggestion that the protective power of an anti-streptococcic erum may be easily lost is very probable and it is esirable that further investigations should be made on this point.

Shortly after Aronson, Borneman [17] published the results of is experiments, which had been made in the State Antioxin Laboratory in Vienna under Professor Paltauf. He ad immunised a horse and an ass with a streptococcus hich he had received from Marmorek. The same microganism served also for testing the serum. At first it was ot very active, but he increased its virulence in the usual ay until 0·00,001 c.c. was a fatal dose; beyond this point could not raise it. This quantity was not certainly fatal nd so he used 0 00,01 c.c. as his test dose. Even this dose metimes failed to kill rapidly and animals which received would sometimes linger for several days. The test, therere, was not a severe one. Borneman tested two samples of armorek's serum along with his own. These had been sent him by Marmorek himself but without any statement as their strength. In the experiments made with one of ese samples the serum may have prolonged life a little; in ose made with the other it proved worthless. While the per was in the press a third sample of Marmorek's serum s received through Professor Gruber. A single experint was made by Borneman with this which showed that was not entirely without action, for 1 c c. protected a bbit against 0·01 c.c. of culture, while 0·1, 0·2, and 0·5 c.c. led to do so. Thus in his hands Marmorek's serum s found to have but a slight or doubtful action ainst even Marmorek's streptococcus. With the two ums prepared by himself he got better results, 0·1, , and 0·5 c.c. of one and 0·2 and 0·5 c.c. of the er sufficing to protect rabbits subsequently infected h the dose of culture mentioned above. He inquired ether the serums lost their protective power with the lapse time. But if his serums did so the diminution was not at enough to be clearly demonstrated by the methods d. He concludes as follows: "The research clearly wed that, as Marmorek and Aronson have stated, a sive immunisation against the streptococcus is possible. d Petruschky's results with the anti-streptococcic serum d only for the serums from Lyons and Paris tested by self, and with his conclusions about the latter we must se."

t the end of 1896, shortly after Aronson's paper and re Borneman's had appeared, Merieux and Niemann,[18] whose "Antistreptococcin" had been condemned by Petruschky and Aronson, published a paper in which are set out the details of numerous experiments, in which they had tested their own serum (serum Vaise), together with Marmorek's, and a serum made by Charrin and Roger in Paris, against several streptococci, including that used to produce their own serum (viz., streptococcus Vaise) and that used by Marmorek. It may briefly be stated that Charrin and Roger's serum proved worthless throughout. The other serums came successfully through their trial. The experiments were of the usual kind, the serum was given the day before the infection, and the cultures used were such as to produce, when given in minute doses, active septicæmia and death. The results may be briefly tabulated as follows:—

Table V., *showing the smallest quantity of serum which sufficed to protect against ten times the minimal fatal doses of three different streptococci. (Compiled from Merieux and Niemann.)*

Serum.	Streptococcus Vaise.	Streptococcus Marmorek.	Streptococcus Scarlatina.
Serum Vaise—			
Horse 5	1·0 c.c.	—	—
„ 3	0·2 c c.	—	—
„ 37	0·1 c c.	—	—
—	0 1 c.c.	0·2 c.c.	0·2 c.c.
Serum Marmorek ...	0 8 c.c.*	0·1 c.c.	0·2 c.c.

* 0·1 c.c., 0·2 c.c., and 0·5 c c. failed.

The reader will observe that against streptococcus Vaise serum Vaise was eight times as strong as serum Marmorek, while, on the other hand, against streptococcus Marmorek serum Marmorek was twice as strong as serum Vaise. To this point I shall return later.

In March, 1897, J. Bordet[19] published some researches on the mechanism of the immunity conferred by Marmorek's serum. Though he did not attempt to measure the strength of the serum systematically, yet in the course of his work he made some experiments of which he quotes the following. He used Marmorek's streptococcus. A rabbit received 10 c.c. of the serum and on the following day 0·5 c.c. of culture and remained well, while the control, which received 0·00,01 c.c. of the culture ($\frac{1}{500}$th part of the dose which failed to harm the first animal), died in three hours. Another rabbit received 0 05 c.c. of serum and 0 00,1 c.c. of culture and remained well; while the control, which received 0·00,001 (or $\frac{1}{100}$th of the dose given to the other), succumbed. He says that the efficacy of Marmorek's serum shows itself in the most elementary experiments, that Petruschky must have worked with a serum which for some reason had lost its power, and he ignores the fact that this observer obtained fresh supplies from Marmorek himself and obtained no better results than before.

J. Courmont[20] also found that Marmorek's serum would protect rabbits against Marmorek's streptococcus. 1 5 c.c. was subcutaneously injected into two rabbits of 2000 grammes weight and 0·00,001 c.c. of culture was given intravenously ten minutes later; one survived and the other lived 150 hours, while the control died in twenty-two hours. Precisely similar results were obtained with another serum prepared after Marmorek's method and with his streptococcus.

In July, 1897, Van de Velde[21] (Louvain) published a similar series of experiments. As it will be necessary presently to return to his paper it will be sufficient to say in this place that he immunised horses in the ordinary way with living cultures and obtained serums of which somewhat large quantities from 2·5 to 5·0 c.c. successfully protected against large multiples (in one case according to the author 5000 times) of the minimal fatal dose of streptococci. On the other hand, he found Marmorek's serum completely inactive even against a single fatal dose of Marmorek's streptococcus.

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[16] Centralblatt für Bakteriologie, Band xx.

B. Borneman: Ueber das Antistreptokokken-Serum, Wiener ische Wochenschrift, 1896.

Merieux and Niemann: Ueber Antistreptokokken-Serum, Berliner ische Wochenschrift, 1896.

[19] Annales de l'Institut Pasteur.

[20] J. Courmont: Le Sérum de Marmorek n'immunise pas le Lapin contre le Streptocoque de l'Érysipèle, Comptes Rendus de la Société de Biologie, 1897. Nouvelles Expériences démontrant que le Sérum de Marmorek n'immunise pas le Lapin contre le Streptocoque de l'Érysipèle (loc. cit.). Streptocoque de l'Érysipèle et Sérum du Marmorek, Réponse à M. Lemoine, Comptes Rendus de la Société de Biologie, 1898. Nouvelles Expériences sur le Sérum de Marmorek (loc. cit.).

[21] H. Van de Velde: De la Nécessité d'un Sérum Antistreptococcique polyvalent pour combattre les Streptococcies chez le Lapin, Archives de Médecine Experimentelle, Paris, 1897.

F. Schenk,[22] who continued Borneman's work in Professor Paltauf's laboratory in Vienna, continued to immunise the horse and the ass with which Borneman had worked and in addition immunised two other horses. But for this purpose he used the same streptococcus which had served Borneman and which had originally come from Marmorek, and this microbe also served for testing the serum. The tests were carried out in the usual way except that the subcutaneous injection of streptococci received by the rabbits twenty hours before the serum was 100 times the lethal dose. Quantities of serum which varied from 0·1 to 5 c.c. were used. The results of these experiments were disappointing. The experimenter himself says that he was unable to demonstrate that the serum had any action on the infected animals; that though some of the animals lived these were often those which had received the smallest quantity of serum; and he characterises his results as being in complete harmony with those of Petruschky. A careful examination of the details of his experiments, however, has convinced me that this conclusion is not quite in harmony with his results, for of 60 animals treated 23 (38·6 per cent.) recovered, while of 17 controls 2 only (11·4 per cent.) survived. Moreover, the average duration of life of those which survived was 6·8 days in the case of the treated and 3·5 in the case of the untreated animals. Furthermore, all the experiments with the serum of one of the horses gave good results. Of 12 animals treated with this serum 6 died and these had received 0·1, 0·1, 0·5, 0·5, 0·5, and 2 c.c. of serum respectively, while those which recovered had received 0·5, 1, 2, 3, 3, and 5 c.c. of serum. The animal which died after receiving 2 c.c. of serum survived the infection 16 days. Surely here is some evidence that the serum had a protective action. The author states that he got no better results with perfectly fresh serum than with that which was older, but here again his conclusion does not seem well founded, for he got his best results with serum which was perfectly fresh. In one experiment six of nine animals treated with perfectly fresh serum recovered, while all three controls died; while in later experiments made with the same serum the results were not so good. His experiments appear to me at least to show that it is possible to obtain a serum which will protect animals against the streptococcus which has been used in the production of that serum and also afford some evidence that the serum is more active when perfectly fresh.

Having reviewed the experimental evidence in detail I have now reached a point at which I may attempt to answer the first of the questions raised at the commencement of this paper.

1. *Has it been shown to be possible to obtain from an immunised animal a serum which will protect against the particular streptococcus used to immunise that animal?*—To this question an affirmative answer must be given. Marmorek, Charrin, and Roger, Denys and Leclef, Bulloch, Aronson, Borneman, Schenk, Courmont, and Van de Velde have all succeeded in producing a serum which in their own hands protected against the streptococcus used to immunise the animals. Petruschky alone denied that the possibility of obtaining an anti-streptococcic serum had been demonstrated. It is true that Petruschky, Aronson, and Van de Velde found Marmorek's serum useless and Borneman found it little better and all these observers with the exception of Aronson tested it against Marmorek's streptococcus; on the other hand, Merieux and Niemann (Lyons), Méry, Bordet (Paris), and Courmont (Lyons) have confirmed Marmorek in that they have shown that his serum will protect against his streptococcus. One cannot doubt the integrity and general accuracy of these observers. How, then, is one to explain their conflicting results? The test is admittedly unsatisfactory and far from being uniformly severe, yet this alone would not account for the frequency with which experimenters have found serums prepared by themselves active and those prepared by others worthless. It will be noticed that those observers who got good results with Marmorek's serum worked in France, while those who got bad results with it worked in other countries. It is probable that the former were able to get fresher supplies of serum from Paris than the latter. Still more probable is it that when an observer tests two serums, one prepared by himself and the other by some other person, the former has been the more recently obtained from the animal. This assumption seems to offer the only solution of the difficulty.

It must therefore be concluded that *the anti-streptococcic serum possesses some power of protecting rabbits against the streptococcus used to immunise the animals which yielded the serum, but that there is reason to believe that this power may be easily lost.*

2. *Is the anti-streptococcic serum active against all the streptococci known to be pathogenic to man?*—Having arrived at the conclusion that it is possible to obtain from an immunised animal a serum which has the power of protecting against the particular streptococcus used to immunise that animal we must now inquire whether this anti-streptococcic serum is active against all the streptococci known to be pathogenic to man. Thus we come back to the old question whether the streptococci are one or many. When Fehleisen and Rosenbach described the streptococcus erysipelatis and the streptococcus pyogenes respectively, the differences observed were then thought to be sufficient to clearly distinguish them from each other. But these differences have not been found constant. Lingelsheim's classification into long and short streptococci has fared no better, for it is easy to transform the one into the other. Thus it is generally admitted that there are no cultural or morphological differences which serve to distinguish streptococci of various origin. The lesions provoked by these organisms have been shown to depend partly upon the seat of infection and the resistance capacity of the animal and partly on the virulence of the streptococci—the latter can be altered almost at will. And with the same streptococcus one can produce local suppuration, erysipelas, or septicæmia without local lesion. The streptococcus erysipelatis, under certain conditions, will produce pus and the streptococcus pyogenes an erysipelatous inflammation.[23] Moreover, Petruschky has collected a number of cases of streptococcal infection in man which have been subjected to accurate bacteriological investigation and has satisfied himself that the various streptococcal infections in man pass one into the other or proceed one from another. For example, he cites the case of an infant who suffered from typical erysipelas starting from a scratch in the naso-labial fold and this was almost certainly infected from the mother who was suffering from mastitis which showed no erysipelatous character. In recent years therefore the view has become almost generally accepted that there is only one pathogenic streptococcus and that all the various streptococcal diseases are caused by modifications of a single streptococcus pyogenes.

Recently, however, evidence has come to light which entirely re-opens this question. For quite a large number of observers have found that the serum of a horse immunised with a certain streptococcus will protect against that streptococcus but not against others. Thus some have found that Marmorek's serum protected against Marmorek's streptococcus which came from a case of tonsillitis, but would not protect against streptococci which came from cases of erysipelas. Others have found that a serum which protected well against the streptococcus used to immunise the animal which supplied it would not protect against other streptococci, even those which produced the same lesions in the rabbit, but might in some cases protect against streptococci which possessed very different pathogenic properties and that the same serum might have a great power of protecting against one streptococcus, less against another, and none at all against a third. Thus the old question as to the unity or diversity of the streptococci remains undecided.

Nocard and Lignières (quoted by Méry[24]) have shown that among the streptococci which are pathogenic to the horse, one which is associated with anasarca is very sensible to the action of Marmorek's serum, while others—viz., the streptococcus of horse pneumonia and of strangles—are entirely unchecked by it. M. Méry himself has found that Marmorek's serum did not protect against a streptococcus from a case of scarlet fever, yet protected against one given him by Marmorek. Merieux and Niemann, as already mentioned, had shown that Marmorek's serum had twice as much power against his own streptococcus as was possessed by serum Vaise and that the latter had eight times as much power as serum Marmorek against streptococcus Vaise (see Table V.). J. Courmont[25] tested Marmorek's serum together with some which had been prepared by the same method and with the same streptococcus against seven different races of streptococci. As already mentioned he found that it protected against Marmorek's streptococcus, but it altogether failed to protect against, and even seemed to make the animals more susceptible to, the others. Five of these came originally from cases of erysipelas in man and the other from an abscess. From this experience he draws the conclusion that the streptococcus erysipelatis is a species distinct from that to which the streptococcus of Marmorek belongs. Some of these observations were repeated by Lemoine[26] with opposite results, for he found that Marmorek's serum possessed some degree of power against four races of the streptococcus erysipelatis. This led to a somewhat bitter controversy. It is, however, of little importance to us to discover who was in the right, because Lemoine himself has admitted that before meeting with the four streptococci which were influenced by the serum he had isolated a great number against which the serum was inactive. Thus both agree that the serum will not protect against all streptococci.

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[22] F. Schenk: Ueber Streptokokken-Serum und über Streptokokken-Toxin, Wiener Klinische Wochenschrift, 1897.

[23] On the other hand J. Courmont (Société de Biologie, 24 Juillet 1897) compared the pathogenic properties of six cultures of streptococcus erysipelatis with those of streptococcus Marmorek. By passage through animals he could not raise the virulence of any of the former beyond the point at which $\frac{1}{15}$ c.c. was required to kill a rabbit in from 6 to 20 hours, while of streptococcus Marmorek 0·00001 c.c. was fatal. The streptococcus erysipelatis always caused erysipelas when injected into the rabbit's ear and never, even when introduced into the veins, caused hæmorrhagic effusion into the peritoneum or pericardium, as Marmorek's streptococcus did. Marmorek's streptococcus, on the other hand, even when attenuated so that 0·25 c.c. was required to kill a rabbit in from 3 to 10 days, never produced in the rabbit any of the classical lesions of the streptococcus erysipelatis. Schenk also was unable to produce erysipelas in rabbits with Marmorek's streptococcus.

[24] M. Méry: Sur une Variété de Streptocoque réfractaire au Sérum Marmorek, Comptes Rendus de la Société de Biologie, 1896.

Van de Velde selected two streptococci, A and P, which were of the kind which, when introduced into the rabbit's ear, produced erysipelas and death without, as a rule, any streptococci being discoverable in the blood and internal organs. With each of these he immunised a horse and obtained two serums, A and P, each of which he tested against these two microbes and also against streptococci of the kind that produce in the rabbit septicæmia—viz., streptococcus Marmorek and streptococcus Belfanti. The results of these experiments were as follows. Serum A protected against streptococcus A, but had a very much slighter action against streptococcus P,[27] while serum P protected against streptococcus P, but could not protect at all against streptococcus A. The specific action of these two serums he also demonstrated in the following manner: having injected 5 c.c. of each into two rabbits he inoculated the right and left ears of these animals with streptococcus A and P respectively. Of the rabbit injected with serum A only the ear inoculated with streptococci P developed erysipelas, while the converse occurred in the case of the other animal.

Further experiments showed that serum A had no power of protecting against two other streptococci of feeble virulence, even when the latter was given in such doses as would not certainly produce erysipelas in the controls. Serum A had no action upon streptococcus Marmorek. Against streptococcus Belfanti Van de Velde thinks it had some slight action, though the recovery of only one animal, and that from so small a dose as 0 00,000,01 c.c., might possibly be due to failure of infection. Serum P, however, had considerable power against streptococcus Belfanti, 5 c.c. repeatedly protecting against large multiples of the minimal fatal dose. Again, he immunised a horse with both streptococcus A and P and obtained a serum which would protect against both these organisms. He therefore recommends that horses employed to supply an anti-streptococcic serum should be injected with a number of different streptococci in the hope of obtaining a serum active against as many streptococci as possible.

Thus Van de Velde has clearly demonstrated that an anti-streptococcic serum is not active against all streptococci, even against some which are of apparently the same type as those used to produce it, though it may be active against a streptococcus of an apparently different type.

Van de Velde has also investigated the agglutinating power of his serums[28] and he finds that it goes hand-in-hand with the power of protecting. Thus serum A agglutinated streptococcus A, but had no action on streptococcus P, while serum P agglutinated streptococcus P and had no action on streptococcus A and serum A + P agglutinated both. This lead him to make a suggestion that before treating a patient with any anti-streptococcic serum the agglutinating action of his blood should be tested upon a number of streptococci which had been used to immunise animals for the production of curative serums. In this way, having found the streptococcus which was best agglutinated by the patient's blood, it would be possible to select the serum which would have the best effect upon the patient's malady.

Schenk[29] also tested his serums against a streptococcus which produced erysipelas in the rabbit's ear which had come from a patient suffering from phlegmon. With Marmorek's streptococcus he could not produce erysipelas. His serums which the reader will remember had, in my opinion, at least some slight power of protecting against the microbe used in their production were found to exert no influence whatever upon the course of erysipelas induced in the rabbit's ear by this other streptococcus. Thus his results are in harmony with those of Van de Velde and the other observers just quoted.

The verdict of these experimenters is unanimous; it may therefore be stated in reply to the question which stands at the head of this section that *the anti-streptococcic serum has been shown to be incapable of protecting against every streptococcus which is pathogenic to man.*

3. *Is the use of the anti streptococcic serum to be recommended at the present time for the treatment of human diseases?*—The serum has already been somewhat extensively used by medical practitioners, in some cases with apparently good results, in others without obvious effect. I do not intend to discuss the reports of these cases, for I think that it is very difficult to deduce the value of this treatment from the results of its application to human disease, for cases of streptococcal disease do not run any definite course. Who can say when the course of erysipelas will be stayed or when in puerperal fever the temperature will suddenly fall? These things occur without regularity and are apt to be put to the credit of any remedy which may have been used. Moreover, the rate of mortality of streptococcal diseases or of any group of streptococcal diseases is not known. The statistical method is therefore not applicable to the estimation of the worth of any remedy applied to them. We do not as a rule even know in any given case whether the disease is due to the streptococcus or to some other organism; and even if we could make sure of this it appears that it would still be necessary to decide what kind of streptococcus it was due to, before the right serum could be applied. We can therefore hope to gain but little evidence of any value from the experimental use of the serum in cases of human disease. The value of the remedy must be first clearly determined by experiments on animals. Until it has been shown beyond the possibility of doubt that the serum will protect them from, and cure them of, artificial streptococcal infections, until the opinion of experimental observers is unanimous in its favour, it is not yet ready for the physician. The opinion of experimental observers is by no means unanimous. The strength of the serum is so weak or so fugitive that in the hands of many good experimenters it has been found worthless. It has been shown that there is reason for thinking that the activity of the serum will have been already lost at the time when it may be reasonably expected to get into the hands of the practitioner. It has been shown that even when most active it will not protect against all streptococci, that its power of protecting even against the kind of streptococcus used in the immunisation of the animal which provided it does not approximate to the power of the anti-diphtheria serum against the toxin of the diphtheria bacillus. Much, therefore, remains to be done before the serum can be recommended to be used in cases of human disease.

The possibility of an anti-streptococcic serum has been demonstrated, but the remedy is yet in its infancy. For its infancy the laboratory is the proper nursery. It is to be regretted that it has already been prematurely used in practice. For that to which the medical profession accords a too ready welcome it is apt to reject in disgust, and the reputation of the laboratory is thereby injured. Already the medical world does not sufficiently discriminate between a remedy of astounding value, such as the anti-diphtheritic serum, and the host of other anti-serums for syphilis, tubercle, cancer, &c., with the result that many practitioners still hesitate to use the former, regarding it merely as a fad of the day, and many lives are thus lost.

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[25] Société de Biologie, 13 Mars, 24 Juillet, and 11 Déc., 1897, and 29 Jan. and 5 Mars, 1898.

[26] G. H. Lemoine: Streptocoque de l'Érysipèle influencé par le Sérum de Marmorek, Comptes Rendus de la Société de Biologie, 1897. Note sur le Streptocoque de l'Érysipèle, Comptes Rendus de la Société de Biologie, 1898.

[27] Of serum A 5 c c. protected against 5000 pathogenic doses of streptococcus A, but against only 100 of streptococcus P. The same dose of serum P protected against 2500 pathogenic doses of streptococcus P, but did not protect against streptococcus A, even in a dose which failed to kill a control.

[28] Bordet states that the agglutinating power is developed in anti-streptococcus serum only to a feeble degree.

[29] Loc. cit.

The anti-streptococcic serum cannot, then, be recommended in cases of human disease. In the meantime the physician may reasonably hope to obtain some day a specific remedy for these diseases, justified by the measure of success which the serum has already attained in the laboratory.

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Cambridge.

OSTEOTOMY OF THE FEMUR AS A TREATMENT FOR TUBERCULOUS DISEASE OF THE HIP IN ITS EARLY STAGES.[1]

BY R. F. TOBIN, F.R.C.S. IREL.,
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A DELICATE boy, aged ten years, the patient just exhibited, was admitted into St. Vincent's Hospital, Dublin, on Jan. 14th, 1898, suffering from well-marked tuberculous disease of the left hip. Flexion, adduction, and apparent shortening were very pronounced. Pain was complained of in the hip and knee. The joint was full and tender and apparently fixed, but under chloroform the head of the bone was moveable and could be pressed down into the acetabulum with obliteration of what was a striking feature in the case—prominence of the hip. On the 19th I performed an osteotomy of the femur, dividing the bone obliquely from the greater to the lesser trochanter and putting the limb straight. Subsequently to the operation the patient progressed favourably, there being no pain or rise of temperature. Five weeks after the operation the splint was removed. The fracture was found to be firmly united, the limb was in good position, the fulness in the joint was only just perceptible, and there was no pain. Since then he has been going about the wards wearing a Thomas's splint.

I wish also to call attention to three cases which were exhibited before the Section of Surgery of the Royal Academy of Medicine in Ireland last year. As I have published particulars of them I shall content myself with saying that they were all pronounced cases of tuberculous disease of the hip fulfilling conditions to be mentioned presently, that the patients in all the cases at times varying from six to nine months after operation walked well with straight limbs, and that one of the patients brought a letter from the dispensary medical officer, who had kindly sent him up for inspection, stating that on the day before he despatched him to Dublin the little patient had walked four miles to the consulting-rooms of the dispensary and was also about to walk the four miles back. In addition to these four patients there are two others who have lately gone to their homes in very good condition wearing Thomas's splints. I hope to show them to you before the end of the session. These constitute all the cases I have treated by osteotomy. In every instance complete union of the fracture has taken place within six weeks with—as is generally the case after osteotomies—little or no pain or other disturbance; in every instance the progress of the disease was arrested, as instanced by the subsidence of swelling and the non-formation of abscess; and in every instance a fairly rapid recovery has ensued and a straight, useful limb has either resulted or (in very recent cases) promises to result.

On the treatment adopted in these cases I beg to make the following remarks. No surgeon has, I feel sure, treated to their termination many cases of tuberculous disease of the hip—especially hospital cases—by the ordinary means of rest and extension without having often asked himself whether nothing further could be done to arrest the progress of the disease or to expedite the cure. It is unnecessary for me to appeal to statistics to show how tedious, as a rule, is the process of cure in this disease, how frequent is suppuration, and how indifferent is often the result. My discontent with the result of the present methods and certain considerations which I shall presently state induced me some time ago to submit some cases of morbus coxæ in an early stage to osteotomy of the femur on a level with the lesser trochanter. These are the cases referred to above.

I shall briefly state my reason for preferring this plan of treatment to the ordinary one by extension. I ask leave to exclude the question of excision, for, although it is the most thorough of all proceedings, it is, owing to its results, not in favour with many and space will not permit of its consideration. The cases which I consider suitable for this operation are those in which there are no indications of disintegration of the joint or of septic abscess or of the disease being situated in the acetabulum and in which, with the patient lying on his back and lordosis guarded against, the thigh on the affected side makes an angle of more than 30° with the bed. Given such a case I perform the following operation. I put the patient lying on his sound side with the affected limb drawn well in front of its fellow and supported at its upper third by a moist sand-bag of suitable size and shape. In this position an assistant can by depressing the knee divert all concussion from the joint. Through an incision, of sufficient size to let one see things clearly, an osteotome is made to divide the bone pretty fully excepting a little of its under surface which is fractured. It does so obliquely, from the lower border of the great trochanter to the lesser trochanter. The patient is then turned on his back and while an assistant keeps the spine in contact with the table by fully flexing the sound thigh on the abdomen the affected one is brought down till the posterior surface of the knee is also in contact with the table. To guard against adduction or abduction both limbs are "dressed" (using the word in its military sense) by a straight rod resting on the anterior superior spines of the ilium. If there has been adduction in the case some abduction is introduced in the new position. The wound in the soft parts is partially closed and a gauze aseptic dressing is applied. The limbs are then fixed in a modified Bryant's splint and the patient is placed on a plank bed with a hair mattress.

The advantages I claim for this proceeding over the ordinary treatment by extension are as follows. It at once puts the joint and the limb in the best position for rest. The position of ease for the joint when inflamed is no doubt that which the component parts assume before other factors, such as the weight of the limb, come to disturb them or which they assume when the capsule is experimentally hyper-distended. For is not the position of greatest distension when a joint is full the position of greatest relaxation when it is empty and are not relaxation and ease synonymous in the cases under consideration? Now, this position is not one in which the leg is straight and it is well that the leg should be straight—first, because it is most useful so; and secondly, because when bent it is a drag and worry to the joint. The problem is, How shall we put the leg straight and allow the component parts of the joint to retain the position of ease? This can be done only by an osteotomy.

It is pretty generally assumed, even by surgeons who have to warn their nurses and "residents" against the many devices used by hospital patients to render extension by weight and pulley inoperative, that this extension always means rest. That it relieves pain where there is starting of the limbs we know, that it is better so to steady a flexed limb than to let it lie anyhow we also know, but that it means full rest is another question. Does it mean rest for the ligaments and capsules which are stretched? Does it favour the absorption of fluid or the various processes by which nature effects a cure? No. Take, for instance, adhesions. Does it favour them? There is no one who will not acknowledge that adhesions are often salutary. They limit inflammatory processes and they encapsule irritants, they give fixation to parts to which movement would be harmful. No; turn it how one will extension by weight and pulley leaves much to be desired.

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[1] A paper read before the Section of Surgery of the Royal Academy of Medicine in Ireland on March 4th, 1898.

My next point is that osteotomy brings on the scene a very beneficent factor. This is a question on which I particularly ask your opinion, for while this factor is for me a threadbare clinical experience its very existence is, I know, doubted by one eminent authority. Is it or is it not a fact that consequent on the section of bone there occurs in the neighbourhood of the point of section an alteration of the bone's economy which has, as a rule, a salutary effect on any tuberculous inflammation there existing? I say it is a fact. An occasion on which I saw this strikingly manifested was one where I proceeded to excise a knee in a case of long standing tuberculous disease without having got leave from the patient to perform an amputation should occasion require it. As soon as I had removed the articular surfaces I found that the disease extended so far in both bones that its removal would have made union impossible. I therefore contented myself with approximating and fixing the parts. Without further surgical interferences these bones in which for years a rarefying osteitis had been advancing and in which prior to operation there had been apparently no efforts at repair healed thoroughly and made for the patient a useful limb. But why weary the reader with every-day incidents?

On the fact which they teach—viz., that tuberculous bone tends to mend after being incised—Kirkpatrick, Stoker, Stokes, and Macnamara have founded methods of treatment which have yielded good results. Almost my first experience of the Royal Academy of Medicine in Ireland was a discussion in the Section of Surgery on this subject raised by interesting papers from Sir Thornley Stoker and Sir William Stokes. On that occasion the Section was almost unanimous in agreeing with their views. For myself I am in entire agreement with them and I have followed their advice in more than one case with good results. It is, however, a question how incision or resection of bone does its beneficent work. Some say by the drainage it affords. The explanation which occurs to me is rather something of this sort. Under ordinary circumstances there is in tuberculous bone little or no tendency to bony reparation, one sees no osteophytes thrown out or other indications of reactive vitality. Resection of the bone excites this vitality. It calls upon it to put forth its whole strength for the repair of the injury. There is a new *régime* before which the tuberculous process has to yield—a *régime* which in the case of a fracture passing from the great to the lesser trochanter must extend somewhat to the neck and head of the femur. Is it not the case that in examining a specimen of recently united fracture in any bone one sees a more or less sclerosed area extending well beyond the scene of injury and that this condition is the very reverse of that which one meets with in spreading tuberculous disease? Anyhow, whatever the explanation, the clinical fact remains and the osteotomy I suggest gives a large number of patients with tuberculous hips the benefit of it, since most observers are in agreement that in the hip the usual situation of primary trouble is at the lower part of the neck of the femur just outside the epiphyseal cartilage.

The most serious objection which I have seen urged against this plan of treatment is by Mr. Owen in the "Year-book of Treatment," to the effect that either non-union will follow the osteotomy or that union will take place at such an angle that the inevitable shortening becomes greatly intensified. With these objections experience must deal. As yet it is altogether favourable to the operation, but of course six cases are too few to prove anything. It should, in considering the danger of non-union, be remembered that after straightening the limb the fragments still in apposition are not further disturbed, the soft parts are not torn and the limb is at once placed in a splint. The same consideration—i.e., the fact that the force which breaks the bone does not displace the fragments—taken in conjunction with the shortness of the upper fragment, will explain the very slight degree of shortening which has as yet occurred in these cases. As regards treatment, when the patient is up and about I hold by Thomas's splint. I use it from the outset with patients who present themselves early, for it is easily fitted to a fairly straight limb, but for straightening a flexed and adducted limb I prefer an osteotomy. The splint should be worn for a considerable time. No treatment can give quickly to a diseased hip the strength necessary to bear the weight of the body. One way may be less slow than another, but all must be slow. A want of consideration of this point may cause new methods to be unjustly tried. It should not, however, make the surgeon rest content with things as they are. No one will convince me that the treatment of hip-joint disease has reached its highest development. Its present position is one calling loudly for the attention of the general surgeon, for since the surgeon cannot in general hospitals detain hip cases as long as is desirable it is specially incumbent on him to do as much as possible for them during the period of their stay and to discharge them in as forward a state as possible.

Dublin.

THE ADMINISTRATION OF LARGE DOSES OF GUAIACOL IN PHTHISIS.

BY J. EDWARD SQUIRE, M.D., M.R.C.P. LOND.,
D.P.H. CAMB.,
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THE accompanying report, which has been drawn up for me by Mr. C. Stanford Read, the resident medical officer at the North London Hospital for Consumption, is, I think, sufficiently interesting to publish. It is, of course, incomplete, as the observations are still in progress; but it establishes the fact that patients can take pure liquid guaiacol in doses of one drachm three times daily (180 minims in the day), not only without toxic effects, but apparently with decided benefit. Creosote has been given in doses of from 160 to 180 minims a day and carbonate of guaiacol in doses of from 45 to 60 grains three times a day, but I know of no record of guaiacol itself approaching these quantities. The amount of guaiacol in creasote is somewhat indefinite; the carbonate is said to contain about 91·5 per cent. of pure guaiacol. A drachm of carbonate would thus be equal to about 55 grains of pure guaiacol. The liquid guaiacol is not quite pure, so that the amount of guaiacol taken will be much the same with a similar dosage of the carbonate or of the liquid guaiacol. The latter has the advantage of being less expensive. The caustic action of uncombined guaiacol on the mucous membrane and some fear of toxic effects have prevented the prescribing of full doses of this drug, but it will be seen from the following report that with due care in administration most patients can safely take half a drachm, or even one drachm, three times a day. The drug was given in capsules containing 5 minims each, or in emulsion with glycerine and tincture of orange peel, and was always followed by a drink of milk. The doses were taken after meals. I have not attempted to exceed the dose of 60 minims, or to give more than 180 minims in the twenty-four hours, but some of the patients have continued taking this amount for several weeks with apparent benefit. One patient who has recently been discharged after taking this quantity for three weeks gained about 1½ st. during the three and a half months that he was in hospital and left in a condition which might well be described as "cured." Short notes of this case will be found at the end of this report. It has been stated[1] that after large doses of guaiacol the urine gives a precipitate with hydrochloric acid. I am unable to endorse this statement, for the urine of patients taking large doses of the drug has not given any precipitate with hydrochloric acid in those cases which I have tested.

Report on the treatment of phthisis by guaiacol, by Mr. C. STANFORD READ.—Guaiacol has often been administered in the North London Hospital for Consumption in certain cases in the past, usually in capsules of 5 minims each, after the three principal meals of the day. This has hitherto been done in cavitation cases accompanied by profuse or fœtid expectoration with very good results as far as this one particular symptom went. Of late, at the suggestion of Dr. Squire, we have pushed the drug in all stages of the disease to see how much patients could take without ill effect and what good results, if any, would follow. In many cases after starting the treatment one has been obliged to cease the administration of the drug as other symptoms or complications (not connected with the guaiacol) have arisen necessitating its withdrawal. We have nevertheless 40 patients who have taken the drug: 6 cases took 60 minims, 2 cases took 50 minims, 4 cases took 40 minims, 6 cases took 30 minims, 10 cases took 20 minims, 6 cases took 15 minims, and 6 cases took 10 minims three times a day after food. Some of these are still in hospital and are gradually increasing the dose. The drug was first administered in capsules, each containing 5 minims, but later was given in an emulsion with glycerine and tincture of orange peel, many patients taking it partly in one form and partly the other. A good few found difficulty in swallowing many capsules; others, again, preferred them much to the acrid liquid; in either case they would drink about half a cupful of milk with the guaiacol, which seemed to greatly add to its being borne well. The dose of 5 minims was at first usually increased by 5 minims every third day, and later more rapidly, till 60 minims were reached. Only one patient felt any ill effects; he, when taking 20 minims three times a day, complained of much stomachic and abdominal pain with a sinking sensation in the epigastrium, passing a small quantity of blood by the bowel. The guaiacol was stopped, but resumed later with 10-minim doses without ill effect. 26 were cavitation cases and in these the diminution in the amount of expectoration was very marked, beginning to diminish early in the administration of the drug. Some patients whose expectoration was very profuse on admission would later only cough up little "pellets" of sputum first thing in the morning and none after. There has been no marked effect on the temperature observed when guaiacol has superseded other drugs, but in those taking it continually a steady lowering of the evening temperature has been commonly noticed. 35 of the cases put on weight, most of them well, one putting on 19 lb. in twelve weeks. There was not, as far as I could make out, any definite relation between the increase in weight and the proportional increase of the doses. The cough was in no special way affected that I could see, but night sweats in nearly all cases diminished and then disappeared in a very short space of time. 12 cases had laryngeal phthisis as well, but as these cases all had local treatment also one cannot say whether the guaiacol had any special effect or no. The patients complained a good deal either of the emulsion burning their throat or of their difficulty in swallowing the capsules, but by dint of perseverance combined with faith in the drug they managed very well after a time. The effect of the drug, if any, on the number, &c , of the bacilli in the sputum is now being observed.

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[1] Eschle. Quoted by Dr. R. Seifert, THE LANCET, Nov. 14th, 1896.

The following is an abstract of the case referred to in the former part of this paper. The patient was a man aged twenty-four years. He was admitted to hospital on Nov. 18th, 1897, complaining of much weakness, sickness, and cough. The patient had been working harder than usual of late and had got run down. The first symptom was hæmoptysis (one pint) six weeks before admission. Cough with weakness and wasting gradually supervened. On admission he was found to be a cachectic pale man. He was 5 ft. 4¼ in. in height and weighed 8 st. 13 lb. 6 oz. He had very profuse night sweats and much sickness; the cough was not very troublesome; he had muco-purulent expectoration. With regard to physical signs, there was very slight impairment of the percussion note at the left apex, with a few sharp "clicks" at the end of inspiration. He had continuous temperature of about 102·4° F. He was treated with an acid tonic and complete rest in bed. On Nov. 22nd the acid was omitted; quinine and digitalis were given. On the 25th the temperature was gradually falling. He was still sweating much at night. On Dec. 5th the temperature had been remittent, but was continuously high again and was going up. The patient was sick a good deal. Large râles were now heard in the second, third, and fourth spaces in the left front and down the left back commencing from the apex of the lower lobe. On the 10th 2 minims of guaiacol three times a day after food were ordered. He had gradually lost weight up to now. He was out of bed for an hour and could hardly stand. On Jan. 3rd, 1898, the patient was taking 15 minims of guaiacol three times a day. Fine râles were heard in the left front with some crepitations below. There were a few crepitations at the base in front. Râles heard at the back were much smaller. The temperature kept about 99°. He had put on 8 lb. in weight since getting up (Dec. 10th). On the 31st the râles were gradually drying up. He was taking 35 minims of guaiacol three times a day. He had put on 1 st. in weight. His temperature was normal. He complained of nothing except cough and expectoration the first thing in the morning. From Feb. 15th to 17th there was pain in the left base, friction was heard, and the chest was strapped. 1 drachm of guaiacol three times a day, all in capsules, was given with no ill-effects. His temperature was normal. He was 1 st. 5 lb. heavier than on Dec. 10th. On March 7th the patient went out. He expressed himself as perfectly well and strong. He had taken 1 drachm of guaiacol thrice daily up to now. He had gained 22 lb. in weight since Dec. 10th, when he commenced guaiacol. There were no tubercle bacilli in the sputa when he left the hospital.

Harley-street, W.

A THEORY OF NERVOUS CONDUCTION.

BY W. S. HEDLEY, M.D. EDIN., M.R.C.S. ENG.

IN 1889 it was observed by Professor Oliver Lodge that two knobs sufficiently close together could, when a spark passed between them, actually cohere and, with a single voltaic cell in circuit, conduct "an ordinary bell-ringing current." Shortly afterwards M. Edouard Branly[1] found that a tube of metallic filings enormously diminished its resistance when exposed to the neighbourhood of a Leyden jar or coil sparks. An arrangement of this kind proved to be a sensitive detector of radiation and such discontinuous conductors came to be called "coherers." The cohesion brought about by electrical means could be broken down by mechanical means. Thus sound-vibration or slight taps would restore the contact to its original condition of high resistance.

In a paper presented to the Académie des Sciences on Dec. 27th last M. Branly suggests certain points of possible resemblance between coherer action and the conductivity of the nerves for nervous impulses. He points out that in reality there is no very clear line of demarcation between continuous and discontinuous conductors; it is rather a question of degree. Passing from artificial to "natural" conductors he argues that the use of the term "nervous current" since the earliest days of physiological research seems to point to some recognised resemblance between nervous and electrical conduction. Until recently it was thought that the various elements of the nervous system were continuous. Now, since the advent of that trinity in unity known as the neurone the nervous system may be regarded as composed of discontinuous elements—i.e., of elements contiguous but not continuous. It thus becomes possible to regard the neurone as the counterpart of the metallic granule of certain discontinuous conductors. As a blow will weaken and even abolish the conducting power in the latter, so traumatism may produce anæsthesia and hysterical paralysis—the latter due to a suppression of transmission, sensory or motor, of the nervous influence consequent on a defective contiguity of nerve elements. Again, as the oscillation of electrical discharges establishes the conductivity of discontinous conductors, so it is known that such discharges act efficiently in the cure of paralysis and hysterical anæsthesia. The possibility, therefore, suggests itself that in both cases the effect is determined by bringing about the contiguity of the elements of the conductor or some modification equivalent to contiguity. The parallelism between the action of a blow and of sparks upon discontinuous conductors and upon the hysterical nervous system may be carried further in the susceptibility common to both of reacting under a feeble stimulus when once a powerful action is produced as a first effect—a condition which M. Branly has referred to in a former note to the Academy as "sensibilisation par un premier effet" (Dec. 6th, 1897). The high frequency discharges and the electric oscillations which accompany them are especially apt to make discontinuous conductors conduct, and it is such discharges that have been shown by d'Arsonval to have therapeutic effects in diseases due to perverted nutrition. If the latter affections are of nervous origin and are due to imperfect transmission of the nervous influence it is permissible to suggest that electric oscillations act by re-establishing in the nerve a contiguity which had become insufficient. The same writer has recently shown that continuous currents of a sufficient electro-motive force produce in discontinuous conductors the same effects as discharges at a distance. It would be interesting, he suggests, to inquire if the mode of action of continuous currents in diseases of the nervous system where they have proved useful presents features similar to those which occur in discontinuous conductors. It is not claimed by M. Branly that anything more than a mere analogy has been shown, but he thinks it possible that such considerations may prove a useful guide in determining the modality in which electricity is to be employed in a given case, and perhaps furnish the electro-therapeutist with a good working hypothesis.

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[1] Comptes Rendus, vol. cxi., p. 785, and vol. cxii., p. 90.

So far it is evident that such speculations fall very far short of this. All that can be claimed is to have made out a case for further inquiry. Such a line of investigation has already been foreshadowed in an article by me which was published in THE LANCET, May 4th, 1895, and in which the following sentence occurs: "It seems even conceivable that other histological arrangements—e.g., those nerve fibrils which conduct yet only touch and do not anastomose, those motor nerve endings which are only in contact with the sarcous substance; indeed, any conducting arrangement in the animal body which may be classed as a 'bad contact'—may constitute the physiological analogue of what would be electrically known as 'a coherer.'"

Mansfield-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF HYDATID OF THE GALL-BLADDER.

BY FREDERICK PAGE, M.D. EDIN., M.R.C.S. ENG.,
SURGEON TO THE NEWCASTLE-UPON-TYNE ROYAL INFIRMARY.

EARLY last December a man between fifty and sixty years of age was sent to me for surgical treatment by Mr. Martin of Darlington with the following history. For the last five years the patient, who up to that time had always had excellent health, suffered from occasional attacks of pain in the epigastric region accompanied by vomiting—"bilious attacks," as he called them. Last summer these attacks became more severe and occurred more frequently. About October he began to lose flesh and the pain and vomiting were almost continuously present. On Nov. 24th he was examined by Mr. Martin, who found a tumour of some size connected with the under surface of the liver which he took to be the dilated gall-bladder. He was sent to me early in December. On Dec. 9th the abdomen was opened in the right semilunar line and the gall-bladder was exposed. Some twelve ounces of clear colourless fluid were drawn off by aspiration and a stone searched for in the cystic duct. None was found and the gall-bladder was incised. Through the incision a collapsed hydatid cyst at once protruded. This was removed, but not in one piece. No bile escaped. The margin of the incision into the gall-bladder was then sutured to the skin and the abdominal wound was closed. For eleven days the temperature continued to be normal and all went well, a good deal of clear fluid escaping from the gall-bladder quite unstained by bile. On the 23rd the temperature rose to 102° F. and there was an unpleasant smell about the dressings. On examining the sinus into the gall-bladder its orifice was found to be plugged firmly by a piece of decomposed hydatid cyst, upon the removal of which a considerable quantity of bile escaped. From this time till the middle of February bile continued to flow, at first so copiously that it was necessary to change the saturated dressings twice and sometimes three times daily. On Jan. 12th the patient was allowed to return to his home at Darlington very much improved and rapidly regaining his health and strength. The sinus closed in February. He is now quite well.

In this case the gall-bladder was occupied by a single hydatid cyst containing no daughter cysts. A portion of the cyst extending into the cystic duct had evidently not been removed at the time of operation. When this retained portion separated and became lodged in the sinus bile flowed into and distended the gall-bladder, by this time considerably reduced in size, escaping through the sinus as soon as its plugged orifice was freed.

Newcastle-upon-Tyne.

DOUBLE PHLEGMASIA FOLLOWED BY GANGRENE OF THE RIGHT FOOT.

BY THOMAS FISHER, M.R.C.S. ENG., L.S.A.,
MEDICAL OFFICER OF HEALTH OF GARSTANG.

A WOMAN, aged forty-four years, was confined of her fifteenth child on Nov. 26th, 1895. The confinement was very quick, the child being born on my arrival, but there was a retained placenta with severe post-partum hæmorrhage, the patient being in a very collapsed condition; there were great pallor, some delirium with dilated pupils, rapid breathing, and scarcely perceptible pulse. I dropped the head and raised the limbs, administered stimulants which were swallowed with difficulty, applied ammonia to the nostrils, and injected brandy subcutaneously. The condition of the patient was so serious that I did not deem it advisable to explore the uterus per vaginam until some restoration had taken place, but I simply directed my attention to external expression and injected ergotin. The effect of the treatment in about an hour's time was to restore the patient somewhat and I determined on removal of the placenta. Upon vaginal examination I found marked hourglass contraction of the uterus. After careful manipulation I removed the placenta, carefully following the contraction of the uterus with the left hand on the abdomen. The condition of the patient continued very grave, but there was no further hæmorrhage. Brandy and beaten egg-and-milk which were given were returned by the patient. Up to the third day the patient remained extremely exhausted, with a subnormal temperature and pulse. On the fourth day some tenderness of the abdomen was complained of and also some pain in the groins; there was offensive diarrhœa and the temperature was 103° F. Up to the eighth day these symptoms continued and both limbs began to show the ordinary signs of phlegmasia, the right limb more markedly, it being very tense and shining with marked tenderness along the femoral and saphenous veins; the lymphatics were also very visibly irritated. The constitutional symptoms were those of marked "adynamia," the pulse being from 120 to 130, with tongue dry and brown, thirst and some delirium, offensive diarrhœa and lochial discharge, the temperature varying from 102° to 104°. On the twelfth day the right limb presented several bullæ and there was distinct œdema, the foot below the ankle being of an ashen-red colour and the toes blue. The general sensibility of the limb was lessened but more especially in the foot. Up to the twentieth day the condition of the patient was exceedingly grave, but nourishment and stimulants, with quinine, were freely taken and the offensive diarrhœa began to subside, the limb became less swollen, and there was an evident line of demarcation at the base of the toes. Both limbs during this period were elevated, wrapped in cotton wool and dressed with boracic powder. For the next three weeks the patient remained very weak; gradually the symptoms of fever subsided, the offensive diarrhœa stopped, and the condition of the patient was much improved and more hopeful. I now decided on removal of the toes, the operation being successful and the wound healing well. The foot was still slightly œdematous; this was in January, 1896. The patient was soon about on crutches and was in a short period of time able to attend to some of her household duties. In February, 1897, some tenderness and swelling appeared under the surface of the metatarsal bone of the big toe; this being opened up there was evident necrosis. Early in March with the assistance of Dr. G. Gibson this portion of diseased bone was successfully removed. In March, 1898, the condition of the foot was still œdematous, the blood-vessels evidently being unequal to their work, but the patient is now able to perform the greater part of her household duties.

Remarks.—This case is interesting, particularly showing the very grave conditions through which a patient may pass and yet recover, and it would tend to show the connexion of post-partum hæmorrhage with phlegmasia. In a large majority of cases of phlegmasia which have come under my notice it has been associated with post-partum hæmorrhage. I might incidentally mention that this patient had had hour-glass contraction of the uterus three times and that she had borne two children with double hare lip.

Garstang.

VENESECTION IN APOPLEXY.

By COLIN CAMPBELL, M.R.C.S. ENG., L.R.C.P. IREL.

THE very satisfactory result following venesection will perhaps justify my recording the following case.

On Feb. 2nd, 1898, at 5 P.M., I was called to see a man, aged sixty-five years, who had been found insensible, ten minutes before, in his sitting-room. It was at once evident that he had a serious apoplectic seizure. He was breathing stertorously, his pupils were unevenly contracted (the right was smaller than the left), the eyeballs oscillated, his left arm lay motionless, whilst his right arm moved in short spasmodic jerks. Violent cardiac action was evident through two or three shirts and without baring the chest and without a stethoscope a loud mitral systolic murmur was easily heard. Without delay I opened the left median basilic vein about one-third of an inch. Almost immediately a violent convulsion occurred (during the convulsion the blood "spurted" quite three feet), and after the convulsion, as the blood flowed in full stream, one noticed the respirations becoming quieter, the stertor disappearing, and the big swollen veins of the neck (very evident at first) assuming a normal appearance. Then came a deep sigh and as over thirty ounces had been drawn I closed the vein. A deep sleep followed and in four hours he awoke, conscious. The recovery of the patient has since been uninterrupted and it is worthy of note that the cardiac murmur has for the time disappeared. The patient's mother died from apoplexy at the age of fifty-six years and a sister at the age of fifty-eight years.

Saddleworth.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prooemium.

GUY'S HOSPITAL.

A CASE OF CHELOID.

(Under the care of Mr. GOLDING-BIRD.)

MARKED cases of cheloid are always worthy of being recorded as being likely to assist us in arriving at a more exact knowledge of its etiology. Many writers are of opinion that in America negroes are especially liable to this disease[1] and the idea seems well founded. The fact that it is especially common in septic wounds is very suggestive of its being in one way or another microbic in origin, but it may certainly occur after aseptic operations. The distinction often made between "idiopathic" and "scar" cheloid is probably quite artificial, the idiopathic variety developing from some small unnoticed scar. The condition was first described by Alibert, and is often called by his name.

A married woman, forty-five years of age, was admitted into Guy's Hospital in November, 1897. She was in appearance a particularly fresh-looking and healthy country-woman. There was no history of syphilis. Both her parents had died from "consumption," but her two children were perfectly healthy. In June, 1896, she fell and struck the right buttock a hand's breadth behind the top of the great trochanter against the corner of a table. Soon after this she noticed a small, moveable, nut-like tumour at the seat of the blow; it had never disappeared but had steadily grown. Lately its growth had been more rapid than at first. It caused a "dragging pain" and backache and was especially painful when pressure was put upon it in sitting. On examination, to the eye there was nothing but a slight puckering of the skin which looked also somewhat bluish and congested. Palpation showed a very hard firm tumour rounded in outline; it measured two inches in diameter. It was flattened or even cupped on the surface and was adherent to the skin, more particularly at the centre where the skin was also puckered; but it was moveable on the deeper parts. It did not seem to be encapsuled yet it was very sharply circumscribed and the edge was rounded. The shape of the tumour was very similar to that of an old "cupped" blood-clot preserved in spirit; or a magnified red blood corpuscle. On one side of the swelling were two small nodules which were connected with it; they were equally hard. The mass was clearly moveable over the gluteus maximus, but laterally it moved with the subcutaneous fat. The swelling was diagnosed as a fibroma or fibro-sarcoma; but many other opinions were expressed as to its nature by those who saw it. Among the diagnoses were "scirrhus," "old hæmatoma," "sebaceous cyst," "gumma," and "bursa." The growth was removed with its outstanding nodules and the skin over it; it reached as deeply as, but did not involve the fascia over, the gluteus maximus. The wound healed by primary union and the patient left the hospital in December, 1897. On section the tumour cut like the hardest scirrhus, and as by scraping a milky juice was obtained, the resemblance was even closer; but microscopical examination showed that the tumour was composed chiefly of white fibrous tissue, freely studded with numerous tuberculous giant cell systems.

Remarks by Mr. GOLDING-BIRD.—I think the correct explanation of the formation of this swelling is as follows. As a result of the injury there was a subcutaneous laceration of tissue with slight hæmorrhage; the torn tissue cicatrised and became cheloid and at some time or other of the process the new tissue became inoculated with the tubercle bacillus. The cheloid or fibrous thickening involved the subcutaneous tissue, while the skin over it retained its normal condition except that it was adherent. We are so little acquainted with the etiology of scar cheloid that I may mention a case which appears to point towards a possible special poison (? microbic) as giving rise to cheloid. In the spring of 1896 I saw an English officer, twenty-five years of age, who had been wounded in the service of the British Central Africa Administration in the neighbourhood of Zomba. He had received two musket slugs in the right arm, the lower passing through and smashing the lower fourth of the humerus, the upper passing through the soft parts near the insertion of the deltoid. He had been attended by the resident surgeon, Dr. Wordsworth Poole, but fifteen hours elapsed before the wound could be antiseptically dressed. In less than a month three of the wounds had healed; the fourth had almost closed. He then returned to England and I saw him in March, 1896. The wounds were all healed and the arm was perfectly sound and useful, but each scar had developed a thick and characteristic cheloid, in each case of nearly the size of a walnut. About a year before I saw this case Dr. Poole had written to me as follows: "There is a peculiarity about the natives here; nearly all their wounds turn to cheloid when they heal, and they make use of this peculiarity by cutting their faces for tribal marks or from an idea of beauty, and the wounds leave wheals and unsightly lumps." The fact of the officer wounded in the same district developing cheloid is at least suggestive of the influence of environment. In another case under my care a cheloid developed, although the wound healed by first intention, and it was never in any way septic. The patient was a schoolboy, twelve years old, and in February, 1895, I operated on him for torticollis by the open method, dividing the sterno-mastoid at its lower end. The skin wound was united carefully and a "sealed" iodoform and collodion dressing was applied. When the dressing was removed on the third day on account of discomfort the area (1½ in. by 2 in.) covered by the dressing was blistered. Boracic acid ointment was then used and within a month evident thickening of the skin and subcutaneous tissue had developed. This went on to the formation of a characteristic cheloid like an ivory plaque with dendritic blood-vessels on its surface. It never exceeded the size of the original blister, but increased in thickness until it reached about a quarter of an inch. Although in no way really harmful to the lad a year later he was refused for the navy, for which he had just begun to be educated. At present the cheloid is rapidly disappearing and the skin is becoming supple again, though the injection of the surface is still well marked. It is difficult to see any reason why cheloid should have developed in this case rather than in any other apart from the intense irritation of the collodion dressing. His family history was very good and he himself was very sturdily built.

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[1] J. F. Binnie, St. Louis Clinique, September, 1894.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Neuralgia treated by the Injection of Osmic Acid.—Multiple Venous Angeiomata.—Imperfect Closure of the Septum Ventriculorum.—Inoperable Sarcoma treated by Coley's Fluid.—Intracapsular Fracture of the Neck of the Femur in a Boy.

A CLINICAL meeting of this society was held on April 4th, Mr. J. H. MORGAN, Vice-President, being in the chair.

Mr. G. R. TURNER showed a case of Neuralgia of the Right Fifth Nerve treated successfully by the Injection of Osmic Acid. The patient, a married woman, aged thirty-three years, had been the subject of neuralgia for two years affecting the right fifth nerve for which she had received all kinds of medical treatment and had had various teeth extracted. The pain originally involved the infra-orbital nerve but had extended to the other divisions of the fifth and been accompanied by discharge from the right nostril. Nothing abnormal could be detected in connexion with the nasal fossæ or the antrum of Highmore. The pain was so excessive that she had threatened to destroy herself. Mr. Turner, at Mr. Albert's suggestion, injected 15 minims of a 1 per cent. aqueous solution of osmic acid into the infra-orbital nerve in January, 1898, following the examples of Neuber, Eulenberg, and Franck. In January, 1898, the injection was passed by means of an ordinary hypodermic syringe into the infra-orbital canal and for a week or ten days afterwards but little improvement followed; indeed, the injection was followed by considerable pain and tenderness. When this passed away the pain did not return and the patient has now for some two months been free from her old trouble. It is supposed that the nerve fibres are destroyed by the action of the acid and an aqueous solution is said to be more efficacious than a glycerine one.—Mr. MORGAN said that so far as he knew this was the first time that a successful case of this kind had been shown in this country. The method certainly was less formidable than other surgical procedures for dealing with the nerves. Probably the osmic acid had a direct effect on the nerve fibres.—Mr. J. P. RICHARDS thought that it was not likely that the osmic acid had penetrated the tough neurilemma of the nerve and that the relief to pain was due to transitory traumatism.

Dr. F. J. SMITH showed a case of Multiple Venous Angeiomata. The patient, a woman, aged fifty years, was admitted into the London Hospital in February, 1898. On admission a number of venous varicosities were observed, chiefly on the face and upper part of the trunk, most of which had a firm consistency when pinched up with the skin and did not disappear entirely on pressure. They varied in size from that of a pea to that of a small bean. On the right side of the bridge of the nose was a vascular pulsating tumour which could be entirely obliterated by pressure and filled up again with two or three pulsations. The veins of the right leg and thigh were very varicose on admission and those of the left leg varicose, but not so extensively. Both labia majora were much enlarged, with an extensive varicose condition of the veins. The situations of the chief of these tumours were as follows: (1) right side of the bridge of the nose; (2) just to the right and below the angle of the mouth; (3) on the dorsum and left edge of the tongue; (4) on the soft palate and inside the lower lip and left side of the cheek; (5) one in the middle line of the neck and some smaller ones below and to the right of it; (6) on the right shoulder; (7) right axilla; and (8) right nipple, and also a few others in various positions. On admission there were no physical signs of disease in any of the internal organs. The patient said that until seven months before admission she was perfectly well and had no varicose veins even in the legs. About that time she noticed a small, painful spot on the right side of the nose, which came up like a small red pimple; soon after this other red spots appeared on the back and shoulder; after a day or two these turned blue and have not altered in appearance since that time. She is a widow and has had ten children, of whom four are now alive; between the last two she had five miscarriages. Dr. Smith was inclined to think that there was a sarcomatous element in the case.—Dr. MAGUIRE remarked that there were certain cases of recurrent fibromata with formation of vessels which were not of an embryonic character which presented very similar physical characteristics to those seen in Dr. Smith's patient. The tumour of the nose, however, seemed more like a hyperplasia of veins.—Mr. BATTLE thought that it was possible that all the swellings were not of the same nature. Those in the legs might be true varicose veins, while those of the tongue were more like sarcomata. He suggested that they should be microscopically reported on.

Dr. ROBERT MAGUIRE showed a case of Imperfect Closure of the Septum Ventriculorum. The patient, a man, aged twenty-seven years, presented himself at St. Mary's Hospital suffering from acne. In the course of the usual examination he was found to have a systolic murmur, heard over almost all parts of the chest, but best of all along the line of the interventricular septum, and especially about 1 in. above the level of the apex beat. The murmur diminished in intensity very rapidly when the stethoscope left the line of the septum, though sometimes in this patient it was heard with undiminished intensity over the whole of the right ventricle. The murmur presented the characters which Dr. Maguire had on a former occasion before the society asserted to be characteristic of a deficiency in the ventricular septum. Such a condition may be due to an intra-uterine endocarditis causing stenosis of the pulmonary orifice, which would so raise the pressure in the right ventricle at the time when the septum was forming as to prevent its due closure, or, again, it may be due to a lack of developmental power during the formation of the septum. The latter was probably the case in the patient shown, since the murmur in its intensity did not follow the course of the pulmonary artery towards the left and there was no enlargement of the right ventricle. The patient had often been noticed to be "blue" when a child, but now had no cyanosis though he easily got out of breath on exertion. The absence of cyanosis was explained by the fact that the pressure in the left ventricle is so much greater than that in the right ventricle, that admixture of blood only takes place in the right ventricle, and therefore there is no admixture of carbonised blood with that of the aortic circulation. Such admixture does take place in such cases when bronchitis or pneumonia increases the tension in the right ventricle. Deficiency of the septum is by far the most common of congenital affections of the heart which cause signs and it is important to diagnose it, since in spite of its marked physical signs it need not necessarily interfere greatly with the future life of the patient.—Dr. SMITH was not quite convinced that there was a congenital malformation, as in that case there would have been more derangement of the circulation. He thought that the murmur was more widely heard than had been described, being loudly heard at the apex as well as at the epigastric notch. He mentioned an anomalous case of extreme stenosis of the pulmonary artery with imperfection of the septum in which there had been no murmur during life. He thought that the mischief in this case was most likely at the mitral orifice.—Dr. CHAPMAN observed that the mother of the patient was rheumatic. He had occasionally met with cases in which there was proved to be stenosis of the pulmonary valve without cyanosis during life.—Mr. MORGAN remarked on the frequent association of cardiac malformations with external abnormalities.—Dr. MAGUIRE, in reply, said that the intensity and conduction of the murmur varied from time to time and appeared to depend on the force of the beats. There was abundant post-mortem evidence that there might be pulmonary stenosis with deficiency of the ventricular septum without symptoms during life. He quoted a case of this kind in which a boy survived to the age of fourteen years, having had a murmur for years but no cyanosis. At the necropsy it was found that the interventricular septum was almost absent and yet there had been no cyanosis during life. He thought that this was possibly due to the pulmonary stenosis causing a great rise of pressure in the right ventricle so that the pressure was as high on the right as on the left side, and that therefore blood did not pass through the orifice.

Mr. W. H. **BATTLE**, showed a case illustrating the advantage of Coley's Fluid in the Treatment of Inoperable Tumours. The patient, a man, aged thirty years, was admitted under the care of Mr. MacKellar into St. Thomas's Hospital on Dec. 21st, 1897. The patient, who was muscular and well-developed, had suffered from syphilis six years before. Between three and four months before admission he noticed a lump under his right arm, accompanied by pain and shortly afterwards other swellings. Then supervened difficulty in moving his arm and the arm gradually became more swollen. About two weeks before admission he noticed a swelling above the right clavicle and another over the right side of the sternum. The right arm was swollen and œdematous; the superficial veins in the upper part were dilated and tortuous. The shoulder was somewhat raised and the arm was held a little away from the side. There were marked fulness under the right clavicle and a definite tumour of the size of a walnut over the right side of the sternum at the junction of the fourth costal cartilage. There was also abnormal swelling above the right clavicle. The swelling below the clavicle was caused by the pushing forward of the pectoralis major by an elastic tumour of considerable size and irregular shape. This was fixed to the deeper parts but did not invade the pectoralis. The sternal swelling fluctuated and was adherent to the bone, but not suppurating, though there was some redness of the skin. Below the nipple were two small nodules growing in the skin. Above the clavicle was a growth, somewhat flattened from before backwards and adherent to the bone; it was of about the size of a hen's egg. In the axilla were numerous enlarged glands of varying size, one or two as large as Tangerine oranges, others smaller and harder. There was an irregular red rash over the front of the legs with squamous surface which he had noticed for three weeks. His general condition was good. Iodide of potassium having failed to cause any diminution pieces were removed from the sternal and subclavicular growths and examined by Mr. Shattock and Dr. Jenner, who reported that both were sections from a fibro-sarcoma and contained giant cells. It was therefore determined to try injections of Coley's fluid. Half-minim doses were given at first every other day from Jan. 21st till March 21st (iodide of potassium mixture being continued till March 6th, when it was stopped) and from that date until the present time the injection had been given of one minim every other day. The result was that he had much improved in general health and presented for examination only two swellings, one over the site of the sternal tumour and the other under the clavicle. The former was about one-third its former size and the other was now only a flat limited hardness in the costo-coracoid membrane above the pectoralis minor measuring about 1½ in. by 1¼ in. A remarkable feature in the case had been the absence of any reaction, there having been a uniformly normal rate of temperature since the treatment was commenced. The injections were given into the arm and not into the tumour.

Mr. W. H. **BATTLE** also read notes of a case of Intracapsular Fracture of the Neck of the Femur in a Boy. On Dec. 26th, 1897, the patient, a lad, sixteen years of age, had three falls; he walked home in the evening and apparently suffered no inconvenience beyond a slight stiffness in the hip which caused him to limp slightly. The lameness continued until Jan. 6th, when he had another fall and was carried home, being quite unable to walk. He was in great pain every time he moved his leg. On admission there was great pain on attempted movement of the hip. The foot was everted with nearly three-quarters of an inch of shortening. The thigh was kept partly flexed and rigid. Later movement improved, but was accompanied by a very marked crunching sound. Dr. Barry Blacker had since taken a skiagram which shows the effects of the injury. The head of the bone was shown lying below and to the inner side of the neck.

EPIDEMIOLOGICAL SOCIETY.

Milk-borne Enteric Fever.

A MEETING of this society was held on March 18th, Professor J. LANE **NOTTER**, President, being in the chair.

Dr. D. S. **DAVIES**, medical officer of health of Bristol, read a paper on the Outbreak of Milk-borne Enteric Fever in Clifton in 1897, in which he considered not only the distribution of the cases which he had already reported in the medical journals, but the incidence and character of the attacks and other facts that had since come to light. The history was shortly this: a sewage polluted brook passed through a farm belonging to Mr. X, where the unboiled water of a well, close to, and evidently fed from, the brook, was used for washing the cans. Milk from this farm was supplied to 57 houses in Clifton and Hotwells, in 41 of which 101 cases of enteric fever occurred and 33 in 20 other houses obtaining their milk from a shop belonging to the farmer. A second supply, originally pure but mixed before entering the city with milk from the first, was distributed to 39 houses in 15 of which 37 cases occurred. A third supply, also pure, was distributed on three distinct walks, two of which remained free throughout, as did the third until on one occasion the carrier, on leaving the eleventh house in his round and meeting the man in charge of X's walk, obtained a quantity of milk from him. Of the 16 houses at which he subsequently called 8 were attacked, the cases numbering 22. In 230 of the 244 cases the patients were proved to have drunk milk from this one farm. Early in October Dr. Davies was informed of an outbreak of "influenza" in certain houses connected with Clifton College, but he doubted the correctness of the diagnosis and secured samples of the blood of the patients for the application of Widal's test, and by Oct. 24th he and Dr. Klein had obtained positive evidence in 38 out of 41 cases, one of the 3 doubtful cases being verified post mortem by the presence of Eberth's bacilli in the spleen. Widal's test was applied to 192 cases with positive indications in 138, all but 2 of which were clinically confirmed; doubtful in 15, but 6 of these proved to be enteric; and negative in 39; 4 of these subsequently developed the fever, 2 having given a positive reaction on a later trial. Setting aside the doubtful or delayed reactions the indications of the test were confirmed in 136, or 98·5 per cent., of the 138 positive and 35, or 81 per cent., of the 39 negative and most of these at too early a stage for a determination on clinical evidence alone.

After remarks from Dr. **CHILDS**, Dr. **WASHBOURN**, Dr. **BULSTRODE**, and Dr. **SWEETING** the **PRESIDENT** observed that he had frequently known enteric fever to break out exactly three weeks after the arrival of troops at isolated, even uninhabited, positions in South Africa and in Afghanistan. He had far more confidence in the indications of Ehrlich's urine test than in Widal's test. The analyses of the brook and well waters were most unsatisfactory and useless for the purpose in hand. Such examinations should always be undertaken by the medical officer of health himself and not by the analyst

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.

Exhibition of Specimens and Cases.

A MEETING of this society was held at the Great Northern Central Hospital on March 10th, the President, Dr. **DAVID FAIRWEATHER**, being in the chair.

Dr. LUDWIG **FREYBERGER** demonstrated a series of about twenty specimens of Morbid Organs which had been prepared by Kaiserling's formalin method. The results obtained showed most beautifully the special morbid feature of each specimen. Dr. Freyberger described the method and pointed out for each preparation its salient features, indicating also in each case the advantage of Kaiserling's over the older method.—Dr. **BAILEY** added some remarks at the end of the demonstration.

Mr. **MOWER WHITE** showed a patient, aged nineteen years, who, on Jan. 17th of this year, while cleaning a toy pistol and not knowing that it was loaded, accidentally fired it off and wounded his left hand. The pellet, which was spherical and 0·5 cm. in diameter, entered the palm at a point midway between the lower crease across the front of the wrist and the crease at the base of the ring finger in a line prolonging upwards the axis of the ring finger. The patient was first seen ten days after the accident. The wound on the palm was then healed and covered by a scab; the skin around it was quite uninjured. The pellet was found just beneath the skin at a point a little behind and below the pisiform bone. It had thus travelled in a direction upwards, backwards, and inwards through the tissues of the palm. There was no evidence that the bones had been injured or that the deep division of the ulnar artery had been wounded, since there was no blood-staining of the skin of the hand on either aspect. The deep division of the ulnar nerve had, however, suffered injury just where it enters the central portion of the palm, for with the exception of the muscles of the hypothenar eminence all those supplied by this nerve were wasted and paretic and the hand presented the deformity typical of this condition. The tactile sensation of the skin was perfect. The pellet was removed a fortnight after the accident and since the operation-wound had healed the paretic muscles had been systematically galvanised. They had, however, continued to waste; they gave the reaction of degeneration and up to the present time, seven and a half weeks from the date of injury, they showed no signs of recovery. The anatomy of the part injured was discussed and reference was made to a communication by Mr. William Anderson to the Anatomical Society of Great Britain and Ireland under the date of February, 1894.[1] Finally, an attempt was made to arrive at a correct estimation of the amount of injury which the nerve had suffered, whether bruising only or actual division, and it was suggested that the time had now come when it would be unwise to withhold operative interference any longer. The case was commented upon by Mr. Elworthy, and by Dr. Freyberger, Dr. Bailey and Dr. Day, and the majority of the opinions expressed appeared to be in favour of an operation.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Diagnosis of Gastroptosis.—Acute Leukæmia.

A MEETING of this society was held on April 1st, the President, Dr. H. P. POTTER, being in the chair.

Dr. J. A. MANSELL MOULLIN showed a specimen of Double Pyo-salpinx removed by laparotomy.

Dr. SYMONS ECCLES read a paper on the Diagnosis of Gastroptosis. In the paper cases of general enteroptosis were excluded. While many such cases had come under observation the condition of simple gastroptosis uncomplicated by marked displacement of other abdominal viscera is comparatively rare. Only 27 such out of 468 cases characterised by dyspeptic symptoms, had occurred in his practice since 1888. The mobility of the viscera without any morbid effect is greater than is set down in most text-books or recognised in the cadaver. Gastroptosis was present, he considered, when the upper border of the stomach, so far as its fundus was concerned, falls below the level of the left seventh costal cartilage. Differences of opinion exist as to the relative value of physical methods in examining abdomina. In gastroptosis inspection reveals a peculiarity in the contour of the abdomen in profile, in the erect and in the recumbent position. Palpation often enables the observer to map out fairly accurately the limits of the stomach when the patient is resting against a slanting board. Auscullo-palpation and percussion have been found more useful than some others appear to have found them. Phonometry is a great aid in confirming other physical signs. The symptoms of gastroptosis are somewhat similar to those of gastrectasia, but the vomiting is more frequent and not fountain-like. Eructations are common in gastroptosis, as also is pain after food. The physical signs are, however, the best means of diagnosis. Dr. Symons Eccles alluded to several cases and exhibited diagrams illustrating them.—Dr. A. CLEMOW thought the paper a well-timed one, for many of the cases of influenza in the present epidemic have shown marked gastric symptoms, and it was possible that gastric catarrh, together with weakness of both voluntary and involuntary muscular fibres, might lead to gastroptosis. The methods of diagnosis brought forward by Dr. Symons Eccles were very clear and of the utmost value.—Dr. GEORGE OGILVIE and Mr. MENZIES alluded to cases and Dr. SYMONS ECCLES replied.

Dr. S. A. BONTOR read a paper on a case of Acute Leukæmia. A youth, aged eighteen years, who had always had good health, was suddenly attacked with the symptoms of biliousness when at school. During the next fortnight he rapidly lost flesh and strength and was sent home from school. He then had marked pallor, stomatitis, some enlargement of the lymphatic glands, but none of the spleen. Owing to change of locality, &c., he seemed to improve, but in a very short while he relapsed and quickly lost ground. There was increased swelling of the gums, of the lymphatic glands, and later the spleen enlarged. His temperature rose and he became exhausted and died six weeks after the onset of his illness. Dr. Bontor alluded to the condition of the blood in the case, which had been examined by Dr. Rose Bradford. He also referred to the question of the diagnosis of such conditions.—Dr. ROSE BRADFORD said he believed that no case similar to that related by Dr. Bontor had as yet been recorded in England. Fraenkel and Ebstein had drawn attention to them on the Continent. He had seen no less than four other cases besides that under the care of Dr. Bontor. The most marked symptoms in all these were rapid emaciation, extreme pallor, intense stomatitis, not very great enlargement of the lymphatic glands, only a slight enlargement of the spleen, some purpura, and some fever. They all ended fatally within eight weeks and after death the thymus was always found persistent and the bone marrow diseased.—Dr. WHITFIELD asked the question as to whether malaria had any part in the causation of the affection.—Dr. G. CRICHTON alluded to a case, and Dr. BONTOR replied.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases.—Prevention and Treatment of Short Leg in Hip Disease.

A MEETING of this society was held on March 31st, the President, Dr. MACFIE CAMPBELL, being in the chair.

Dr. EDGAR STEVENSON shewed a case of Conversion of High Myopia into Hypermetropia.

Mr. C. THURSTAN HOLLAND related the notes of a case where a Penny had Lodged in the Œsophagus of a boy, aged twelve years, for three months without producing any symptoms. A radiograph showed the coin about the level of the top of the sternum. The penny was readily removed by a coin-catcher. A series of radiographs was exhibited taken by very short exposures (from 15 to 60 seconds) through various parts of the body, the rays being produced by comparative small coils—from 6 to 10 in. spark.

Mr. G. G. HAMILTON gave an account of recent observations on Yaws. His facts were derived from the literature of the subject and from a surgeon who had been for some years in Africa and who was himself the subject of the disease, a well-marked "raspberry-like" tubercle being present on his foot. The relation of yaws to syphilis was discussed and it was considered that the two diseases were distinctly different. This was the opinion held by most surgeons practising in Africa.—Dr. F. H. BARENDT thought some cases wrongly called yaws were in reality tertiary syphilides. He looked upon yaws as an infective granuloma. The contagiousness of the disease was confirmed by the history of the case exhibited.—Dr. S. G. MOORE referred to a case he had seen in West Africa some years ago, where the raspberry-like eruption was more marked. It occurred in a negro and the contrast between the dark skin and the red tubercle increased the similarity to a raspberry. He was of opinion that the disease was not syphilis.—Dr. BARR referred to a case which he had seen.

Dr. PERMEWAN showed:—1. A patient from whom he had removed a Small Pedunculated Growth of the Left Vocal Cord. There had been complete aphonia for three years. The voice returned immediately on removal of the tumour. The growth was cystic and collapsed when seized by forceps. 2. A case of Transverse Web in the Trachea resulting from cicatrisation of an old syphilitic ulcer. About half of the lumen of the trachea was occluded. There were dyspnœa and apnœa due to deficiency in the force of the blast of air; the vocal cords moved perfectly.

Mr. W. T. CLEGG mentioned a case of Congenital Malformation of the Anus on whom he had operated nine years previously with perfect result.

Dr. NATHAN RAW read notes of, and exhibited a patient suffering from, Fixation of the Lower Jaw which came on a week after a severe injury to the right side nine weeks previously. He had placed the patient under chloroform but was unable to force the jaws apart.—Mr. DAMER HARRISSON, Dr. ROSS, Dr. ALEXANDER, and Mr. NEWBOLT discussed the causation and treatment.

Mr. RUSHTON PARKER showed: (1) a patient from whom he had removed a large portion of the stomach for Carcinoma; and (2) a case of Compound Comminuted Fracture of the Skull in which he had replaced the broken bones.

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[1] Proceedings of the Anatomical Society of Great Britain and Ireland, N.S., vol. viii.

Mr. **ROBERT JONES** read a paper illustrated by lantern slides upon the Prevention and Treatment of Short Leg in Hip Disease and demonstrated a new abduction splint. He advocated that abduction of the diseased limb should be maintained, that the apparatus to attain this should govern flexion and adverse pelvic tilting, that where arrest of growth threatened pelvic obliquity should be made to favour the diseased limb, that where displacements of the head occurred immediate reduction should be attempted and that tuberculous activity was no bar to the reduction of the deformity. When bony ankyloses occurred he performed oblique trans-trochanteric osteotomy, dividing the adductor tendons subcutaneously and at once placing the limb in the abductor splint until bony union occurred; the splint was then removed and the limb allowed to leave the abducted position; in doing so the pelvis became elevated on the healthy side and exercises were ordered to maintain this. That treatment should be mainly conducted in the open air. By this means all shortening not due to arrested growth could be avoided and in old cases three or four inches of practical or apparent shortening could be remedied.—Mr. R. W. **MURRAY** thought the adducted position due to the child lying on the sound side, the diseased limb naturally falling into this deformity. He had frequently straightened deformed tuberculous joints and had not seen general tuberculosis result.—Mr. **RUSHTON PARKER** congratulated Mr. Jones on the usefulness of the new splint.—Mr. **THELWALL THOMAS** mentioned a case of double hip-disease where adduction of both limbs occurred with cross-leg deformity for which he performed three years ago sub-trochanteric osteotomy and kept the limbs abducted with marked improvement subsequently.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Specimens.—Cancer of the Uterus.—Ectopic Pregnancy.

A MEETING of this society was held at the Medical School (Sheffield), on March 18th, the President, Dr. J. W. **MARTIN**, being in the chair.

The **PRESIDENT** showed a large Ovarian Cystoma which had been complicated with ascites and in many respects simulated malignant disease.

Dr. **ARTHUR WALLACE** (Liverpool) showed the model of a Pelvis and Fœtal Skull for use in teaching.

Dr. **BRIGGS** (Liverpool) showed a thick-walled Ovarian Cyst in which the pedicle had a half twist, giving rise to a partial necrosis of the cyst wall, but without any organic adhesions although seven weeks had elapsed since the twist took place.

Dr. **WALTER** (Manchester) reported two cases of Vaginal Hysterectomy of Cancer of the Uterus. 1. A woman, aged fifty-two years, consulted him on Feb. 2nd, 1898, on account of a hæmorrhagic discharge commencing three or four weeks previously. The patient had been married twenty-two years and had four children, the eldest twenty-one years of age and the youngest seventeen. The menopause occurred eight years ago and until the end of last year her general health had been very good. The first symptom the patient noticed was a watery vaginal discharge in December last; it was not accompanied by any fœtor, and the following month was followed by a bright hæmorrhagic discharge recurring on several occasions. On vaginal examination the posterior lip of the surface was found to be slightly enlarged; it contained a roughened surface which bled freely when touched. The anterior lip was healthy; there was no well-marked cervical laceration and the size of the uterus was not increased. On Feb. 11th the operation of vaginal hysterectomy was performed. Some difficulty was experienced in drawing down the uterus notwithstanding the absence of any extension of disease into the utero-sacral ligaments or the surrounding tissues, and splitting the uterus was found helpful in bringing the broad ligaments better into reach. These were secured on each side by ligatures and the wound was packed with gauze. After forty-eight hours the gauze was removed and the central portion of the wound was closed by two sutures inserted at the time of operation, but the angles of the wound were left open and drained with a small piece of gauze for two days longer. All the ligatures came away towards the end of the second week. On the twenty-second day the patient was able to return to her home in the country. 2. A woman, aged forty-three years, was first seen on Feb. 25th, 1898. Her husband had died a year previously from cancer of the bladder. The patient married at twenty years of age and had had five children (one miscarriage), the youngest child being nine years of age. For five months a continual hæmorrhagic discharge had been present, occasionally it was fœtid. The patient had lost flesh and was very anæmic. The uterus was a little enlarged and freely moveable. The cervix felt and looked healthy. Cancer beyond the cervical canal was suspected. On March 1st the uterus was dilated with Hegar's dilators, and finding an ulcer just within the internal os extending upwards half an inch, with hard edges, friable surface, and bleeding freely, I proceeded with the extirpation of the uterus, removing first all the necrotic tissue possible with a curette, and then carefully closing the external os with a wide dressing forceps. The uterus was removed entire without difficulty and the broad ligaments were ligatured with silk. The vaginal wound was closed in the centre with one suture and at each angle a little gauze was loosely inserted. The after progress of the case was very satisfactory. The microscopic examination of both specimens confirmed the diagnosis of cancer. (The specimens were shown.)

Mr. E. **STANMORE BISHOP** (Manchester) brought forward three cases of Ectopic Pregnancy. The first case was that of a woman, aged thirty years, who had been married three years and was sterile. There was sudden, continuous pain with vomiting when the patient was first seen, attributed to her having taken indigestible food. The pain persisted for a week, but was controlled by morphia. A mass formed in the left broad ligament. It was slowly absorbed and recovery followed. The patient in the second case was a woman who had been married eleven years and who was twenty-eight years of age. She had undergone four confinements; one had been a miscarriage, but the last was a labour at full time four years ago, on which occasion the pregnancy was normal but labour was protracted. She had never been well since. She had pain in the left side on getting up and this had persisted with intermissions ever since. Menstruation had been regular since until July, 1897, when eight weeks elapsed without its occurring. The bleeding began at the end of August and never entirely ceased up to the date of the patient's admission to hospital on Sept. 14th, 1897. She had gnawing pain which came on suddenly and lasted from five to six hours and then went off gradually. Her temperature was 100·2° F. A mass was found in Douglas's pouch. There was no collapse. The diagnosis was doubtful—pyosalpinx or ectopic pregnancy. Cœliotomy was performed on Oct. 4th. On the right side the swollen tube was closed at the abdominal extremity. The ovary was multicystic but small. There were several ounces of blood-clot and fibrin in Douglas's pouch covered in by adherent omentum and intestines, plus the left tube enlarged and flattened out. This tube contained adherent blood clot and had a rent in its side about the junction of the inner and middle third. The patient recovered. The third case was that of a woman who had been married sixteen months but who had had one child eighteen months before marriage. Her age was twenty years. She was admitted on March 3rd, 1898. Menstruation had been regular and normal except during pregnancy until two months ago, when the menses occurred fourteen days after the proper time. A discharge then came on and continued until the patient's admission to hospital. On Feb. 26th whilst kneeling down cleaning the floor she had been seized with sudden pain in the left iliac fossa, which had returned paroxysmally ever since and the returns were becoming more frequent. Bimanual examination revealed an unequally boggy mass in the left fornix which was distinguishable from the uterus. A diagnosis of ectopic pregnancy was made. On March 4th cœliotomy was performed. On opening the abdomen a greatly swollen and engorged left tube presented, the abdominal ostium of which was closed and curled round a normal ovary. There was a large rent in this towards the cœlom, plugged by a large clot which also filled the tube. There were some clots and dark blood in Douglas's pouch with some free blood, also dark, floating freely amongst the intestines. The right tube was reddened and elongated. The right ovary was cystic; the latter was removed. The abdomen was sponged out, the ruptured tube and ovary were removed, and the abdomen was then closed. Recovery followed. Mr. Stanmore Bishop drew attention first to the various classifications given by Tait, Helme, Bland Sutton, and Webster, and brought forward a case under Dr. Fothergill's care as yet unpublished which illustrates the fact that an early tubal abortion may be entirely absorbed by the peritoneum. He suggested that more attention might with advantage be directed to the symptoms before rupture and proposed as a basis for discussion that the association of such symptoms as pain in one iliac region with dragging pains on movement of the corresponding leg with some loss of blood per vaginam should justify an immediate bimanual examination, and if then a swelling in the corresponding fornix of unequal consistence or a boggy swelling in Douglas's pouch were found a diagnosis of ectopic pregnancy might be made. The true symptoms of rupture of the tube into the peritoneal cavity were next discussed. Sudden pain with collapse have been so far considered as indicating this. Cases were adduced in conjunction with the two last described to show that collapse is not always present at the time of rupture, and it was suggested that the conjunction of these two symptoms pointed rather to commencing peritonitis plus the loss of blood than to the rupture itself. Assuming that in the interests of the patient it is advisable to remove a gravid tube as soon as diagnosed, if that can be done before rupture, since it is impossible to predict in what direction a tube will give way, the two routes, vaginal and abdominal, were compared and a preference was expressed for the latter.

KIDDERMINSTER MEDICAL SOCIETY.

Treatment of Menorrhagia.—Exhibition of Cases and Specimens.

A MEETING of this society was held on March 18th, Mr. S. STRETTON, the President, being in the chair.

Dr. J. POLE KITSON read a paper on the Treatment of Menorrhagia by infusion of digitalis.

Mr. J. L. STRETTON showed a youth, aged eighteen years, with a Congenital Fistula of both Lacrymal Sacs. The history was very carefully investigated and it was quite clear that the patient was born with this condition. On admission on Jan. 27th there was an opening near the inner canthus of each eye communicating with the lacrymal sacs. On the right side the opening was slit-like and on the left pin-hole. There was no evidence of inflammatory trouble or of any previous mischief. On Jan. 29th both canaliculi were slit up and the nasal ducts were dilated, the styles being left in. On Feb. 14th the edges of the slit on the right side were pared and were brought together with sutures. The wound healed all but a small point at the lower angle, which was touched with a red-hot needle and it is now quite firmly closed. The small opening on the left side had been left until after this meeting, to be then closed with cautery point. Mr. J. L. Stretton had never heard of this condition before and he had communicated with Mr. Priestley Smith, who kindly looked up the subject and forwarded the following extract from the "Graefe-Saemisch Handbook of Ophthalmology," from the chapter written by Professor Manz of Freiburg on the Congenital Malformations of the Eye and Surrounding Parts. After describing various congenital peculiarities in the puncta and canaliculi, he says: "Whether a fistula of the lacrymal sac ever occurs congenitally remains doubtful, but the possibility of such an occurrence representing a partial non-closure of the oculo-nasal cleft cannot be denied and would be attributable to arrest of development."

Mr. J. L. STRETTON also showed a patient, fifty-six years of age, who came under treatment on Nov. 8th, 1897, with Strangulated Hernia, which occurred on the previous day. He had been ruptured for twenty-five years and had worn a truss. A small piece of gut was reduced by taxis, but the major portion could not be returned, so herniotomy was performed the same evening. The sac contained a large piece of omentum, which was ligatured in two pieces and removed; the pillars of the ring were sutured together and a "radical cure" was completed. The patient went on well. The wound was dressed on Nov. 17th; it healed up and the stitches were removed. Following this he suffered from symptoms of indigestion, flatulence, and occasional diarrhœa, and on Dec. 11th a large tumour was found in the right lumbar region. It was a hard globular mass having its outline distinct and its surface smooth and regular; it was not attached to the liver; it was fairly moveable and dull on percussion. The urine was normal and there was no rise of temperature or pulse. On one or two occasions a small quantity of blood was noticed in the stools. On Nov. 18th an incision was made four inches long over the swelling. The abdominal wall was inflamed and very much thickened and adherent. Occupying the peritoneum a number of adhesions were found, in the midst of which was a small pocket of foul pus (about one drachm); communicating with the intestine and close to the perforation was the adherent omentum and one of the silk ligatures placed on it at the former operation. Owing to the inflammatory exudation and adhesions it was impossible to close the perforation or locate its exact position. For the next two months there was a continual discharge of fæces from the opening and only on one or two occasions a natural evacuation. On March 1st the artificial anus was dissected out and the gap in the intestine, which proved to be the ascending colon, closed with Lembert sutures, the bowel dropped back into the abdomen, and the wound closed. The wound was dressed on March 8th and the stitches were removed; the man was now quite well and able to walk about without a truss. Mr. Stretton drew attention to the rarity of such a condition. He thought that the passage of blood in the stools was an important diagnostic sign and that if careful search had been made the second ligature would probably have been found.

Dr. O. C. P. EVANS showed two biliary calculi removed by Cholecystotomy from a married woman, aged fifty-six years. She had several attacks of biliary colic during the two months before admission which were followed by slight jaundice and she had passed two gall-stones. An incision was made over the gall-bladder, which was found shrunken and adherent to the duodenum; it was incised and two calculi were removed. The gall-bladder was closed with Lembert sutures. The abdominal wound was sutured and a small drain of gauze was left in. The patient was discharged well in twenty-six days. Dr. Evans pointed out the desirability of early operation and the advantage of immediately closing the gall-bladder.

Mr. W. HODGSON MOORE showed a Stomach with a Perforated Ulcer from a man, aged thirty-five years. The patient had been in the army and had suffered from dysentery; he had acute attacks of pain in the upper part of the abdomen and occasional sickness. Thirty-six hours before death he was seized with severe pain in the epigastric region but there was no sickness. The following day the pain was slightly relieved by treatment and he determined to drive home, about twenty miles, and when he had gone about half way he expired suddenly. On post-mortem examination the stomach was found to be considerably dilated and on the anterior surfaces near the pyloric extremity there was a round ulcer about a quarter of an inch in diameter with clean-cut thickened edge opening into the peritoneal cavity. There was considerable thickening of the pyloric end of the stomach and the cardiac end was adherent to the spleen. The peritoneal cavity contained the partly digested contents of the stomach.

Dr. F. OLIPHANT showed a woman, aged fifty-four years, who was admitted with a supposed Rodent Ulcer affecting the upper lip and nose. There was no specific history. A portion of the growth was sent to the Clinical Research Association, which reported that "the tissue is inflammatory in structure and is infiltrated with giant-cells and grey tubercles. The lesion is evidently tuberculous in nature." She was treated with one-scruple doses of iodide of potassium after free scraping of the surface and the ulcer was perfectly healed within a month.

Dr. OLIPHANT also showed (1) two Radiographs demonstrating the Presence of Portions of Needle in the Palms of the Hand, in both of which cases it had been impossible to locate them or to be certain that they were there; and (2) a Radiograph of Ununited Fracture of the Fibula.

MIDLAND MEDICAL SOCIETY.

Exhibition of Specimens.

A SPECIAL meeting of this society was held on March 16th at the Medical Institute, Birmingham, the President, Mr. J. W. TAYLOR, being in the chair. Nominations were received for the offices of President, Treasurer, Secretaries, and Members of Council.

The President showed three specimens of Diseased Uteri removed by the combined method of Vaginal and Abdominal Hysterectomy. Two were cases of uterine myomata, and in both of these the patients were virginal. The other was a case of cancer of the body of the uterus. Mr. Taylor drew attention to the necessity of aseptic preparation of the vagina in all cases of complete hysterectomy and maintained that the separation of the cervix from its vaginal attachments with ligature of the lower branches of the uterine artery proved a valuable preliminary to the abdominal removal of the tumour when vaginal extraction was exceptionally difficult or impossible.

Mr. Furneaux Jordan showed a specimen of large Multinodular Myoma of the Uterus removed that morning from a patient, aged thirty-nine years. Her symptoms were entirely those of pressure on the rectum and bladder and had lasted for some months. The operation performed was complete hysterectomy by the combined method, but owing to the way in which the tumour blocked the pelvis it was found impossible to tie the uterine arteries from the vagina. At the time of report the condition of the patient was satisfactory.

Dr. Foxwell showed a Heart with much Ulceration of the Aortic Valves and also vegetations over a wide area of the aortic surface of the aortic cusp of the mitral valve. The case was of interest because there had been in addition to the usual double aortic murmur a rough murmur, presystolic in rhythm and typical of mitral stenosis in its area of audibility. From other signs and symptoms, however, Dr. Foxwell decided that there was no mitral stenosis, but that it was one of those presystolic murmurs which occasionally accompany aortic regurgitation and the explanation of which is as yet obscure. This diagnosis proved, post mortem, to be correct.

Mr. F. W. S. Mann showed a specimen of extensive Typhoid Ulceration of the Great Intestine. The patient, a woman, aged fifty-six years, previously to admission to the infirmary had been nursing her son at home with typhoid fever. During the time she was under observation she showed none of the usual symptoms of the disease. The patient died from cardiac failure three weeks after admission, subsequently to sudden and profuse hæmorrhage from the bowel, which set in twenty-four hours before death.

Mr. Frank Marsh read a note on the Treatment of Cancer by Chelidonium.

Dr. Stanley read a paper on the Cerebellum.

PLYMOUTH MEDICAL SOCIETY.

Exhibition of Cases and Specimens.

A clinical meeting of this society was held on March 23rd, the President, Dr. C. Aldridge, being in the chair.

Mr. Whiteford showed (for Mr Whipple) a man, aged seventy-two years, who two years previously had the lower three and a half inches of the Rectum Excised for Epithelioma together with an Enlarged Post-rectal Gland. No bone was removed or divided and the remaining gut was not drawn down and sutured. He now had fair control over what was a very well-formed anus with a distinct though narrow sphincter. Cripps's bougies are still passed once a month and contraction has never been troublesome. There is no sign of recurrence.

Mr. Whiteford then described an Operation for the Removal of the Sigmoid Flexure and the Rectum which he advised should follow a left inguinal colotomy (in cases of malignant diseases extending beyond the reach of the finger) at an interval of two or more weeks by means of a vertical incision through the left rectus muscle, the superior hæmorrhoidal artery being secured early and the other vessels tied separately as divided.—Mr. Woollcombe thought that theoretically the operation was a good one, but that practically there would be considerable difficulty from venous oozing at the bottom of a deep cavity. If, however, it could be shown to be practicable he admitted that it would be a great improvement and he would advise it in all but very trivial and low cases. He thought it might safely be done at the same time as the colotomy and by enlarging the same wound, precaution being taken to divide the gut between the clamps and to turn the ends with Lembert sutures to avoid soiling of the peritoneum, &c.

Mr. Woollcombe then showed a man, aged thirty-two years, the lower three inches of whose rectum he had excised three weeks before after a left inguinal colotomy four months previously. At the time of the colotomy excision seemed out of the question, but the man improved so much both in general health and in the state of his rectum in the subsequent four months that excision was undertaken and apparently with complete success after removal of the coccyx. The resulting wound was sutured with the exception of a small opening to admit the passage of a plug of gauze to the bowel above. Mr. Woollcombe thought colotomy should always be performed in malignant disease, the resulting anus being usually better than that in the perineum and recurrence being less likely to take place. In performing the colotomy he always used a bridge of skin one inch wide brought together through a hole in the meso-sigmoid, the protruding loop of gut being subsequently cut clean away.

Dr. Bushnell showed the latest pattern of the Cambridge Rocking Microtome and a slide of Klebs-Löffler Bacilli. He also showed for Mr. Lucy an Astragalus from a case of extreme Talipes Equino-varus, showing obliquity of neck and want of development.

Mr. Woollcombe showed:—1. A specimen of Subclavian Aneurysm after distal ligature. 2. Uterine Appendages from a case of tubal pregnancy with patent Ostium of Fallopian Tube, allowing escape of blood into the peritoneal cavity without rupture of the tube. The patient had done well after the operation. 3. Uterine Appendages from a case of Pyosalpinx. 4. Notes of a case of Ruptured Gastric Ulcer which he had seen half an hour after rupture occurred, when there was no loss of liver dulness and not great collapse (the stomach being empty); the operation was performed three hours after rupture, by which time liver dulness had completely disappeared, but there were very little distension, a fair pulse, and good colour. The perforated ulcer was found on the anterior wall of the stomach two inches from the lesser curvature, midway between the cardiac and pyloric ends. The opening was plugged, sutures were inserted, the ulcer was excised, the sutures were tied, and then a second row was inserted so as to cause the inversion of the first set of sutures. The graft of omentum was brought over. The lymph was carefully sponged from the brim and the fluid from the infra-hepatic and infra-splenic pouches; there two latter were drained by a counter-opening in the loins, and the central wound was closed. The patient made an excellent recovery, the temperature never rising above 99° F. and the abdomen never being distended. The drainage-tubes were removed in forty-eight hours and gauze wicks were inserted for twenty-four hours longer.

Royal Institution.—On April 1st Professor Dewar gave an interesting account of various experiments and researches in which liquid air was used for the purpose of producing the extremely low temperature of about – 210°. He first described the methods by which he obtained large quantities of argon and helion from the mixed gases given off by a hot spring at Bath, the water of which has a temperature of about 115° F. and yields about 250 cubic feet of gas every twenty-four hours, the greater part of it being nitrogen and about 1 part per 1000 being helion. At the temperature of liquid air the mixed gases were liquefied except the helion, which was collected in the gaseous state. When the liquid was allowed to evaporate the nitrogen boiled off more rapidly than the argon until a mixture was left containing 7 per cent. of argon, from which mixture the nitrogen could be afterwards removed by chemical methods. By means of liquid air pure argon can be frozen to a colourless, extremely transparent solid. The liquid air used in the course of the evening was taken from a reservoir on the platform and was carried about in an ordinary small uncovered tin saucepan; it was mobile like water, had a slight blue tinge, and evaporated slowly without ebullition. After the lecture a little of it was poured on the hands of some of the audience, none of whom experienced any inconvenience beyond a slight tingling sensation; it is, however, essential that the skin of the hand should be dry, for if it is moist there is danger of serious frost-bite. When poured upon water it causes immediate formation of ice

Reviews and Notices of Books.

Anomalies and Curiosities of Medicine. By GEORGE M. GOULD, A.M., M.D., and WALTER L. PYLE, A.M., M.D. With 295 Illustrations in the Text and 12 Half-tone and Coloured Plates. London: The Rebman Publishing Co., Limited. Philadelphia, U.S.A.: W. B. Saunders. 1897.

"SEVERAL years of exhaustive research have been spent by us in the great medical libraries of the United States and Europe in collecting the material herewith presented." A glance over the pages of this remarkable volume is sufficient to convince the student of the truth of the above prefatory remark by the authors. The book is a monument of untiring energy, keen discrimination, and erudition. The whole range of anatomical, physiological, medical, and surgical science has been traversed with a view to elucidate the problems presented by the healing art. In many instances the results of accidents and rites of torture, civil and religious, have been shown to illustrate the inception and perfection of legitimate operative procedure. The authors have not limited themselves as regards time and space in their endeavours to present to the profession a full and clear account of the mirabilia of animal structure and life. A treatise of this nature is necessarily somewhat discursive, but rare intelligence has been exercised in the arrangement of facts and due caution has been taken to distinguish what the authors themselves could verify, what rested on other reliable authority, and what, though coming within the range of possibility and even probability, was based on popular report. Material for literary and pictorial illustration has been diligently sought in most of the great libraries, European and American.

As would be expected a large section of the work has been devoted to the extremes presented by a study of the history of the genital and generative organs. Monstrosities of every nature and degree, both physiological and anatomical have received due consideration. Attention has been directed to the correlation of normal processes and results, their representation in fantastic disguise, and their accidental and abnormal developments. The chapter on "Maternal Impressions" is very ably written. To the illustrative cases there given we would add one which came under the observation of Dr. Budd of Barnstaple: a gamekeeper had his right forearm amputated for injury, the healing wound was dressed by a pregnant woman who at full term brought forth a son wanting a right forearm. The similarity between the two stumps was remarkable as shown by a photograph in our possession. In the description of the "Mutilation of the Genital Organs" as practised in different countries and at various epochs there might have been a fuller notice of the treatment of certain males by the Australian Aborigines. We have it on good authority that posterior urethrotomy is performed by the natives to prevent undue multiplication of the species, a procedure of note when we consider their ethnological status and bear in mind the natural occurrence of hypospadias.

One of the most interesting and instructive chapters is that on "Surgical Anomalies of the Head and Neck." Almost every recorded case has been cited and reference has been made to their bearing on the operative treatment of injuries and disease. In the discussion of "Abdominal Injuries" we failed to find mention of the possibility of rupture of organs without bruising of the parietes. A case occurs to us where the aorta and vena cava were torn asunder by the wheel of a dray passing over the abdomen without causing any sign of injury to the abdominal wall.

We heartily recommend the above work to the notice of the profession. A rare treat is in store for those of its members who may be fortunate enough to find time and opportunity to read its contents. The book is beautifully illustrated. The type is bold and the references are full and accurate. The relation of facts which are scattered through the libraries of two continents is here before the inquirer as an entrancing and unique presentment.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XVII., Session 1896–97. London: J. & A. Churchill. 1897. Price 12*s.* 6*d.*

THIS volume contains the proceedings of the Ophthalmological Society from October, 1896, to July, 1897, and gives records, in many instances accompanied by illustrations, either coloured or in black and white, of the numerous cases brought before the society. One of the most interesting is reported by Mr. Quarry Silcock, described under the title of Pemphigus, though it is right to add that Mr. Malcolm Morris, a good authority on skin diseases, doubted whether it was a case of true pemphigus. Mr. Silcock obtained the opinion of Mr. Plimmer, the lecturer on Bacteriology at St. Mary's Hospital, who found in a pure culture of the contents of an unruptured bulla a variety of micrococci (often occurring as diplococci) which did not correspond to any of the known inhabitants of the skin. These were neither staphylococci nor streptococci, were identical morphologically with the organism found in true pemphigus bullæ by Demme, Bullock, and Wells, and were finally pathogenic to mice, guinea-pigs, and rabbits. Several interesting groups of cases of Tuberculosis of the Conjunctiva are described by Dr. J. W. H. Eyre of Guy's Hospital whose article is illustrated by a chromo-lithograph. Mr. Lawford Knaggs records a case of Spontaneous Recovery of a Retinal Detachment the consequence apparently of a Gunshot Wound. Other cases of detachment of the retina are reported by Mr. Silcock and Mr. Ernest Clarke. Hereditary or Congenital Optic Atrophy and Allied Cases is the subject of an article by Mr. Simeon Snell, in which he has brought together a considerable number of cases of these obscure affections, and it is to be hoped that, when similar cases occur in the practice of other ophthalmic surgeons, they will be recorded. Mr. Snell has also collected from his own experience a series of cases of Optic Atrophy following injury chiefly of the anterior part of the head. The slightness of the injury producing so serious a result is in many of these cases remarkable, and all such cases should be reported, since not only are they interesting from a pathological point of view but from the effects supervening gradually the questions of liability and compensation are constantly arising and much judgment and knowledge are demanded on the part of the surgeon. Mr. Bickerton, in the discussion which followed the reading of the paper, stated that he had known a cyclist who received a blow on the head from a fall and compounded with an insurance company for £50, while atrophy of the optic disc followed within six months and had the patient waited he could have clamed £500.

In March last a very interesting and important discussion on retro-ocular neuritis was opened by Mr. Marcus Gunn and Dr. Buzzard, in which forms of optic neuritis occasioned by such local diseases as periostitis in the orbit or optic canal, gumma or other focal inflammation or growth upon the nerve, and those forms of idiopathic neuritis which occur after infective diseases were considered. In this discussion many facts of importance were elicited from different speakers and particularly the relations of optic neuritis to insular or disseminated sclerosis of the brain and spinal cord, which was dwelt upon by Dr. Buzzard. There are in addition accounts of many isolated cases, such as those by Dr. Bronner of Coloboma of the Lens, of Orbital Cyst by Mr. Arnold Lawson, and of Sympathetic Ophthalmitis by Mr. F. R.

Cross, as well as much miscellaneous information, as, for example, on the Best Mode of Preparing Microscopic Eye Specimens by Mr. Devereux Marshall, the Varieties and Degrees of Colour-blindness by Dr. Edridge-Green, and an account of a model illustrating Tscherning's theory of accommodation. Altogether it must be regarded as a very well edited volume.

LIBRARY TABLE.

A Practical Treatise on Materia Medica and Therapeutics. By ROBERTS BARTHOLOW, M.A., M.D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia. Ninth edition. London: H. K. Lewis. 1898. Pp. 866. Price 21*s*.—That a medical work should have reached a ninth edition is sufficient proof that its author has succeeded in his endeavour to supply a book which shall meet the requirements of students of medicine of all grades. We need not therefore enter into the general merits of the present volume. In preparing this edition it has been found necessary to enlarge the work by forty-five pages. Additions and alterations have been made at all points to dispose of the new material which has accumulated by the observations made on the action of various drugs. Especially is this the case in reference to synthetical remedies which organic chemistry has produced and is producing in increasing numbers. Good descriptions of such substances will be found scattered through the work. The book, as usual, is well brought out, the general arrangement, indices, and style of printing being all that could be desired.

Climatic Treatment in Grand Canary. By BRIAN MELLAND, M.Sc.Vict., M.B.Lond. London and Manchester: John Heywood. 1897. Pp. 40.—The experience gained by upwards of seven years' medical practice in Las Palmas, the chief town of Grand Canary, has convinced the author that the climate of the island is an ideal one for the treatment of early pulmonary phthisis—that is, when there is consolidation but cavities have not yet formed. The island is very mountainous, rising in the centre (which is only eighteen miles from the coast) to a height of more than 6000 feet, and it is the rainless summer climate at an elevation of from 1300 ft. to 3000 ft. which he specially recommends for phthisical patients. In Teneriffe, which lies some fifty miles westward, there is considerably more rain in the course of the year than in Grand Canary. Ample information as to the means of reaching the island and the places to stay at when there will be found in this little book.

Mother, Baby, and Nursery: a Manual for Mothers. By GENEVIEVE TUCKER, M.D. London: T. Fisher Unwin. 1897. Price 3*s*. 6*d*.—This little book has been written as a guide to mothers, particularly young and inexperienced ones. "It is not intended in any measure to take the place of a physician, but rather to aid the physician in teaching the mother to care properly for her babe when well that she may better nurse it when sick." We do not quite see how a description of tying the cord at birth will be particularly useful to the mother, but if it is to be mentioned the description should be clear. Here after saying "the cord is tied and severed," &c., we read about half a page further on that "in the meantime the cord has ceased to pulsate and is ready to be ligatured with a strong white string of coarse thread." From which the inexperienced young mother would probably understand that the cord has to be cut twice. There is a great deal of good advice, especially as to feeding, in the book, but more details as to simple measures would have been desirable in describing the treatment of infantile constipation which is often a cause of trouble and anxiety to young mothers. The author affects what may be called the nursery style of writing; thus we find a good deal about "the little stranger" and each chapter is headed by a few lines of poetry more or less appropriate, or otherwise, such as—

> "Like genders like; potatoes 'taters breed;
> Uncostly cabbages come from cabbage seed."

A curious feature of the book is the bewildering number of pictures of babies, sometimes four on a page, so that it would not be amiss to say that the book consists largely of well-worn (though useful) platitudes with illustrations of babies in photographic attitudes. But doubtless the book will be useful to those for whom it is intended.

The Sanitarian. Vol. xl., No. 340. Price 35 cents. The American News Company, New York.—The volume contains amongst other articles a useful paper by Dr. Bermingham on Hygiene and Diet for the Pulmonary Invalids, and one by Dr. Meade Bolton on the Vitality of Pathogenic Germs in Water and Other Media, in which he insists that in all probability pathogenic germs have but a brief life in water. Mr. E. W. Thirkell contributes a paper of interest on the ventilation of mines, and Fœtal Murder is the title of an article by Dr. H. R. Storer, in which it appears to us that the evidence adduced as to the falling off in the increase of the American population being due to premature births of infants is somewhat slender. This question of variations in the birth-rate is a complicated one and it can hardly be attributed to any one factor. In taking up this position we in no sense disagree with Dr. Storer as to the necessity of controlling this practice—apparently all too common—of sacrificing fœtal life.

Paolo dal Pozzo Toscanelli: una biografia da PIETRO GORI. (*Paolo dal Pozzo Toscanelli: a Biography*, by PIETRO GORI.) Firenze: R. Bemporad e Figlio. 1898.—*Amerigo Vespucci: narrazione storica da* GIUSEPPE CONTI. (*Amerigo Vespucci: historical narration*, by GIUSEPPE CONTI.) Firenze: R. Bemporad e Figlio. 1898.—These two handy volumes appear opportunely to prepare the world for the quatercentenary commemoration of the two great Tuscan geographers and explorers to be held in Florence from April 17th to 27th. They will also be serviceable in view of the third Congress of Italian Geography, which rises just before the commemoration referred to—a congress of peculiar interest to the English-speaking world as dealing largely with the "Dark Continent" and the Malayo-Polynesian Archipelago and of not less interest to the medical calling as giving much attention to meteorology and the "physical conditions of climate." On this account it is to be regretted that its sittings will be almost contemporaneous with those of the International Congress of Hygiene and Demography to meet at Madrid. Historians of medicine vie with each other in pointing out the accessions made to materia medica by the geographical discoveries, mainly due to Italians in the western hemisphere, and it is interesting to note how many of these Italians were schooled in the sciences on which the healing art rests. Signor Gori tells us, for example, that his hero, Toscanelli, was not only trained in physics, but also, with his brother Piero, graduated in Arts and Medicine at Padua—was, in fact, a "medico valentissimo" whose quest for new remedial agents, as for "spezie" and "droghe" in general, was a powerful incentive to maritime and inland exploration. Vespucci, also (as Signor Conti puts in evidence), was reared in a "physical and medical atmosphere," and when reporting the results of his first voyage from the Canaries "circa mille leghe all'Occidente" describes the therapeutics prevalent among the savages among whom he landed and particularly their recourse to the cold affusion "da capo a piede" in fever. The growing necessities of a re-awakened healing art and of a civilisation yearning after moral horizons and ideals ampler and nobler than those offered by a worn-out tradition evoked, in fact, the explorers and pioneers of the Renaissance, producing and moulding and sending on their mission such men as Toscanelli and Vespucci and sustaining them through stern experiences abroad and yet sterner ordeals at home till their lives became the tissue of romantic adventure and prosaic controversy so instructively and attractively set forth in the "biografie" before us. The literary exposition, unusually artistic and effective even for writers of approved skill like Signor Gori and Signor Conti, is assisted with portraits, Toscanelli's being as impressive in its way as that of Savonarola, while Vespucci's might have been with profit reinforced by the beautiful one just brought to light in the Church of the Borgoguissanti and known to have been the work of Ghirlandaio. This represents him as the "bel giovane" of a familiar Florentine group and would have prepared us for the masculine voyager, hardened by adventure and sobered by trial, whose likeness confronts Signor Conti's title-page.

Gardiner's Household Medicine and Sickroom Guide. Edited by W. H. C. STAVELEY, F.R.C.S. Eng. Thirteenth edition. Pp. 511. 51 Illustrations. Demy 8vo. London: Smith, Elder and Co. Price 8*s.* 6*d.* 1898.—The first edition of this work, written by the late Dr. John Gardiner, appeared in 1861 and the fact that it has now reached its thirteenth edition shows that it meets a definite want. Its avowed object is to supply useful medical knowledge to those who, like colonists and missionaries, are removed from skilled medical help, and it is not intended to encroach in any way on the province of the medical man. It may be added that the greater part of the volume might serve as a text-book for nurses during their period of probation as it contains a large amount of useful and practical knowledge and at the same time provides a sufficiency of anatomy and physiology. While fully recognising the danger that may result from prescribing by unskilled persons Mr. Staveley has supplied a number of formulæ for use in emergencies. The book fully succeeds in its object and is essentially practical in its execution.

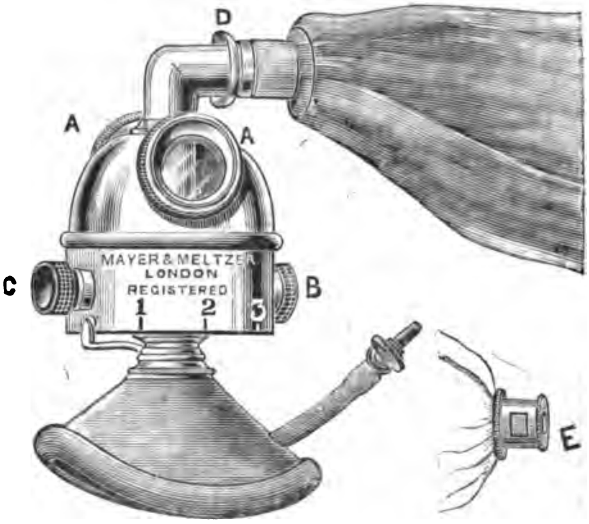
The Pocket Formulary for the Treatment of Diseases in Children. By LUDWIG FREYBERGER, M.D. Vienna, M.R.C.P. Pp. 208. London: The Rebman Publishing Company. 1898. Price 6*s.* 6*d.*—Compiled in order to provide in a convenient form necessary information about the therapeutic treatment of children this volume consists of two parts. The first, which occupies 180 pages, is an alphabetical list of drugs. In it useful details as to therapeutic uses, dose, and incompatibilities are given, and convenient prescriptions, which have been carefully planned so as to cover the taste of the drugs, are supplied. The author has evidently taken great trouble with this portion of the work. The second part is called the Therapeutical Index and contains the names of some of the commoner diseases of childhood and of the appropriate remedies. This section is disappointing, for it is incomplete. The arrangement is unsatisfactory and the nomenclature hybrid. English and Latin terms are used haphazard; for example, Mumps and Morbilli occur as headings without any cross reference under parotitis or measles and the only reference to exophthalmic goitre is under Struma exophthalmica. It is a pity that this portion is so inferior to the rest of the book.

BRISTOL ROYAL INFIRMARY.—The annual meeting of this institution was held on March 22nd, under the presidency of Sir C. Cave. The report stated that 3183 in-patients had been admitted during 1897, against 3210 in 1896, and that 37,056 out-patients had been treated, against 34,107 in the preceding year. The financial statement showed that the total ordinary income for 1897 was £9648, against £9587 in 1896. The total ordinary expenditure was £13,195, against £12,770 in the previous year. The President said that there was a deficit of nearly £14,000 due to the treasurer.

New Inventions.

IMPROVED ETHER INHALER.

MESSRS. MAYER AND MELTZER have constructed for me very satisfactorily a Clover's smaller ether inhaler with some modifications which I think will be found very useful and which are shown in the accompanying illustration. 1. In the dome of the ether chamber are two circular apertures on either side into which are screwed two watch-glasses or "windows" (A A) allowing a view of the interior, so that the quantity of ether in the chamber can be easily seen at any time during an administration. These "windows" can be unscrewed and the whole of the interior cleansed with ease after each administration. To facilitate thorough cleansing and to afford a good light in the ether chamber the interior surface is plated and polished in the same manner as the exterior. The glass "windows" fit accurately so as to prevent any leakage of ether in whatever position the inhaler be placed. Should the glass become foggy from condensation of breath on its inner surface, by turning the inhaler so that the ether passes over the glass for a moment, it will be immediately rendered clear.



A A, Windows looking into ether chamber. B, Stopper of aperture for filling hot-water jacket. C, Stopper of aperture for filling ether chamber. E, Air-opening into bag.

Anyone who has examined the interior of the ether chamber of the ordinary Clover's inhaler, with a reflecting mirror, will have noticed that it is generally dirty, and often has a deposit of verdigris in it, nor can it be reached for cleansing purposes. This is obviated by the inhaler described. 2. The water jacket instead of being closed entirely has an aperture with a detachable screw-stopper (B), so that it may be filled with warm water before the inhalation in cold weather; and the jacket may be quickly emptied and refilled if required during a long operation. 3. In the distal end of the bag is an aperture E covered by a metal cap, the rotation of which closes or opens a slot for admission of air into the bag.

It will be found that by keeping the slot only slightly, but continuously, open (after anæsthesia has been induced) cyanosis is prevented and quiet anæsthesia continues. In weakly people air may be admitted continuously from the first. By taking off the cap the bag can be cleansed out with a mop after administration. I have used this inhaler for some months and find it very satisfactory in its working.

Bath. T. WILSON SMITH, M.D. Lond.

AN EYE PROTECTOR.

AN ingenious and useful protector for the eyes of cyclists and others exposed to wind and dust has been devised by Dr. E. Mirovitch and is described by him in a communication made to the French Hygienic Society in February last.

It consists of a thin shell of horn or other translucent substance. The anterior surface presents an aperture in which plain glasses or the glasses commonly used by the cyclist are accurately fitted and allow neither dust nor air to impinge on the eye. The posterior border of the shell can be easily adapted to the parts surrounding the eye with which they are in contact, except in that part which extends towards the ear. Here a groove exists which, being separated from the temple, allows a free current of air to the cavity of the chamber between the eye and the glass and thus permits ventilation, whilst it prevents the glass from being dimmed by evaporation.

IMPROVED ELECTRODES FOR UTERINE APPLICATION.

THESE consist of an intra-uterine electrode and of an abdominal electrode. The latter Fig. 1 consists of a sheet of copper measuring 10 in. by 7½ in., in the centre and at the back of which is a screw to which is attached the connecting wire, whilst on the opposite side is a pad composed of chamois leather filled with animal charcoal, divided into longitudinal compartments in order to equally distribute its contents. This indifferent carbo-copper electrode is cleanly, portable, readily adapted to the surface of the body, and is both effective and reliable. It makes a much better electrode than the large clay pad of Apostoli and avoids the mess and inconvenience of this method. The intra-uterine portion Fig. 2 is a metal sound covered to within half an inch of the point with gum elastic. The point itself consists of platinum, which is screwed on to the body of the instrument and enables it to be replaced by a platinum trocar in case it should be necessary to puncture the fibroid. To the handle end of the instrument is fitted a copper loop for the wire connexion. This instrument allows of the application of sufficient force in its introduction without bending, but still at the same time is pliant enough to be bent at any suitable angle that may be necessary in cases of flexion. This electrode overcomes the difficulties met with in the use of Apostoli's sound, which is too pliant in flexions. The instruments are made by Messrs. J. Weiss and Son, Oxford-street, London.

FIG. 1.

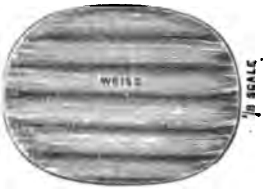


FIG. 2.

Woodhall Spa, Lincoln. ROBERT CUFFE, M.R.C.S. Eng.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN extraordinary Comitia of the Fellows of the Royal College of Physicians of London was held on Monday, April 4th, the President, Sir SAMUEL WILKS, being in the chair.

The PRESIDENT delivered his annual address in which he briefly reviewed the proceedings of the College during the past year, noticing especially the admission of H.R.H. the Prince of Wales to the Fellowship, the research work done in the laboratories, the lectures delivered before the College, and the labours of the Censors' Board. He referred also to the steps taken by the College to promote the passage of the London University Commission Bill, the deputations to the Government respecting the Army Medical Department and to the Secretary of State for India upon the question of contagious diseases. With respect to the attitude taken by the College upon other burning questions—as unqualified practice, medical aid, hospital reform, and the midwives question—the President expressed the opinion that the College had to regard these and similar topics from a higher ground than that of self-interest and to respect that individualism which was the characteristic of Englishmen, a view too little regarded by many who advocated active interference. He thought that but little good could come from the College joining with those who were for ever crying out to Hercules for help and invoking the strong arm of the law to protect their interests and pointed to the example set by Harvey and his compeers who steadfastly pursued their labours in the midst of the turmoil of civil war. Quoting Bacon's words that "every man was a debtor to his profession" he pointed to the College as one of the greatest temples of Æsculapius and said that they should never forget they were trustees of a great inheritance. He next proceeded to sketch the lives and characteristics of the sixteen Fellows who had died since the last annual meeting—Dr. James Andrew, Sir J. C. Bucknill, Dr. J. Braxton Hicks, Dr. F. Chance, Dr. Owen Daly (Hull), Dr. T. Bell Fletcher (Birmingham), Dr. R. Mundy Gover, Dr. A. Hall (Brighton), Dr. C. A. Lockhart Robertson, Dr. W. H. Robertson (Buxton), Dr. W. Roxburgh (Ipswich), Dr. Jas. Turnbull (Liverpool), Dr. Henry Thompson, Dr. William Wadham, Sir R. Quain, and Dr. Charles West.

On the motion of Sir A. GARROD, seconded by the SENIOR CENSOR (Dr. Gee), a hearty vote of thanks was accorded to the President for his address.

Sir Samuel Wilks then laid down the insignia of his office and the Fellows proceeded to ballot for the President of the ensuing year. The result was a practically unanimous vote for Sir Samuel Wilks, who received 99 votes from the 103 Fellows present, Dr. Dickinson, Sir R. Douglas Powell, and Sir William Roberts each receiving one vote. Sir Samuel Wilks was then inducted into office by the Senior Censor amid applause.

Sir WILLIAM PRIESTLEY drew attention to the rumoured changes by the War Office in respect to the rank of army medical officers, from which it would appear that it was proposed that no medical officer could be promoted beyond the rank of colonel. Sir William Priestley urged that steps should be at once taken to ascertain the truth of this report and if it be substantiated to represent to the Secretary of State for War that such a limitation would be detrimental to the best interests of the service.

Sir JOSEPH FAYRER said that if that proposal were carried into effect it would render futile any other concessions, for if a medical officer were worthy the rank of colonel he was equally entitled to hold that of major-general.

A resolution was carried to take action in the direction indicated by Sir William Priestley.

On the motion of Dr. POLLOCK a vote of sympathy was accorded to the family of the late Sir Richard Quain in the great loss they had sustained.

It was reported that at a meeting on March 29th of medical delegates and the London Members of Parliament to urge on the latter the claims of the University of London Commission Bill the College was represented by Dr. Allchin.

The PRESIDENT offered for the acceptance of the College a gift of silver plate presented by the late Sir Richard Quain on Feb. 17th last. The gift comprised a handsome candelabra and other pieces of presentation plate of which the deceased Fellow had been the recipient during his professional career.

On the motion of Sir JOSEPH FAYRER the thanks of the College were directed to be transmitted to the relatives of Sir Richard Quain.

The PRESIDENT also offered for the acceptance of the College a microscope by Ross belonging to the late Mr. Edward Palmer, M.D. St. And., M.R.C.P. Lond, presented by his son.

A communication was read from the secretary of the Royal College of Surgeons of England reporting certain proceedings of the Council on Feb. 10th.

On the invitation of the secretary of the International Congress on Hygiene and Demography to be held at Madrid, April 10th to 17th, Dr. Odling was appointed delegate from the College.

A memorial was read from Dr. Edmonstone Charles, F.R.C.P., and others connected with the College, asking the College to assist them in protecting the interests of British practitioners in Italy in view of proposed legislation, which would require every foreign practitioner to undergo the curriculum and examinations of that country before being granted permission to practise there.—On the motion of Dr. BAGSHAWE, seconded by Dr. CULLINGWORTH, the President was authorised to take immediate steps to forward the plea of the memorialists.

Reports were received from the Committee of Management and from the Laboratories Committee.

THE LANCET.

LONDON: SATURDAY, APRIL 9, 1898.

THE vacancy caused among the Crown members of the General Medical Council by the death of Sir RICHARD QUAIN will be filled up shortly, probably at the next meeting of the Privy Council. It is well known that three different sections of the medical profession consider that they have a claim upon the Duke of DEVONSHIRE for this seat—namely, Mason College, Birmingham, as the germ of a new Midland University; the dentists, who are unrepresented upon the General Medical Council while owning obedience to its discipline; and, the great body of general practitioners as opposed to consultant practitioners and teachers. We shall not be wasting time in considering the demands of these sections, although the appointment is in the hands of the Crown and not in those of the medical profession, for everything which affects the constitution of the General Medical Council is of importance to all of our readers, who ought to be in a position to judge of the use that is made by the Crown of its patronage.

The claim of Mason College, Birmingham, being the weakest, can be considered and dismissed the most easily. There is no Midland University. While giving full credit to the enterprising spirit which desires to regard as *un fait accompli* a matter which is as yet only mooted, we think it decidedly "previous" that a university in embryo should be represented upon the General Medical Council before it is viable. We have the less hesitation in expressing this view strongly because universities and medical corporations are already fully represented upon the Council. These bodies possess twenty seats out of thirty, leaving ten to be divided between the Crown and the Direct Representatives of the profession, so that it would not be conducive to good balance in the Council that one of the seats belonging to the Crown should be handed over to a forthcoming university. With regard to the dentists, they have a far better case. They are a very numerous body and have interests which are more widely spread than the interests of any particular corporation. They are totally unrepresented upon the Council, while their Register is under the ægis and control of the Council and their educational curriculum has to be maintained to the satisfaction of that body. It is manifestly hard upon the dentists that they should be in disciplinary subservience to a government in whose deliberations they have no particular voice. Therefore their claim is a good one. But, on the other hand, it is doubtful if their time has yet arrived. It is nearer than the time of the Midland University, but there is no great hurry. There are some five thousand dentists on the Dental Register and only an insignificant proportion of them, about one hundred and forty in number, possess medical qualifications as well as those licensing them to act as dental surgeons. This does not show any marked educational evolution and in the eyes of the medical profession it may militate against their claim to representation. We do not go quite so far as this — indeed, it might be argued that the more specialised the dental profession is the more right has it to demand special representation—but we do think that the case of the dentists is not so urgent that one of the Crown Representatives should be told off to hold a brief for them. They have as yet suffered little by having no voice on the Council, while on all hands it is admitted that the profession of dentistry is improving in status and knowledge by great strides. When under existing arrangements there is manifest progress towards better things we do not see that there is any necessity for immediate change, though we hope that in the near future the dentists will have their representative, and one who shall be added to the existing Council with their needs in view.

We come now to the general practitioners whose claims at the present juncture are far stronger than the claims of any corporation or of any special branch of the profession. Here we are dealing not with a section of the medical profession (as we have termed them above), but with the whole profession; for the welfare of all medical schools and corporations is bound up with the welfare of the greatest number of their pupils and members. No one denies that the medical profession is in a state of unrest and discontent, although we believe that we see around us signs of the prevalence of a better temper. Under these circumstances it is particularly important that the Government should have as their representative an adviser representing no class, no section, no corporation, no university, but just the rank and file of our calling. It will be said by some that the profession as a body has already Direct Representatives, but there is plenty of room at the Council table for another voice to be used in behalf of general rather than particular interests. The General Medical Council is constituted for the protection of the public, and the selections of the Crown especially represent the public interest, as the Universities are represented by their own spokesmen, the corporations by theirs, and we, the body of the medical profession, by ours. It is manifestly of the first importance that the Crown Representatives should be aware of the troubles and needs of the medical profession, for how otherwise can they rightly judge between the profession and the public when questions are under debate where public and professional interests are not identical? Just such questions—several in number and of the highett importance—are rife now, so that the appointment by the Crown of a man who is able to advise with the authority and decision acquired by actual experience will be particularly well-timed, and we may add politically sound and popular. To our thinking a forthcoming university has no claim whatever to the vacant Crown seat; the dentists have a good claim, but will soon have a better one, when there is no reason why they should not be granted a special and extra representative of their own; but the general practitioner at the present time wants every assistance that he can obtain to enable the Council and the country to understand his position and rightly to judge between him and the public—for the public good.

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IT is an interesting coincidence that the reception by Mr. CHAPLIN of a deputation, for which we surmise Dr. NEWSHOLME is largely responsible, relative to the sanitary control of oyster layings, &c., should have been almost immediately preceded by the publication of Dr. BUCHANAN's report to the Local Government Board, which we notice in another column, on an outbreak of oyster-borne enteric fever in certain districts of Essex and Suffolk. The two events supplement one another in a very happy fashion, and although the deputation referred to was in itself sufficiently influential, supported as it was by Sir WILLIAM PRIESTLEY, M.D., and by the medical officers of health of Liverpool, Manchester, the Port of London, and Brighton, it is bound in the eyes of the public to acquire additional force and importance from the almost simultaneous appearance of Dr. BUCHANAN's closely reasoned report.

Since the remarkable outbreak of enteric fever amongst the students of Wesleyan College, Middletown, Connecticut, U.S.A., which occurred in the autumn of 1894, and which was the subject of a special article in our columns,[1] circumstances have not conspired together to afford us an equally satisfactory opportunity of studying the manifestations of oyster-borne enteric fever. In the outbreak, however, which occurred among certain residents of, and visitors to, health resorts in Essex we have a series of cases and associated phenomena which, considered together, form a chain of evidence of a very convincing nature against certain oysters, and we have been fortunate in that the investigation of this outbreak was entrusted to one so well qualified as is Dr. BUCHANAN to marshal facts with a proper regard for their relative values and the inferences which the facts justify. There is, too, about this most recent series of cases a certain similarity, both as regards numbers and behaviour, to that which occurred in connexion with the old students' annual supper at Wesleyan College. Then the students came from all parts of the United States to meet in friendly intercourse and following on this gathering some 26 cases of enteric fever arose amongst those who had partaken of certain oysters at the feast. Here, in the most recent instance, we have amongst those attacked, holiday-makers who after their visit to a certain seaside resort returned to their homes and were attacked with typhoid fever; and here, again, as in the Connecticut series, some 26 persons were also concerned. In the instances dealt with by Dr. BUCHANAN the circumstantial evidence is so strong that the case against the oysters is almost overwhelming, altogether apart from any considerations as to the locality from which the oysters in question were procured. It is evidence such as this which all investigators should endeavour to procure by an unbiased consideration of the nature of the illness, the distribution in time and space of the attacks, and last, but by no means least, by a careful analysis of the other opportunities of infection to which those attacked may have been exposed. It is only by this means that a proper estimate of the probabilities—for *proof* in these matters is impossible—can be arrived at. When, then, this circumstantial evidence had been obtained Dr. BUCHANAN visited the locality from which he had ascertained that the oysters had come and he found that they had in the main been collected from certain layings almost at the mouth of the Brightlingsea sewers—from the layings, that is, of which Dr. BULSTRODE spoke in such strong terms of condemnation in his report to the Local Government Board. The oysters were all of foreign origin—that is to say, they were what are known in the trade as "re-laid Americans" and "re-laid Portuguese"—i.e., oysters imported from America and other parts of Europe and laid down again in the waters of our estuaries. Although, therefore, these oysters were, as regards origin, foreign, they must be regarded as having received their pollution in English waters, and it has to be noted that they had apparently opportunities for becoming *specifically* infected during their sojourn in Brightlingsea Creek. Important and instructive as this series of enteric fever cases is in itself, it raises, as Dr. BUCHANAN points out, an issue which is by no means limited to certain districts in the counties of Essex and Suffolk—namely, what is the real extent of the mischief caused by Brightlingsea oysters consumed in the health resorts of our east coast, not only by the residents in those places, but by the thousands of "trippers" who annually and for short periods visit these easily accessible spots? What, in other words, is the extent to which oysters are responsible for sporadic cases of enteric fever in London and other parts of the country?

Not only have we to consider the visitors who consume oysters at health resorts, but we must also be mindful, as Dr. NEWSHOLME has illustrated, of the effect—certainly not inconsiderable in its gross amount—of oysters imported into our large towns from polluted layings or storage ponds such as those at Brightlingsea, the Medina, Emsworth, Southwick, Poole, Grimsby Docks, the Penrhyn River, and other places. This aspect of the question is one which we cannot enter into here, but medical officers of health throughout the country may well have regard to it in their etiological investigations, taking Dr. BUCHANAN's report as an example of the methods which should be adopted in approaching the inquiry. It is, however, necessary to insist upon the fact that the amount of enteric fever which may be traceable to oysters is only a part of the evil which is attributable to these molluscs. That cases of serious gastric disturbances—in some instances so severe as to simulate cholera—may occur as the result of consuming foul oysters and other shellfish has been perfectly obvious to the profession for years; but it is of importance to note that any given outbreak of illness may present varying characteristics. For instance, in an outbreak of illness which occurred in a French town from the consumption of certain polluted oysters obtained from Cette on the Mediterranean coast of France, of 14 persons who were attacked 12 suffered from gastric disturbances of varying degrees of severity, while the remaining 2 suffered from very severe attacks of enteric fever. With the illness, specific and other, which may be caused by the consumption of raw mussels and cockles we cannot here deal, but we think the President of the Local Government Board must have been incorrectly reported in the lay press in this particular, as the Medical Department of the Board must be, as a result of Dr. BULSTRODE's report, fully alive to the danger which may result from the consumption of these shellfish when procured from positions where they are liable to pollution. We may instance the detailed account given in the report of the cockle industry at Leigh in Essex. We are, however, very glad to hear that Mr. CHAPLIN is shortly about to introduce a Bill to prevent a recurrence of such an outbreak as that caused by the Brightlingsea oysters. The matter is urgent and it is to be hoped that the Bill will be brought before the House of Commons soon after Easter.

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[1] THE LANCET, Jan. 26th, 1895.

In the case of Harrop *v.* the Corporation of Ossett, which was reported in our last issue, the plaintiffs, property owners, were refused an injunction to restrain the corporation from using an adjacent site for the treatment of small-pox. Mr. Justice ROMER'S finding seems to be almost the only one which was possible in the circumstances. There must necessarily be important obstacles to a decision to the effect that a small-pox hospital constitutes a legal nuisance when there is no evidence that the hospital in question has actually caused infection of persons living in the neighbourhood and when in the case of other small-pox hospitals similarly situated it is only occasionally that danger of the kind apprehended has been manifest. Moreover, as Mr. Justice ROMER indicated, no one need live in continual dread that his household may in the future be exposed to infection from a neighbouring hospital. They have only to be efficiently vaccinated or revaccinated, as the case may be, and they may be exposed as often as they please with impunity. The interest of the case, however, lies in the use made by the defence of the statements of certain witnesses as to the well-known cases in which small-pox has spread in characteristic fashion round hospitals. These witnesses rejected aerial convection even as a working hypothesis to account for the facts and believed that defects of hospital administration might somehow or other have been responsible for the characteristic incidence of the disease in the neighbourhood of the hospital in each instance. These opinions were relied upon for inference that if only a hospital is, or is likely to be, well administered, there is little or no risk that it will involve exposure to infection of persons living in the neighbourhood. We are by no means sure of the soundness of this inference. The question arises—what in this sense constitutes proper administration? Unless the average sanitary authority is able and willing to keep in readiness, year in and year out, buildings, beds, and staff to an extent hitherto uncontemplated, definite risk of a breakdown in administration is bound to be incurred whenever a sudden epidemic of small-pox occurs in the district. Moreover, if the characteristic spread of small-pox round hospitals is held to be a matter of administration then it has to be added that we have yet no evidence that the best of administration can prevent its occurrence. In none of the outbreaks of recent years has this question been put to proof in the way in which it formerly was in London by the Metropolitan Asylums Board. Administrative shortcomings such as occurred in the case of Warrington and other hospitals were hardly in question in the case of Fulham Hospital in 1884. Here the hospital was prepared beforehand for the epidemic, and probably nowhere before or since have administrative precautions been carried out with greater thoroughness and rigour. Nevertheless the failure of these measures to prevent the characteristic spread of small-pox round this hospital was so complete as to compel the Metropolitan Asylums Board to carry out the policy of removing all cases of small-pox so far out of London as the ships in Long Reach. In their neighbourhood there is happily little population on which the incidence of small-pox can be studied.

Annotations.

"Ne quid nimis."

THE NEW PRESIDENT OF THE GENERAL MEDICAL COUNCIL.

On Tuesday, April 5th, the General Medical Council by a unanimous vote elected Sir William Turner, M.B. Lond., LL.D. Glasg., D.C.L. Oxford and Durham, F.R.C.S. Eng. and Edin., F.R.S. London and Edinburgh, &c., to be its new President in the room of the late Sir Richard Quain. Sir William Turner received his medical education at St. Bartholomew's Hospital, graduating M.B. at the University of London in 1857. In 1867, on the death of Professor Goodsir, he was elected Professor of Anatomy at the University of Edinburgh. Among many other appointments he has been Examiner in Anatomy at the Universities of Oxford, London and Durham, Lecturer on Anatomy at the Royal College of Surgeons of England, and President of the Royal College of Surgeons of Edinburgh. For many years past he has been chosen to represent the University of Edinburgh on the General Medical Council and in 1889 was elected by the Senate of the University as one of their representatives on the University Court. He is the author of an "Atlas of Human Anatomy and Physiology," lectures on "The Comparative Anatomy of the Placenta," and other antomical works, besides numerous papers on various scientific subjects. In 1886 he received the honour of a knighthood. For thirty years he held a commission in the 2nd Edinburgh Rifle Volunteer Corps, and retired in 1889 with the honorary rank of Lieutenant-Colonel. Sir William Turner brings to bear upon the duties of the new post a sound judgment and wide experience in some part derived from his having been in 1881 a member of the Royal Commission appointed to inquire into the working of the Acts affecting the medical profession.

A QUESTION OF FEES.

A suit for the recovery of a professional debt which was recently decided in the Shoreditch county court well illustrates the readiness with which a misunderstanding may arise as to the true relation between medical practitioners and their patients. In this case an important point was raised in connexion with the question—what term of attendance was covered by the ordinary fee for accouchement? The practitioner very liberally allowed a fortnight. This concession, however, did not satisfy the defendant, who protested that a further course of treatment for ophthalmia in his infant child should have been included. With this remarkable opinion the presiding judge was at first disposed to agree and he practically refused to accept any limit as closing the period of medical supervision naturally consequent upon delivery and covered by the same primary charge. We cannot but regard this attitude as being as injudicious as it is unjust. There is obviously no possibility of assigning a legal term in such cases except by an appeal to the rule and custom of medical practice. We have referred to the view taken by the practitioner already mentioned as being very liberal. Professional usage in general practice has fixed the ordinary lying-in period at from seven to ten days. After this time has elapsed medical attendance may as a rule be safely discontinued and this term therefore is alone covered by the ordinary confinement fee. It follows that the practitioner in the case quoted erred by doing injury to his own interest. Fortunately for the course of justice a further examination of his claim brought out such evidence of his fairness and of certain tactics on the part of the defendant that the suit was given against the latter. We congratulate both judge and plaintiff on having, after a difference of opinion which need not have arisen, arrived at a settlement the justice of which is abundantly self-evident.

EGGS AND LARVÆ OF FLIES IN THE HUMAN BODY.

Two cases of myiasis interna are described in the *Deutsche Medicinische Wochenschrift* of March 24th, one by Dr. Michael Cohn (Berlin) and the other by Dr. Bachmann (Ilfeld, Hanover). Dr. Cohn's patient was a child, three months old, who had for the first two months been fed on condensed milk and subsequently on cow's milk diluted with water. The milk was on all occasions given by means of a feeding bottle having the ordinary indiarubber fittings. After the cow's milk began to be used the fæces, which had previously been firm, soon became thinner and more copious; eventually frothy offensive motions mixed with mucus were passed five or six times in the course of the day and three or four times at night. The child at the same time often expectorated small cheesy masses (gekäste Bröckel, Käseklümpchen, Milchklümpchen), was generally uneasy, had fits of sudden screaming, and suffered from attacks of internal pain which usually lasted about five minutes. On Oct. 19th the mother found a quantity of what she called living "worms" on one of the child's jackets which had been taken off three days previously and kept in a dry wash-tub under some other dirty clothes; these "worms" were in the very same places where the cheesy masses which had been expectorated had lain, their position being marked by yellow stains which could not be easily washed out. On Oct. 21st, intending to observe the result, she purposely set aside, without washing it, another jacket soiled with similar cheesy matter which had been expectorated, and on Oct. 23rd she found that it contained a large number of living round "worms," some of which, wrapped in paper, she brought to Dr. Cohn. Moreover, she had on the previous day found in the child's napkin, after the bowels had been moved, similar whitish masses which were intimately mixed with the fæces and some of which she brought to Dr. Cohn. They had partly broken up into small white scales (Schüppchen) and the mother was convinced that the "worms" had been developed from such scales because the child had never passed worms. Dr. Cohn soon examined the patient and found nothing unusual either in the general appearance, or in the mouth, or about the anus; the child was fairly well nourished, was rather pale and had a prominent abdomen. A motion which had been recently passed showed no abnormal constituents. Next morning the mother reported that in the evening after Dr. Cohn had seen the child she found a great number of the *Schüppchen* about the anus, whereupon she administered an enema and caught the escaping water in a dish. It contained a large number—about 100—of these white objects without any admixture of fæces; they were shown to the father and to some neighbours, but were thrown away before Dr. Cohn's next visit. Fæces were not passed until some hours after the enema; Dr. Cohn saw this motion; he did not observe any abnormal appearance in it and there has been no recurrence of the *Schüppchen*. The digestive troubles and restlessness soon disappeared, the cow's milk was resumed, and the child's condition became quite satisfactory. The "worms" which were brought to Dr. Cohn were larvæ of the common house fly about 8 millimetres ($\frac{1}{3}$ in.) in length. The *Schüppchen* were about 1$\frac{1}{2}$ millimetres ($\frac{1}{16}$ in.) in length and were found on microscopic examination to be flies' eggs containing mature embryos. Dr. Cohn was not present when the eggs were passed from the bowel, but he discusses the question at some length and accepts the account given by the mother. He considers it is unlikely that the eggs were swallowed in the milk and thinks that they were more probably deposited by several flies on the saliva and milk about the lips as the child lay asleep and that they then found their way into the mouth. The other case of myiasis was of a different character. Dr. Bachmann was consulted last August by a gendarme, who complained of bilious vomiting, loss of appetite, and other symptoms which pointed to atony of the stomach; there was, however, no actual dilatation. The man had given way to drink and had for five years been much worried by a lawsuit. For a long time he had eaten minced beef, either cooked or raw, and generally with eggs, as other food disagreed with him, but now he was hardly able to take the minced beef. Three weeks before coming to Dr. Bachmann he had vomited "worms" and had done the same thing twice subsequently. On each occasion he felt uneasiness and spasmodic pain in the pit of the stomach, after which he vomited over a hundred white maggots mixed with mucus and bile; he was also suffering from diarrhœa and increased loss of appetite. He brought for inspection a dozen living maggots about 1 centimetre (0·4 in.) long derived from some species of fly. His previous medical attendant had given him extract of fern, which made the diarrhœa worse but did not increase the number of "worms" in the motions. Dr. Bachmann prescribed infusion of insect powder with syrup of orange peel, which caused discomfort and frequent profuse perspiration but not vomiting. There were now discovered in the fæces small white masses (Klümpchen) which Dr. Bachmann found to be half-digested remains of insect larvæ that had obviously been killed by the insect powder and subsequently acted on by the digestive fluids. After this the patient did not experience any further symptoms due to "worms," and has not passed any more.

TAXATION OF MEDICAL MEN IN FRANCE.

A discussion arose on Friday, March 11th, in the French Chamber of Deputies, upon a proposal put forward by Dr. Pédebidon for the reform of the law relating to the duties payable by medical practitioners under professional licences. Two amendments were submitted. The first was couched in the following terms: "So far as medical practitioners are concerned the liability to pay duty shall arise only in respect of places occupied by them for professional purposes to the exclusion of such as are occupied for habitation only." The second amendment provided that a medical man should be subject to payment of duty only in the commune in which he actually exercises his profession and in which his diploma is registered in accordance with the law of Nov. 30th, 1892. Both amendments were thrown out. The second amendment is of special interest to medical men practising at watering places—that is to say, who for the summer season or, as it may be, for the winter season on the Mediterranean coast, occupy consulting-rooms at one or another of these places, but for the greater part of the year retire to the country or into some town and discontinue the practice of their profession. A doctor of medicine is liable to the duty solely by virtue of the practice of the profession of medicine, and not in respect of the possession of the title which is a university degree, since by the law of April 29th, 1844, it is the professional and not the educational standing which is made the ground of the impost. The tenth article of that law provided that a licensee who occupied one or more dwellings besides his principal place of residence should be chargeable with the duty in respect only of those houses which he occupied for professional purposes. Under this law it was decided that a medical man practising at a bathing-place was not bound to pay the duty in another locality where he did not practise. The law of 1892 concerning the practice of medicine requires every medical man under a penalty to register his diploma at the prefecture or sub-prefecture and at the court of the district in which he practises. It is illogical to lay an impost upon a medical man in a place where he cannot effectively exercise his profession. This is the hard fate of medical men practising at French watering places. The Government requires them to register their diplomas in the arrondissements in which they reside for some months but do not practise and the law itself requires them to register where they do practise. In this way they are rendered liable by a flagrant piece of injustice to double dues. The Chamber, however, would have nothing to do with the amendment. Upon the principle of being thankful for small mercies the French practitioners may congratulate themselves on having escaped an augmentation of the licence duty upon all liberal professions proposed by the Budget Commission but rejected by the Chamber, by which, if it had been adopted, their assessments would have been raised from 1*s.* 8*d.* to 2*s.* in the £ upon their annual rateable values.

ACETYLENE AS AN ILLUMINANT.

To the electric furnace must now be ascribed the production of acetylene on a commercial scale. By mere fusion at the heat of the electric arc, the current itself being derived from water power, carbon combines with the calcium of lime to form carbide of calcium, a brown, slaggy-looking material, which in contact with water gives off acetylene in a state of purity, a residue of quicklime remaining. As is now well known acetylene possesses a remarkably high illuminating power owing to the high proportion of carbon it contains and to the fact that great heat is given out when acetylene burns. Although a perfectly stable gas under ordinary conditions acetylene under a few atmospheres pressure will explode with fearful violence. Care is therefore required when this gas is employed and this cannot be too widely known, especially as its use is becoming general for a great number of purposes. Thus for bicycles and other vehicles a light, compact container is carried provided with a small charge of carbide, and all that needs to be done is to add water, when the gas is disengaged and may be burned in a specially constructed burner. To cyclists water as a source of illumination must prove a great advantage. Acetylene gas is quite safe if used in properly constructed apparatus and we are glad to learn that the public will soon have an opportunity of knowing which apparatus is to be trusted. The Council of the Imperial Institute have authorised, we hear, the holding of an exhibition of acetylene gas apparatus in the grounds of the Institute at an early date, and in order to ensure that no apparatus should be admitted to the exhibition unless it is shown to fulfil the requisite conditions of safety, the council of the Society of Arts have appointed a committee to decide upon those conditions, and to lay down rules for the admission of apparatus. The committee will consist of several well-known experts. We think that this is a very wise departure, as there are many who will be glad to know the conditions under which acetylene may be used safely for illuminating purposes. Amongst other applications for which acetylene is convenient and well adapted is the lighting of a country house; the plant is very simple, easily managed, and occupies but little space. The light is over 200-candle power. As yet experience connected with the employment of acetylene for domestic lighting purposes has not been sufficiently long to enable us to mark its disadvantages, but it might reasonably be expected, so rich is the gas in carbon, to lead to a rapid blackening of the ceilings and other light surfaces of a room so illuminated.

THE ROYAL HAMPSHIRE COUNTY HOSPITAL, WINCHESTER.

UNDER circumstances to which we shall probably consider it advisable to refer at some length next week the honorary medical staff of the Royal Hampshire County Hospital at Winchester have unanimously resigned their appointments. Until the present strained position is relieved we cannot think it right that medical men should apply for vacancies on the staff of this hospital. We are able to give this advice unhesitatingly because we understand that the services of the honorary staff are being continued to the sick, so that the only argument imaginable for urgent filling of the vacancies does not exist.

"ABBASSO IL DUELLO."

OUR Rome Correspondent writes as follows:—"'Down with duelling!' Amid all the rhetoric that has filled the air since Felice Cavallotti's death in a duel loosened the tongues of mourning friends and sympathetic foes, the one sane and reassuring outburst arose from 'the man in the street,' 'Abbasso il duello.' It needed such a calamity as the extinction at the age of fifty-five years of a nobly, if not always prudently, inspired life to accentuate the indignation felt by all right-minded Italians at the retention of a practice uncivilised in itself and capable of inflicting a loss so irreparable. For what is the justification of duelling advanced by its apologists? 'It acts as a restraint on the fire-eating publicist,' they allege; 'it secures respect for the courtesies of debate in Parliament and in the press.' Indeed? Is it not precisely in those countries where it survives that the contention of parties in Legislature and journalism is still accompanied with language the most intemperate and uncontrolled? The Zola trial in France and the Crispi prosecution in Italy are instances in point too recent and too eloquent to require more than mention; while all that is best, morally and intellectually, in Italians and Frenchmen looks to far other forces than the lethal menace of pistol or sabre for the rehabilitation of public life in word and deed. 'Let it not be said,' remarks one of Italy's ablest public men, 'that abstention from duelling is an encouragement to brow-beating politicians. The exact contrary is the case. In the British press the duel is unknown, and yet,' he continues, 'quella stampa è la prima del mondo, ed il suo linguaggio è quello della discussione, non quello dell' invettiva' (that press is the first in the world and its language is that of discussion, not that of invective). As I write there lies before me the draft of a Bill to be introduced to Parliament for the suppression of duelling and its provisions with that view are stringent enough in all conscience. But if it pass into law, will it have the effect desired? History, I fear, replies in the negative. Penal enactment cannot secure social comity. The 'sic volo, sic jubeo' of the Legislature cannot evoke civilisation. In France such State intervention proved worse than useless. The edicts of Charles IX., Henry IV., and Louis XIV. bore heavily on duellists and only multiplied duels. Not much, if anything, is therefore to be anticipated from the Bill in question. Rather by the growth of the humane, philanthropic spirit, which, with all his failings, was poor Cavallotti's motive principle, is the moral atmosphere to be created in which 'redress by violence' ceases to live. It is that 'circumambient influence' that in Great Britain has made the duel impossible—an influence to which the best of continental publicists point wistfully as an object-lesson to their compatriots. Such publicists, I am happy to say, are year by year becoming more common in Italy, where the large representation of the healing art in her Chamber of Deputies and in her Senate tends to make the legislature more and more interested in the 'salus populi' and more and more active in its promotion. With these men Felice Cavallotti was in full, not to say enthusiastic, accord, and it was these men who were most conspicuous both in Rome and at Milan in paying the last tribute to his memory. They remembered his noble initiative in the terrible cholera visitation of 1884 when he organised an ambulance service at Naples and Palermo for the relief of the poorest of the poor. They remembered his eloquent and powerful coöperation in Parliament and in the press when the frightful scourge of the 'white death'[1] had to be brought home to an indifferent Legislature; when the privations and miseries of the Italo-Brazilian emigration system had to be exposed and remedied;[2] when more recently the cry of 'pane e lavoro' (bread and work) called aloud for an immediate and effective response; when, in short, the 'salus populi' in the humbler and more helpless social grades appealed to the well-to-do world. Nor was it for hygienic and material rehabilitation only that Felice Cavallotti lived and laboured in the common interest. He strove hard to raise the educational standard at school and college. Himself a 'Grecista di prima forza' (a Greek scholar of the first order)—witness his text and translation of Callinus and Tyrtæus—he made literature and the stage itself the handmaids of the higher culture and contributed to both a series of works perennial in value and favour. 'A Shelley turned politician,' he carried into the strife of parties a noble individuality sorely desiderated in a country where (as one of its best sons avers) 'you oftener find cleverness than character.' These and many such considerations are present to his countrymen to-day and serve to explain the intensity and universality of the cry lately pressed from their hearts—'Abbasso il duello!'"

THE DOOM OF THE USURER.

THERE is every prospect, we are glad to say, that the 60 per cent. usurer has had his day, for it is most likely that the report of the Money-lending Commission will modify his methods of procedure very considerably. The difficulty in the matter is to find some way by which the really poor can obtain a loan. The well-to-do can raise money through their bankers, but for the needy there were but two sources, the pawnbroker and the professional money-lender. There is, however, another source, one unknown until a few years ago, and that is the credit societies started by the Agricultural Banks Association. These credit societies are fully described in a little pamphlet by Mr. Thomas Farrow called "Shylock at the Bar." Their amount of capital is very small, rarely over £200, which is obtained in the first instance from some charitable person in the neighbourhood as a loan at an interest of 3 per cent. This money is then lent out at rates varying from 5 to 6 per cent. The societies are managed by a council and committee elected by the members, themselves all unpaid except the secretary. Mr. Farrow gives details of the working of some of these societies, which have proved of the greatest value to small agriculturists. For the class of persons who want rather larger loans Mr. Farrow suggests that the State or the municipality might aid or the large joint stock banks in England might follow the example of their brother companies in Ireland, who advance sums ranging from £1 to £20 to any class of the community at from 5 to 6 per cent. per annum. We must await the report of the Commission as to what will be done; but Mr. Farrow's scheme of reform certainly appears to be not only sound but successful.

THE "SETTING TIME" OF PLASTER OF PARIS.

IN the issue of *Treatment* for March 24th, Mr. D'Arcy Power and Mr. J. A. Belcher publish details of a number of experiments made for the purpose of ascertaining what effect various substances in solution have upon the setting time of plaster of Paris. They find that where it is of importance to make plaster of Paris set rapidly it should be mixed with a five-per-cent. solution of common salt, and this may be made roughly by adding a tablespoonful of salt to a pint of water.

THE OCCURRENCE OF PARALYTIC SYMPTOMS AFTER INOCULATIONS FOR RABIES.

IN a recent issue of the *Neurologisches Centralblatt* Professor Darkschewitsch has a paper of very great interest and importance on this subject. Other cases have been published in which inoculations by Pasteur's method have been followed by paralysis, but there are points in Professor Darkschewitsch's two cases which are peculiar. The first case was that of a man, aged thirty-two years, who was bitten in the hand by a dog which was killed and declared by a veterinary surgeon to have been rabid. Two other members of the household were bitten at the same time. This was on July 27th, 1896. From Aug. 1st to 12th all three were treated at the same place by Pasteur's method. The patient returned home on Aug. 14th and felt so well that on the same day he bathed twice in the river as he had been used to do. On the 17th of the same month he experienced pain in the legs and in both arms and there was impaired sensibility in the left leg as well as a degree of uncertainty in both arms in carrying out fine movements. By the end of August the symptoms had much lessened in intensity. When seen on Nov. 23rd there was diminished strength in the arms and legs, of the character met with in peripheral palsy, and the weakness was more evident in the left arm and leg. There was also ataxy affecting the fingers. The knee-jerks were normal, the pupils reacted sluggishly to light, and there were pains in the limbs and some degree of impairment of sensibility. There was also distinct wasting of the small muscles of the hand. In the following June (1897) the symptoms had markedly decreased in intensity. There was a little ataxy of the fingers, but except for paræsthesia in the arms there was little else to note. In the two other persons, bitten at the same time and treated simultaneously, no such symptoms were developed. The second case was that of a man, twenty-eight years of age, who was bitten on the right leg by a dog in the middle of February, 1897. Although the dog showed no signs of rabies the patient was treated with injections a week later. About a week after the completion of the course of injections—March 20th—in the course of a few hours right facial paralysis developed and two days later in the course of a night the left side became similarly affected. The paralysis had the character of peripheral facial paralysis. Improvement began a week later and went on slowly but steadily. When the patient was seen on Sept. 10th there were traces of paralysis of the upper branches of the facial nerve and distinct evidence of weakness of the lower parts of the face. There was distinct diminution in the response to each electrical current but no qualitative change. There was no aural affection. In discussing the relation between the injections and the symptoms of paralysis Professor Darkschewitsch remarks that in any such discussion, in which the question is the relation between a certain form of illness and some new etiological condition, two considerations must be kept in mind—(1) whether the development of the illness in question occurs more frequently or less frequently in connexion with the supposed etiological factor, and (2) whether in each case of such illness other more or less recognised etiological conditions can be excluded. For the first condition, of course, the study of a much larger number of cases of the disease under consideration is necessary and for the second a combination of unusually fortunate circumstances. In reference to the first case, none of the usual etiological factors in such a condition could be found and the same was also true of the second case. As to the question whether the paralysis was the result of the injections or of the original bite (if it was the result of either) the second case, in which the dog was stated not to have been mad at all, seems to be conclusive. The manifestations were apparently those of a peripheral affection, and it may be of some significance that they showed themselves so soon after the completion of the injections—in the one five days later and in the other a week later. The question whether the paralysis was actually the result of the injections is, of course, of very great importance.

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[1] Vide THE LANCET, Oct. 16th, 1897, p. 1016.
[2] Vide THE LANCET, Oct. 30th, 1897, p. 1151.

UNQUALIFIED ASSISTANTS.

IT is proposed to petition the General Medical Council to authorise the examining bodies to hold, if they please, one or more special examinations during the present year only for the benefit of unqualified assistants over forty years of age who have completed the medical curriculum and are of satisfactory moral character. The promoters of this movement believe that by so doing the Council will remove a grievance and mitigate the severity of the new rule which while probably wise and necessary presses with some harshness upon a very helpless class of men. It is feared that many of these if unable to get upon the Medical Register will be driven into the ranks of those unqualified and unregistered practitioners whose existence in such numbers is already a grave public scandal, a serious injury to the profession, and should be a subject of deep concern to the Council. If the Council will take this step there are good grounds for believing that such examinations would be held by some at least of the examining bodies. Gentlemen willing to help by taking charge of copies of the petition for signature are requested to communicate with Dr. G. P. Hadley, Wadham House, Lozells, Birmingham, who is willing to act as secretary to the movement.

FATAL POISONING BY PARAFFIN OIL.

THE poisonous properties of petroleum and its derivative paraffin oil are not great; recovery has taken place after the swallowing of a pint of petroleum and in several cases after the ingestion of half a pint of paraffin oil. The fatalities on record are very few and therefore the following case published in the *Medical Chronicle* of February, 1898, by Dr. A. McDougall is of interest. A child, aged fourteen months, whilst playing swallowed some paraffin oil. She coughed and became unconscious. Four fits, each lasting about three minutes, occurred. They were characterised by rigidity of the limbs, turning up of the eyes, and blueness of the face. Between the fits the rigidity passed off, but the unconsciousness remained. There was no vomiting. When admitted to the Manchester Infirmary the child was much collapsed and was unconscious; the respirations were slow (10), deep, and sighing; the pulse was fairly good and not much increased in frequency; there was no cyanosis; the pupils were medium-sized and equal; there was an odour of paraffin oil from the mouth. An attempt to wash out the stomach failed, as the eye of the catheter repeatedly became blocked with mucus. Respiration then ceased and cyanosis occurred. Artificial respiration was carried out and the cyanosis passed off, leaving the child very pale. The pulse ceased, death taking place one hour and fifty minutes after the swallowing of the paraffin oil. The amount swallowed is stated to have been about an ounce and a quarter. At the necropsy the lungs had the odour of paraffin oil, the œsophagus was slightly congested, and the stomach was very pale and contained much stringy mucus and globules of paraffin oil. The noteworthy points in this case are the convulsions and the absence of the usual irritant symptoms. The former are to be explained, no doubt, by the proclivity to convulsions which exists in infancy.

LIGATURE OF THE LEFT COMMON CAROTID ARTERY WITH PRELIMINARY ELECTRICAL TREATMENT.

ON March 13th Professor Carlo Galozzi showed before the Medico-Chirurgical Academy of Naples a man, thirty years of age, whose left common carotid artery he had ligatured for idiopathic aneurysm on Feb. 16th. The patient first observed the tumour in the left side of his neck in September last and was admitted to hospital in November, at which time the tumour was of the size of a lemon and extended from the lower jaw to the sterno-clavicular articulation. As most of the space available for operation was occupied by the tumour Professor Galozzi on Dec. 2nd commenced to make a trial with electricity applied externally according to his own method and that of Vizioli. The dimensions of the tumour at that time were: horizontal diameter, 4½ in.; vertical diameter, 6¾ in.; circumference, 11 in. After a few days it became visibly smaller, and then dysphagia, hoarseness, &c., disappeared; by February the horizontal diameter was reduced to 3½ in., and the vertical diameter to 4½ in. The ligature was applied in Sedillot's triangle between the heads of the sterno-mastoid muscle. The journals which describe the case (*Gazzetta degli Ospedali* and *Supplemento al Policlinico*) do not give any particulars of the electrical treatment.

THE PLAGUE IN BOMBAY.

A VERY elaborate and valuable report on the recent epidemic of plague in Bombay has been drawn up by Dr. Khan Bahadur F. H. Choksy, who was in charge of the Arthur Road Hospital in that city. All who are acquainted with the multifarious and harassing duties which devolve on the medical staff of an infectious hospital during the prevalence of an epidemic will appreciate the devotion and zeal which have enabled Dr. Choksy to prepare and collect the materials—clinical, statistical, and pathological—which form the basis of the present work. Plague, as is well known, manifests itself under several different forms, which in this report are comprehended under the following headings:—(1) pestis minor; (2) pestis ambulans; (3) pestis simplex bubonica; (4) pestis septica; (5) pestis pulmonalis; and (6) non-typical forms. The buboes which give the disease its specific name differ considerably in size and extent, and there appears to be little if any connexion between their development and the severity of the general symptoms, for death has ensued when the enlarged glands have scarcely exceeded the size of peas and, on the other hand, favourable attacks have been characterised by greatly swollen glands. Their most usual position is in the femoral and inguinal regions and they generally terminate by suppuration, sometimes accompanied by sloughing; sometimes they undergo resolution without suppuration. The non-bubonic cases ordinarily die with symptoms of pulmonary œdema. The pulmonary variety of plague is the most fatal of the six forms above enumerated; it is for the most part unaccompanied by buboes and the sputum is loaded with plague bacilli. In the course of the bacteriological examinations made at Dr. Choksy's hospital it was found that in many cases of genuine plague there were no plague bacilli to be discovered in the blood. The principal symptoms relied on for diagnosis were: (1) fever; (2) quick, compressible pulse; (3) furred tongue; (4) facies pestica; (5) hesitating, broken speech, sometimes with aphasia; (6) buboes; (7) suffused eyes; and (8) cough, with rusty or hæmorrhagic sputum. Morphia, strychnia, and digitalis were the medicines which seemed to yield the best results; cold sponging was also used when the temperature was high. The patients who recovered generally had a tedious convalescence. The inefficiency of Dr. Yersin's prophylactic serum was shown by the fact that one of the medical officers who had been inoculated with it died from plague three weeks later. The title of Khan Bahadur was conferred upon Dr. Choksy by His Excellency the Viceroy and Governor-General in India on the occasion of the Queen's Jubilee, in recognition of work during the early days of plague in Bombay in 1896–97.

AN UNCHECKED NUISANCE.

It may seem an odd time of the year to complain of the smoke nuisance, but perhaps the bright sunny days of spring make more evident, at any rate in regard to individual offenders, the real offence that is being constantly committed in London. We are quite at a loss to understand why this is permitted, since there is ample provision surely in the Public Health Act to bring such an offence within its meaning. Yet any person walking, say, from the Mansion House to Trafalgar-square who is observant will find his view of the sky on a glorious fine day constantly bemurked and befouled by streams of the most visible and blackest smoke it is possible to generate. Fleet-street and the Strand are perhaps the greatest offenders noticeable and the evil may generally be traced to the kitchens of large restaurants and hotels and in some instances to industrial premises. In the Public Health Act it is enacted that the chimney of any but a private dwelling-house sending forth black smoke in such quantity as to be a nuisance can be dealt with under the section. Are these places private dwelling-houses? In the immediate neighbourhood of The Lancet offices there is ocular demonstration of the nuisance going on every hour of the day. Surely such an intolerable nuisance and source of injury to health can be prevented by law. It is sad enough to know that there is no prospect of a Street Noises Bill becoming law or of any certainty of the better cleansing of our streets being enforced, but surely pressure might be brought to bear upon the class of offenders just indicated without resorting to new legislation.

FRENCH ENTERPRISE IN CHINA.

The expedition which was despatched three years ago into the southern and western provinces of China by the Lyons Chamber of Commerce returned to France a short time since and the chief medical officer, Dr. Deblenne, of the French Navy, has written a long report which has not yet been made public but of which an abstract nevertheless appears in the *Lyon Médical* of Jan. 9th, 1898. The first point deducible from Dr. Deblenne's narrative has reference to the health of the travellers, which, notwithstanding the excessive fatigue they experienced, the enormous variations of temperature they endured, the change of food, and the debilitating effects of the climate, underwent no serious deterioration. This, says our contemporary, is a highly instructive and interesting fact. It seems clear that the visited districts are far more salubrious than Tonkin. Provided the ordinary rules of hygiene are observed travellers will be able to explore these regions without suffering as soon as the railway which is to follow the valley of the Red River shall have created the necessary means of access. According to Dr. Deblenne, the climate of the tablelands to the south of Yun-Nan would prove favourable to the acclimatisation of Europeans, and would even admit of their engaging in manual labour during the greater part of the year. As for the neighbouring province on the north, which bears the name of Se-Tchouan, it is divisible into two distinct portions, the western part being elevated and healthy, while the low-lying districts are hot and damp during the summer and foggy in winter. Dr. Deblenne furnishes some curious and interesting information regarding several medicinal plants which are apparently new to western pharmacology. One species, which is popularly believed to be able "to regenerate the blood," is so valuable that its cultivators are compelled to adopt extraordinary precautions during its period of growth in order to protect it from thieves. Another plant is employed "for dispersing tumours," and it is also said to quench thirst while at the same time acting as a diuretic. A third is "full of virtue against pulmonary ulcerations." Dr. Deblenne is quite convinced that useful drugs are to be obtained by a careful examination of the Chinese materia medica. Apothecaries are evidently a flourishing community in the Flowery Land. In the province of Se-Tchouan, which is one of the richest and most populous of the whole empire, the trade in drugs ranks second at the custom-house, being surpassed by the traffic in opium alone and yielding more revenue than silk. The Chinese are very fond of dosing themselves and of late there has grown a demand for European medicaments among the more enlightened classes.

XEROSTOMIA.

Cases of xerostomia, or "dry mouth," are so rare that every one is of interest. In the *American Journal of Medical Sciences* of March Dr. Thomas Harris of Manchester has published the following case. A woman, aged thirty-one years, had been troubled with dryness of the mouth for three years which followed a slight febrile attack believed to be influenza and was accompanied by swellings behind the angles of the jaw. The tongue was absolutely dry and fissured; the gums and cheeks were dry, but the soft palate though dryish presented a little sticky mucus. There was very perceptible enlargement of both parotid glands but not of the sublingual or submaxillary glands. Drugs (as usual) proved useless; faradaism and massage of the parotids appeared to give temporary relief, but so little that the patient discontinued the treatment. Nearly all the cases of xerostomia have occurred in the female sex and in persons of advanced years. Dr. Harris's patient was therefore exceptionally young. The enlargement of the parotids also is unusual though not without precedent. The pathology of the disease is at present a difficult problem. The view of Mr. Hutchinson, who first described the complaint, is that it is of nervous origin. The influence of the nervous system on the salivary as well as other secretions is well known. Though no doubt correct so far, this explanation requires elucidation. The cause and nature of the nervous derangement are not known. Why the parotid and not any other gland should in some cases be enlarged is obscure. Dr. Harris compares this enlargement specially affecting the parotid glands with the parotitis which Mr. Stephen Paget has shown to be connected with injuries and diseases of the abdomen and pelvis and in some way due to reflex nervous action. Dr. Harris, therefore, very properly concludes that the parotid enlargements in xerostomia are probably produced by the same nervous derangement which caused the arrest of salivary secretion. A remarkable fact, to which Mr. Hutchinson has called attention, is that the failure of salivary secretion does not appear to prejudice the patients' digestion; it simply causes loss of taste and of enjoyment in eating.

"THE CRY OF THE CHILDREN."

INSTITUTIONS for the care of sick and suffering children must always command the sympathy of the public, and when we consider the mortality which prevails among those of tender years the practical need for such institutions becomes obvious. The diseases of children differ very little perhaps from those of adults, but they are often more difficult to understand and the bringing together of a large number of cases in one institution must work for the advantage both of the rich and the poor. At the present moment one of the largest and oldest of children's hospitals, that of Great Ormond-street, is in need of help in consequence of a forced outlay which the hospital could ill afford. The committee have been compelled to buy property adjoining the hospital in order to prevent their neighbours from building on it, a proceeding which would have greatly affected the healthiness of the hospital. This purchase, which has given a garden of nearly half an acre for the use of the sick children besides a building for housing the nurses, a problem which the hospital has hitherto been unable to successfully solve, has been made at a cost of £30,000, £10,000 of which are required on taking over possession. For the purpose of raising this last-named sum a dinner, at which the Bishop of London will preside, is to be held at the Hôtel Métropole on Thursday, April 28th, and we cannot but believe that the £10,000 will be forthcoming. As the Bishop of London points out in a letter to the press: "£10,000 is only 20,000 half-sovereigns after all, and there must be in this vast city 20,000 men and women to whom a sick and suffering child is more than the price of a stall at a theatre." But such a charity as the Hospital for Sick Children, Great Ormond-street, appeals so widely to all classes that we feel that attention need only be drawn to the fact that the hospital requires £30,000 to cause that sum to flow into the treasury.

THE NEW DIRECTOR-GENERAL OF THE NAVAL MEDICAL SERVICE.

WE congratulate Sir Henry F. Norbury, K.C.B., on his being promoted to his present post and we wish him every success in the discharge of his new duties. The Director-General brings with him an excellent reputation and a long and varied experience. His appointment is a popular one with the officers of his own service and, what is more to the point perhaps, we are glad to add, very deservedly so. He entered the Naval Medical Service in 1860 and after passing through its different ranks was promoted an Inspector-General of Hospitals and Fleets in November, 1894, and was made a K.C.B. on June 22nd, 1897. Sir Henry Norbury's service record is a good one, as will be seen by the following. He served as staff surgeon of the *Active* and was landed in medical charge of her naval brigade during the Kaffir War of 1877-78, and was mentioned in despatches and strongly recommended for promotion; served in the Transkei as senior medical officer of six different columns of troops and was present in numerous skirmishes, in the action at the Quorra River and at the battle of Quintana; was in medical charge of the naval brigade of the *Active* during the Zulu War, 1879; was principal medical officer of Colonel Pearson's column, being present at the battle of Inyezane, Jan. 22nd, 1879, and at the relief of the garrison of Ekowe, and was several times mentioned in despatches. He afterwards joined General Crealock's column as Principal Medical Officer of the entire Naval Brigade and advanced to Port Durnford; was twice mentioned in despatches, and promoted (Zulu medal and three clasps); C.B., Nov. 27th, 1879; Sir G. Blane's gold medallist, 1879. With such a record Sir Henry Norbury may at any rate fairly claim to know the requirements of the Service over which he has been called upon to preside and to be intimately acquainted with the duties, traditions, and feelings of its members.

AT a meeting of the Council of Bedford College, held on March 22nd, Mr. A. Bernard Cook, M.A., Fellow of Trinity College, Cambridge, was appointed to the Professorship of Ancient History; and Mr. H. W. Marett Tims, M.D. Edin., Lecturer on Biology and Comparative Anatomy at the Westminster Hospital Medical School, to the Professorship of Zoology, vice Professor W. B. Benham, D.Sc.

THE new Lunacy Bill, which was introduced into the House of Lords by the Lord Chancellor on March 25th, has now been printed. It provides for several interesting alterations in the existing law upon which we shall comment shortly.

THE paper which was announced to be read by Dr. W. J. Simpson on April 15th, before the Epidemiological Society of London, has been unavoidably postponed. There will therefore be no April meeting of the society.

THE General Medical Council have obtained a rule *nisi* for a *mandamus* calling upon the magistrate to show cause why he does not order William Maunsell Collins to abstain from using a title implying qualification to practise.

MR. HOPE MORLEY, the treasurer of the Royal Hospital for Diseases of the Chest, City-road, E.C., has contributed £500 to the Festival Dinner Fund.

THE INDIAN FRONTIER WAR.

THE campaign against the Indian border tribes may now be regarded as practically over. Before the tale becomes a closed book, however, and official terms used in regard to it are forgotten, as they soon will be, it seems fitting that as far as its medical history is concerned some of the facts connected with that expedition should be gathered together and placed on permanent record. We have striven to supply very briefly such information from time to time as would keep our readers *au courant* with the progress of the campaign; but the profession in this country will be interested in what their military *confrères* have gone through and with regard to how they have comported themselves on that remote frontier. A bare recital even of the facts may prove useful, moreover, for future guidance as to the hospital and medical requirements of frontier warfare on a large scale.

The Commander-in-Chief in India, Sir George White, in submitting General Sir William Lockhart's despatches describing the operations of the Tirah Expeditionary Force from Nov. 1st, 1897, to Jan. 26th, 1898, for the information of the Government of India, says: "No campaign on the frontiers of India has been conducted under more trying and arduous circumstances than those encountered by the Tirah Expeditionary Force. Its operations have been carried out in a country destitute of roads, the physical configuration of which is such as to present the maximum of difficulty to the movement of regular troops. The enemy were for the most part skilled marksmen, exceptionally active and well armed, and expert in guerilla tactics. While avoiding serious resistance to the advance of our troops they have lost no opportunity of harassing both on the march and in bivouac, a system of fighting admirably suited to the nature of the country and which has necessarily occasioned us considerable loss not only in action but also from toil and exposure."

We have already alluded to the great demands[1] which these operations made upon the medical direction, foresight, and administration of the army at headquarters and of the highly satisfactory way in which the onerous and responsible duties were carried out by Surgeon-Major-General Gore, the principal medical officer of Her Majesty's forces in India. These, it will be remembered, were specially referred to in the despatch of Sir George White, who added that "the results obtained in the treatment of the sick, and especially in surgical cases of wounds, have been most satisfactory." As regards the medical officers serving in the field General Sir William Lockhart states that they "fully maintained their high reputation by their attention to the sick and wounded under fire and in hospital. The hospital arrangements were generally excellent."

The following expeditions were organised and mobilised on the North-west frontier of India between June 28th and Oct. 19th, 1897:—Tochi, June 28th; Malakand, Aug. 8th; Kohat-Kurrum, Aug. 30th; Mohmund, Sept. 13th; Tirah expeditionary force, Oct. 11th; Kurrum moveable column, Oct. 19th; line of communication troops, Oct. 19th; reserve brigade, Oct. 26th; Peshawar supporting forces, Oct. 26th. There were in all these 68 581 British and native troops engaged, with 57,000 native followers. The *base* general hospitals (native and European) were mobilised at Kohat, Rawal Pindi and Nowshera, with rest depôts at Peshawar and other stations. These were capable of accommodating in all upwards of 3000 sick and wounded. The total *field* hospital accommodation provided for the troops and followers was at the rate of 12 per cent. On this basis there were 6526 available beds, including 36½ field hospitals. On Dec. 20th, 1897, the number of patients in hospital was at its highest and amounted to 11·16 per cent.

Sir William Lockhart, commanding the Tirah Expeditionary Force, makes the following mention of medical officers in his despatches:—

> Surgeon-Major-General G. Thompson, C.B., Indian Medical Service, has been my Principal Medical Officer in the field and I desire to express my indebtedness to him and to the other officers of the department of which he has been in charge for the high state of efficiency in which it has been maintained often under very unfavourable conditions.
>
> The Principal Medical Officer of the Force speaks in high terms of his Secretary, Surgeon-Major W. A. Morris, Army Medical Staff.
>
> In the following list I include the names of the undermentioned officers whose good services came under my personal notice:—
>
> *Army and Personal Staff.*
>
> Surgeon-Captain J. C. Morgan, Army Medical Staff, Surgeon at Headquarters.
>
> 1st Division.
>
> *Staff.*
>
> Surgeon-Colonel R. Townsend, Army Medical Staff, Principal Medical Officer.
>
> 2nd Division.
>
> *Staff.*
>
> Surgeon-Colonel G. McB. Davis, D.S.O., Indian Medical Service, Principal Medical Officer.
>
> Line of Communication.
>
> Surgeon-Colonel W. E. Saunders, Army Medical Staff, Principal Medical Officer.
> Surgeon-Lieutenant-Colonel H. Hamilton, Indian Medical Service.
> Surgeon-Major S. F. Bigger, Indian Medical Service.
>
> 1st Division.
>
> *Regimental.*
>
> *Army Medical Staff.*
>
> Brigade-Surgeon-Lieutenant-Colonel C. H. Swayne.
> Brigade-Surgeon-Lieutenant-Colonel J. King.
> Surgeon-Major H. B. Briggs.
> Surgeon-Major T. M. Corker.
>
> 2nd Division.
>
> *Army Medical Staff.*
>
> Surgeon-Major H. R. Whitehead.
> Surgeon-Major W. C. Beevor.
> Surgeon Captain J. J. Gerrard.
>
> *Indian Medical Service.*
>
> Surgeon-Major J. Shearer.
>
> *4th Brigade.*
>
> *Army Medical Staff.*
>
> Surgeon-Lieutenant-Colonel G. O. Bourke. Surgeon-Captain C. H. Burtchaell.
>
> *Indian Medical Service.*
>
> Surgeon-Major T. Grainger.
> Surgeon-Captain W. Selby.
>
> Kurrum Moveable Column.
>
> Brigade-Surgeon-Lieutenant-Colonel W. R. Murphy, D.S.O., Indian Medical Service, Principal Medical Officer.
> Surgeon-Major C. F. Willis, Indian Medical Service.
>
> The following honorary commissioned, warrant, and non-commissioned officers have been specially recommended by General Officers and heads of departments:—
>
> *Medical Service.*
>
> First-class Assistant Surgeon D. F. O'Connor.
> Second-class Assistant Surgeon W. C. M. Charters.
> Third-class Assistant Surgeon W. G. St. John Hussey.

The following is a complete list of the *Medical Roll of Honour*—i.e., the names of medical officers mentioned in despatches from the front from the commencement to the close of the North-west disturbances in India.

Tochi Field Force.

Surgeon-Colonel R. H. Carew, D.S.O.
Surgeon-Lieutenant-Colonel W. A. Summonds.
Surgeon-Major H. C. Hudson.
Surgeon-Captain L. P. Mumby.
Surgeon-Captain C. C. Cossidy.
Surgeon-Captain F. R. Ozzard.

Malakand Field Force.

Surgeon-Colonel J. C. G. Carmichael.
Brigade-Surgeon-Lieutenant-Colonel F. A. Smyth.
Brigade-Surgeon-Lieutenant-Colonel A. S. Reid.
Brigade-Surgeon-Lieutenant-Colonel J. King.
Surgeon-Lieutenant-Colonel J. T. B. Bookey.
Surgeon-Lieutenant-Colonel Z. A. Ahmed.
Surgeon-Lieutenant-Colonel P. F. O'Connor.
Surgeon-Major C. R. Tyrrell.
Surgeon-Major S. Hossan.
Surgeon-Captain H. J. M. Buist.
Surgeon-Captain J. Fisher.
Surgeon-Captain T. A. O. Langston.
Surgeon-Captain H. F. Whitchurch.
Surgeon-Lieutenant J. Hugo.
Surgeon-Lieutenant W. Carr.
Surgeon-Lieutenant E. L. Perry.

Kurrum-Kohat Force.

Brigade-Surgeon-Lieutenant-Colonel W. R. Murphy, D.S.O.
Surgeon-Captain W. G. Beyts.
Surgeon-Captain C. B. Prall.
Surgeon-Captain H. Bamfield.

Mohmund Field Force.

Surgeon-Colonel R. Townsend.
Surgeon-Lieutenant-Colonel J. FitzWilliamson.
Surgeon-Captain J. B. Jameson.

Shabkadr.

Surgeon-Captain T. H. J. C. Goodwyn.

Buner Field Force.

Surgeon-Colonel J. C. G. Carmichael.
Surgeon-Major C. W. Johnson.
Surgeon-Major W. A. Sykes.

Tirah Expeditionary Force.

Surgeon-Major-General G. Thomson, C.B.
Surgeon-Colonel R. Townsend.
Surgeon-Colonel G. McB. Davies, D.S.O.
Surgeon-Colonel W. E. Saunders.
Brigade-Surgeon-Lieutenant-Colonel C. H. Swayne.
Brigade-Surgeon-Lieutenant-Colonel J. King.
Brigade-Surgeon-Lieutenant-Colonel W. R. Murphy, D.S.O.
Surgeon-Lieutenant-Colonel G. D. Bourke.
Surgeon-Lieutenant-Colonel H. Hamilton.
Surgeon-Major W. A. Morris.
Surgeon-Major H. R. Whitehead.
Surgeon-Major W. C. Beevor.
Surgeon-Major J. Shearer.
Surgeon-Major H. B. Briggs.
Surgeon-Major T. M. Corker.
Surgeon-Major T. Grainger.
Surgeon-Major S. F. Bigger.
Surgeon-Major C. F. Willis.
Surgeon-Captain J. C. Morgan.
Surgeon-Captain J. J. Gerrard.
Surgeon-Captain C. H. Burtchaell.
Surgeon-Captain W. Selby.

THE OUTBREAK OF TYPHUS FEVER AT NOTTING-HILL.

In his monthly report on the health of Kensington presented to the Kensington vestry on Wednesday last Dr. Orme Dudfield, the medical officer of health, gives a detailed account of the limited outbreak of typhus fever which has recently occurred in that parish. In all 14 persons were attacked, of whom 3 unfortunately died, including a young medical man (Mr. Albert Davis) who had attended some of the patients. There has been no death from typhus fever in Kensington since 1883, although in 1892 there were three cases of the disease which had been imported from Brentford. Definite knowledge of the present outbreak was first gained by Dr. Dudfield on March 21st through a communication from Mr. R. M. Bruce, medical superintendent of the Western Hospital, to the effect that Mr. Albert Davis, admitted on the 15th, and Mr. W. F——, an undertaker, admitted on the 19th—both of whom were at first thought to be suffering from enteric fever—were in his (Mr. Bruce's) opinion suffering from typhus fever. The same day Dr. Dudfield was notified by Dr. Potter, medical superintendent of the parish infirmary, of three cases of typhus fever—a man and his wife and child—who had been removed from Flat 19, Western Buildings, Ladbroke-grove, as cases of "influenza." They were at once transferred to the South-Eastern Hospital. On referring to the weekly returns of deaths Dr. Dudfield found that at Flat 20, Western Buildings, a woman had died on Feb. 27th, her death being certified by Mr. Davis as "influenza (12 days), pneumonia (8 days)." A visit to these dwellings in company with Dr. Ensor (whose assistant Mr. Davis was) showed Dr. Dudfield that the two flats were on the same floor and closely contiguous, and inquiry proved that typhus fever had been present unrecognised in Flat 20 since Christmas. This flat, consisting of two rooms and a scullery, was then occupied by a family of eight persons, the father sleeping in the dwelling-room, the rest (mother and six children of ages from twenty to four years) sleeping in the bedroom, which would thus only allow of a cubic space for each of about 135 cubic feet. The atmosphere of the room was notoriously close and offensive and the conditions were just those which would favour typhus fever. One member of the family after another was attacked, the illnesses being in most cases regarded as "influenza." The first to fall ill was the father, T—— B——, aged forty-three years, who became unwell about Christmas Day. 1897, and who remained in a feeble condition until Jan. 22nd, 1898, when he was sent to a convalescent home. About this date his daughter, K—— B——, aged eight years, fell ill, and on Feb. 1st she was found to be suffering from pneumonia. The mother, K—— B——, aged forty-two years, was taken ill on Feb. 16th, her illness presenting symptoms like influenza; it ended fatally on the 27th as above stated. Three children, whose ages were eleven, six, and four years respectively, were ill about the same time. The eldest son, J—— B——, twenty years of age, sickened on March 12th and was removed to the infirmary on the 14th; he had a diffuse mottled rash, followed by purpuric spots, became delirious and comatose, and died on the 21st, his case being first regarded as one of "suppressed measles," but later as possibly "typhus." E—— B——, aged eighteen years, attacked about the same time, was also removed to the infirmary and was for three days in a comatose state, but she recovered. The last member of this family to fall ill was J—— B——, seventeen years of age, who was in service at Kilburn. She had attended her mother's funeral and had visited her brother and sister at the infirmary. She fell ill on March 18th and went home on the 20th; she was seen by Dr. Ensor and Dr. Dudfield on the 21st and her case being recognised as typhus fever she was sent to the South-Eastern Hospital. Mr. Albert Davis, aged thirty-three years, who had attended Mrs. B—— and her children, was attacked on March 9th, but he kept at duty till the 11th. On the 14th a suspicious, somewhat measly rash was noted, and on the 15th he was sent to the Western Hospital, but it was not until the 21st that it became certain that he was suffering from typhus fever. The pyrexia ranged between 105° and 103° F., and there was marked prostration and nervous depression with delirium, whilst the rash became petechial. He died on the 25th. Mr. W. F——, aged thirty years, an undertaker who assisted in coffining Mrs. B—— on March 1st, fell ill on the 10th, was delirious on the 17th, rash appearing on the 18th. He was removed to the Western Hospital on the 19th and in due course the rash became petechial, whilst the fever was marked by much nervous disturbance. He is now convalescing. Lastly, the family of three who occupied Flat 19 were attacked from March 15th to the 17th, the child, aged two years, first, the parents on the following day. They were all removed to the infirmary on the 21st and on the 22nd presented the well-marked features of typhus fever. No other ases have occurred since, so it may be hoped that the outbreak is at an end. Dr. Dudfield adds some judicious remarks upon the difficulties of diagnosing typhus fever, the rarity of which at the present day as compared with the comparatively common occurrence of influenza suffices to account or the erroneous diagnosis made in most of these cases in he first instance. He observes:—"Few doctors probably ave seen the disease; last year only four cases were notified n London, a smaller proportion than one in a million of the opulation, and there was one death only attributed to this ause out of a total of 81,000 deaths. It deserves mention that once the true nature of the disease in the recent outreak had been recognised, the doctors generally with raiseworthy candour recognised the mistakes and accepted without hesitation the correct diagnosis." He also comments n the satisfactory fact that the disease did not spread eyond those most directly exposed to the contagion—an immunity which he attributes to the generally improved conditions of the life of the people. The outbreak is a most instructive one and the manner in which its history has been fully traced reflects great credit upon Dr. Dudfield and his coadjutors.

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[1] The Lancet, March 12th and April 2nd, 1898, pp. 744 and 953.

THE BATTLE OF THE CLUBS.[1]

THE MANCHESTER GUILD AND THE NATIONAL DEPOSIT FRIENDLY SOCIETY.

SINCE our issue of Feb. 19th we have received a number of communications with reference to the above subject. One of our correspondents points out to us with regard to our condemnation of the society for, among other things, having no wage limit, that "if any one pays in for a higher rate of insurance than the minimum then the fees to the doctor are proportionately higher." This is quite true, and if our correspondent will refer to our issue of Jan. 1st, 1898, he will find that we mentioned this point as something in the society's favour, but we also said that there was nothing to prevent any one however well off from joining at the minimum rate and getting medical attendance for 2*s.* 6*d.* per annum. The following are the main features of Mr. R. H. Wolstenholme's article, to which we referred in our issue of Feb. 19th, 1898, p. 532. The society was founded in 1868 and registered according to Act of Parliament in 1872, and as affects the medical profession the chief features of its regulations are as follows:—

1. Any person between the ages of thirteen and fifty-five years, of whatever station in life and of whatever income, may join.

2. All persons desirous of joining must pass a medical examination. This includes a certificate, "That I have carefully examined —— and read the answers on the other side and am of opinion that —— should be classified as in —— health." This certificate requires a consideration of the man's family history, his past and present state of health, the dangerous or relatively dangerous nature of his trade or occupation, and a general consideration of his mode of life and habits. The fee for this examination and certificate is 1*s.*

3. All persons on joining must declare what amount of daily sick pay they wish to insure for. This cannot be more than 10*s.* per day, nor can a member insure for *more* sick pay per day than his daily income is, but he can insure for *less* and so obtain medical benefit at the "trade list" price even if he be a millionaire.

4. A certain proportion of the sick and medical pay is taken out of the money the member has *on deposit*. This is the central point of the scheme. It prevents "malingering" and it offers the patient a direct temptation of getting back to business again whether the doctor considers him fit or not. In fact it takes the "control" of the case out of the hands of the practitioner altogether. If the illness is a long one and the "deposit" is exhausted the member may "by grace" continue to receive half sick pay for a further time but the society ceases to be responsible for the doctor's fees although it has succeeded in lowering and fixing them.

5. There is no "club doctor" appointed, but any registered practitioner may attend provided he is willing to accept the scheduled list of charges, which charges include all club certificates, attendance, and medicines.

This list may be arranged as follows:—

	£	*s.*	*d.*
One visit for all distances under three miles, with medicine for two days	0	2	6
Intermediate visits in dangerous cases, per visit ...	0	1	0
Consultations at surgery and medicine for two days ...	0	1	6
Medicine, fresh supply for two days	0	1	0
Mileage for distances over three miles, per mile ...	0	0	6
Members assured for more than 5*s.* per day sick pay for every 1*s.* sick pay over 5*s.*, extra per visit	0	0	6
SURGICAL CASES.			
All the major operations, each	5	0	0
Removal of cancerous or other tumours of magnitude...	3	0	0
Removal of small tumours	0	10	6

The charges to include apparatus, splints, medicine, and attendance for one month—if the patient die within thirty-six hours the fee to be reduced one-half.

There is no wage or income limit whatever, the only discrimination so far as the medical practitioner's charges are concerned is between those who are assured for 5*s.* a day sick pay and less and those who are assured for more than 5*s.* per day sick pay, but not exceeding 10*s.* per day. Thus a man whose income might be £1000 per year might for the purpose of getting "cheap doctoring" join this society, and if he only assured himself for 5*s.* per day sick pay his medical charges would have to be made out according to the above list.

Any practitioner may figure out for himself how this beautiful example of "thrift" would affect his own practice.

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[1] A reprint of the previous articles on the above subject has been published in book form entitled, "The Battle of the Clubs," and can be obtained from THE LANCET Office, price 1s.

if "universalised," and before connecting himself with this society Mr. Wolstenholme advised him to remember the boast of the general secretary that "the average medical pay per member only amounted to 2*s*. 0¼*d*. per annum, against 4*s*. per annum in many societies."

It must be remembered that the society declines to pay for the "results of profligacy and drunkenness," either of which elements enters, or might be taken to enter, into a very large proportion of cases of illness and the medical officer has the duty of reporting the cause of the illness. We are sure that Mr. Wolstenholme's criticisms—or rather statements—taken in conjunction with our own remarks in our issues of Dec. 11th, 1897, Jan. 1st, 1898, and Feb. 19th, 1898, will convince anybody that the attitude of the Manchester Medical Guild towards the National Deposit Friendly Society was perfectly justified.

The Walsall Medical Society.

We have received a letter from a correspondent detailing certain occurrences in connexion with this society and enclosing a copy of a letter which a member of the Walsall Medical Society is said to have addressed to the secretaries of sundry friendly societies. The letter in question is certainly not one which should have been written, but we cannot advise our correspondent as to any action which might be taken in the matter.

Provident Dispensaries in Manchester.

At a meeting of the Manchester and Salford Provident Dispensaries Association held on March 15th a proposal was made that any district dispensary might increase the charge for a prescription from one penny to twopence. Mr. Broadbent and Dr. Gallard opposed this resolution on the grounds that by raising the fees they would eliminate the poorer members who would apply for relief and confine the benefits of the association to those who were really able to pay the ordinary fees of a medical man. The resolution was passed and Mr. Broadbent thereupon intimated that he had done with the association. The chairman said that any person, medical officer or not, could complain if they thought that anyone who was not entitled to do so was receiving aid from the association. Thereupon the case would be investigated by an independent authority. He denied that the association was abused in the manner suggested by Mr. Broadbent.

The Friendly Societies' Medical Institute at Great Yarmouth.

The first annual meeting of the managing committee of the Great Yarmouth Medical Institute was held on March 25th at the Friendly Societies' Hall. The secretary reported that the "steps taken by the several societies to establish a medical institute have proved a complete success." He also stated: "We shall be no doubt some time before we are free of debt." There were 22,885 attendances at the institute, 18,244 prescriptions had been dispensed, and 8919 visits had been paid by the medical staff, which apparently numbers two practitioners. The balance-sheet, according to the report in the *Eastern Daily Press* is as follows:—Assets: cost of alterations and fittings, £163 1*s*. 9*d*.; furniture, gas, electric light, &c., £94 9*s*. 1*d*.; drugs, surgical instruments, dispensary requisites, &c., £101 19*s*. 6*d*.; cash to balance at bank, £10 0*s*. 1*d*; cash debit balance, £153 12*s*. 1*d*; total, £523 2*s* 6*d*. Liabilities: due to Messrs. Barclay and Co., £300; loans, £160; due to tradesmen, £38 2*s* 6*d*.; due to treasurer's and secretary's salaries, £25; total, £523 2*s*. 6*d*. As far as we can see the medical officers and the dispenser get nothing at all and sundry other people are owed a good deal. The balance-sheet does not seem financially satisfactory.

CHELTENHAM GENERAL HOSPITAL.—The annual meeting of this hospital was held on March 16th under the presidency of Colonel Croker-King. The financial statement showed that the receipts for 1897 were £5015 and that the expenditure amounted to £5852, which was increased to £6558 by the expenses of the branch dispensary. There were 904 admissions of in-patients and 8749 out-patients were attended, being an increase of 232 over the previous year.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL INSPECTORS OF THE LOCAL GOVERNMENT BOARD.

Upon the Occurrence of Certain Cases of Enteric Fever in Six Sanitary Districts of Essex and Suffolk and upon Oysters in relation thereto,[1] by Dr. G. S. BUCHANAN.—This inquiry was ordered by the Local Government Board as a result of a report received from Dr. J. W. Cook, medical officer of health of certain urban and rural districts in East Essex. Dr. Cook entertained suspicions "that enteric fever recently occurring among a number of persons resident within the area under his charge had resulted from eating oysters brought into his district from outside sources. Also Dr. Cook stated in regard of certain other recent sufferers by enteric fever not resident in his district that allegation had been made as to their having become infected similarly by eating oysters partaken of within one of the districts for which he acts as medical officer of health. In all the above instances in which oysters had been under suspicion of having caused enteric fever, these shellfish had come, so far as Dr. Cook had been able to ascertain, from Brightlingsea, an urban district outside the area for which Dr. Cook is medical officer of health." The matter thus involved an inquiry over an extensive area. The places in which fever cases were investigated were comprised in six districts—namely, Clacton-on-Sea, Walton-on-the-Naze, Haverhill, Braintree, Lexden and Winstree, and Tendring. In all, 26 cases were inquired into. Dr. Buchanan's procedure was in each instance to make certain of the accuracy of diagnosis, of the date of onset of illness, of the facts and dates as regards oyster eating, and lastly of the "conditions, *irrespective altogether of oysters*, to which the sufferer had been subjected antecedent to attack and which could be thought of as possibly concerned with the causation of his fever." All 26 cases were ascertained to have in fact suffered from enteric fever and all had consumed oysters shortly before the onset of illness. Space does not permit an account of the circumstantial evidence obtained in each case. We may, however, briefly refer to the history of an excursion of some 250 young people from Haverhill, a town eighteen miles from Cambridge, to Clacton-on-Sea on Aug. 23rd. Between Sept. 7th and 10th no fewer than 9 of these excursionists were attacked by enteric fever. No cases occurred in Haverhill among persons who had not been on the excursion and this town had during July and August been altogether free from the disease. As the evidence was thus unmistakeable that infection had in these cases been contracted on the day of the excursion, articles of food and drink consumed on that occasion by the sufferers were inquired into in detail. All the 9 patients were found to have eaten oysters, but as far as could be ascertained they had partaken of no other article of food or drink in common. 8 of the 9 had, however, eaten ice-cream. But in Braintree, in Essex (where there had been no cases of enteric fever since the beginning of the year), 2 persons, who also had made a day's visit to Clacton-on-Sea on the date in question, Aug. 23rd, fell ill with enteric fever on Sept. 6th. Neither of these persons had eaten ice-cream at Clacton-on-Sea, while both had eaten oysters there. In the course of a summary of this part of the inquiry Dr. Buchanan states the facts obtained in this wise:—"Among inhabitants of, and visitors from certain districts to, the limited area comprising the town of Clacton-on-Sea, Walton-on-the-Naze, and the parish of St. Osyth, the total of persons heard of as having been attacked by enteric fever during the months in question (i.e., June 1st to Oct. 31st) was 26. All these 26 persons had consumed oysters, in each instance about a fortnight before the onset of illness—on one of the few days, that is, on which, at the ordinary reckoning of the incubation period of enteric fever, they must be thought to have received their infection." In view of the fact that a not inconsiderable proportion of the population in question may be considered to be addicted to oyster-eating the possibility that this circumstance was due to a mere series of coincidences requires to be discussed. But if so a remarkable coincidence must have occurred in 100 per cent. of cases. "It was, indeed, manifest," Dr. Buchanan states, "that I could find no warrant for invoking such an extraordinary freak of chance in explanation unless I were in position to show that some agency or agencies of infection other than oysters had with great likelihood operated to produce all, or at least a majority, of the 26 cases in question." Evidence of the operation of agencies of infection other than oysters proved, however, in every case to be entirely negative, and the conclusion is therefore drawn that "apart from any question of the origin of the particular oysters implicated, or their history prior to reaching the persons consuming them, the facts appeared to afford very definite indication that in these 26 cases oysters had operated as the agency of infection." The second section of the report is a record of inquiries of retail oyster-vendors and middlemen with a view to tracing the implicated oysters to wholesale merchants. In at least 25 of the cases it transpired that the shellfish in question had come from Brightlingsea, while in 21 instances they could be traced to particular oyster-merchants who own layings in Brightlingsea Creek. The third section describes the oyster-layings in this creek and their liability to pollution by sewage. We learn here that matters have not amended since Dr. Bulstrode in 1895 demonstrated the risk to which oysters laid on the Brightlingsea foreshore are liable. The position of the various layings in relation to the outfalls of the Brightlingsea sewers, which without any preliminary treatment discharge their contents into the tidal water of the creek, is illustrated by a map which itself is enough to indicate the risk involved by the present state of affairs. The next step was inquiry as to the particular oyster-merchants believed to have supplied implicated oysters. Dr. Buchanan then found that in all but one doubtful instance oysters supplied by these merchants came from one or other of two layings situated on a part of the foreshore conspicuously exposed to sewage pollution. Finally, inquiries made as to the existence of enteric fever in Brightlingsea during the period in question left "no doubt that from time o time between April and November Brightlingsea sewage contained admixture of infectious matter derived from enteric fever patients." Dr. Buchanan discusses with caution the likelihood that from time to time during the period in question persons other than those whose cases he investigated had swallowed infectious Brightlingsea oysters, and o had been exposed to definite risk of contracting enteric ever. He finds some grounds for inference that such has actually been the case.

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[1] London: Eyre and Spottiswoode, East Harding-street. Edinburgh: John Menzies and Co. Dublin: Hodges, Figgis, and Co. 1898. Price 9*d*.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6998 births nd 4635 deaths were registered during the week ending pril 2nd. The annual rate of mortality in these towns, which had been 21·8 and 20·2 per 1000 in the two preceding weeks, rose again last week to 21·5. In London the rate was 21·8 per 1000, while it averaged 21·4 in the thirty-wo provincial towns. The lowest rates in these towns were 14·7 in West Ham, 15·3 in Huddersfield, 15·5 in Croydon, nd 15·6 in Gateshead; the highest rates were 24·4 in Leeds, 4·9 in Birkenhead, 25·6 in Swansea, and 30·7 in Liverpool. The 4635 deaths included 538 which were referred to the rincipal zymotic diseases, against 555 and 550 in the two preceding weeks; of these, 226 resulted from measles, 126 from whooping-cough, 64 from diphtheria, 49 from scarlet fever, 39 rom diarrhœa, and 34 from "fever" (principally enteric). No death from any of these diseases was recorded last week in Blackburn; in the other towns they caused the owest death-rates in Preston, Nottingham, Portsmouth, nd Cardiff, and the highest rates in Newcastle-upon-Tyne, ristol, Leicester, and Brighton. The greatest mortality om measles occurred in Newcastle-upon-Tyne, Swansea, alifax, Leicester, Bristol, and Brighton; from scarlet fever n Birkenhead; and from whooping-cough in Plymouth and alford. The mortality from "fever" showed no marked xcess in any of the large towns. The 64 deaths from iphtheria included 45 in London, 4 in Birmingham, 3 in eicester, and 3 in Sheffield. No fatal case of small-pox as registered during the week under notice either in ondon or in any other of the large towns; and no small-pox patients were under treatment in the Metropolitan Asylums Hospitals on Saturday last, April 2nd. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2377, against 2445, 2419, and 2371 on the three preceding Saturdays; 239 new cases were admitted during the week, against 197, 255, and 191 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 430 and 402 in the two preceding weeks, rose again to 451 last week, and were 39 above the corrected average. The causes of 53, or 1·1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Cardiff, Oldham, Sunderland, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Bradford, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24·1 and 22·9 per 1000 in the two preceding weeks, rose again to 24·2 during the week ending April 2nd, and was 2·7 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 15·3 in Greenock and 20 0 in Aberdeen to 26·2 in Paisley, and 30·6 in Perth. The 729 deaths in these towns included 23 which were referred to measles, 21 to whooping-cough, 17 to diarrhœa, 12 to scarlet fever, 5 to "fever" (principally enteric) and 4 to diphtheria. In all, 82 deaths resulted from these principal zymotic diseases, against 74 and 73 in the two preceding weeks. These 82 deaths were equal to an annual rate of 2·7 per 1000, which was slightly above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 17 and 25 in the two preceding weeks, declined again to 23 last week, of which 20 occurred in Glasgow and 3 in Edinburgh. The 21 deaths referred to whooping-cough were within 4 of the number recorded in the preceding week and included 14 in Glasgow. The fatal cases of scarlet fever, which had been 10 and 7 in the two preceding weeks, rose again to 12 last week, of which 8 occurred in Glasgow, where 4 of the 5 deaths referred to "fever" were also registered. The fatal cases of diphtheria, which had declined from 7 to 3 in the three preceding weeks, were 4 last week, of which 2 occurred in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 161 and 175 in the two preceding weeks, further rose to 178 last week, and were 32 above the number in the corresponding period of last year. The causes of 52, or more than 7 per cent., of the deaths in the thirty-three towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had declined from 37· to 29·5 per 1000 in the three preceding weeks, rose again to 35·1 during the week ending April 2nd. During the thirteen weeks of the quarter ending on Saturday last the death-rate in the city averaged 32 4 per 1000, the rate during the same period being 21·7 in London and 20·3 in Edinburgh. The 235 deaths registered in Dublin during the week under notice showed an increase of 37 upon the number in the preceding week, and included 20 which were referred to the principal zymotic diseases, against 17 and 11 in the two preceding weeks; of these, 5 resulted from whooping-cough, 4 from diphtheria, 4 from "fever," 4 from diarrhœa, 3 from scarlet fever, and not one from small-pox or measles. These 20 deaths were equal to an annual rate of 3·0 per 1000, the zymotic death-rate during the same period being 3·0 in London and 0·9 in Edinburgh. The deaths referred to whooping-cough, which had been 3 in each of the two preceding weeks, rose to 5 last week. The 4 fatal cases of diphtheria considerably exceeded the number recorded in any recent week. The deaths referred to different forms of "fever," which had been 7 and 6 in the two preceding weeks, further declined to 4 last week. The 235 deaths in Dublin last week included 37 of infants under one year of age, and 57 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded the numbers recorded in the preceding week.

Ten inquest cases and 5 deaths from violence were registered; and 85, or more than a third, of the deaths occurred in public institutions. The causes of 26, or more than 11 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-LIEUTENANT-COLONEL ERNEST H. FENN, C.I.E., from Scots Guards, to be Surgeon-Lieutenant-Colonel, vice Surgeon-Major W. R. Crooke-Lawless, who exchanges. Surgeon-Major Edward D. Farmar-Bringhurst retires from the service receiving a gratuity. Surgeon-Major Goggin is posted to Dublin for duty. Surgeon-Major Birrell has proceeded from Shorncliffe to Hythe to take charge of the Station Hospital *pro tem.* Surgeon-Major H. L. Battersby having resumed medical charge of the Station Hospital, Dover Castle, Surgeon-Major White has taken over medical charge of staff and departments. Surgeon-Major G. Wilson has embarked for service in Sierra Leone.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Thomas Holt, M.B. Aberd., 2nd Volunteer Battalion the East Lancashire Regiment, to be Surgeon-Captain. Surgeon-Lieutenant G. R. J. Fletcher resigns his commission. Surgeon-Lieutenant George Melville, M.B. Edin., 6th Volunteer Battalion the Royal Scots (Lothian Regiment), to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

Artillery: 1st Banff: Surgeon-Captain W. Fergusson, M.D. Aberd., to be Surgeon-Major. *Rifle:* 1st Volunteer Battalion the Lincolnshire Regiment: Surgeon-Major H. Wright to be Surgeon-Lieutenant-Colonel. 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment: Edmund Frederick Bindloss, to be Surgeon-Lieutenant. 4th Volunteer Battalion the Hampshire Regiment: Surgeon-Lieutenant C. E. Lister resigns his commission.

DEATHS IN THE SERVICES.

Surgeon-Lieutenant-Colonel Robert William Troup, Retired List, A.M.S., at Dover, on the 28th ult., in his fifty-seventh year. He entered the Service as assistant surgeon in September, 1863 and served with the Royal Artillery in the left column Dooar Field Force of the Bhootan expedition of 1864–65; was present at the capture of Fort Dalimkote and the stockades of Nagu and Chamoorchi (medal with clasp); was present with the 42nd Highlanders at the battle of Amoaful in the Ashanti War of 1874, at the capture of Becquah, at the battle of Ordahsu, and at the capture of Kumasi (medal with clasp). He also served in the Egyptian War of 1882 and was present at the action of Kassasin and at the battle of Tel-el-Kebir (medal with clasp and Khedive's Star).

Brigade-Surgeon Humphrey Carden Gillespie, Retired List, A.M.S., at Richmond on the 22nd ult. He joined the army in the latter part of 1864, became surgeon in 1873, surgeon-major in 1876, and retired with the honorary rank of brigade-surgeon in 1884. He served in the Afghan War, 1878–80 (medal).

ROYAL PRESENTS TO THE ROYAL VICTORIA HOSPITAL, NETLEY.

As a memento of the visit which Her Majesty and Princess Henry of Battenberg recently paid to the Royal Victoria Hospital they have forwarded to Surgeon-Major-General W. Nash, M.D. Edin., the principal medical officer, a number of gifts which have given very great pleasure both to the officers of the medical staff and to the patients under treatment.

Surgeon-Major Sylvester, A.M.S., has been ordered to report himself at Netley for duty at an early date.

Surgeon-Captain F. Smith is under orders to proceed from Netley to the West Coast of Africa.

THE DUKE AND DUCHESS OF MARLBOROUGH will on Thursday, May 12th, visit the colony established by the National Society for Employment of Epileptics at Chalfont St. Peter, when the Duke will lay the memorial stone of a home for epileptic boys and Her Grace will open the Victoria House, one of the homes for epileptic men. On the same occasion Mrs. Passmore Edwards will lay the foundation stone of a new home for epileptic girls.

Correspondence.

"Audi alteram partem."

"THE MIDWIVES REGISTRATION BILL."

To the Editors of THE LANCET.

SIRS,—I reluctantly take any part in the discussion on the Midwives Registration Bill which has been going on in your columns for some weeks past, but there are statements made by Dr. Cullingworth in his recent letter which I cannot allow to pass in silence. Dr. Cullingworth says that the title, "Midwifery Nurses Bill," was proposed by those who were of opinion that the women to be legislated for should not attend a confinement "except under the personal supervision of a practitioner." I was one of the first to advocate the use of the words "midwifery nurse," but I never objected to properly trained women attending labour cases alone, and that this was so is obvious from the fact that for the greater part of my professional life I have been engaged in training these women, and at the present time there are some hundreds of them practising as midwives who have been specially trained by me to do so, but I have in no way altered my opinion that the word "nurse" should be introduced into any Midwives Bill.

I deny that "the reason for the introduction of the word 'nurse' has disappeared" and Dr. Cullingworth's own letter shows that the reasons why it be retained are in full force. He says its introduction signified a "limitation of responsibility" and further on that "to call her a nurse—with whatever qualifying adjective—is to confound one who has independent charge with one who has not." I was under the impression that everyone was of opinion that these women should not be "independent" and that their "responsibility" also should be strictly defined and limited, and if the introduction of the word "nurse" into the Bill tends in this direction that in my opinion is a strong "reason" in its favour. Even if the Bill were to pass in its present form these registered midwives would be "independent" only as far as that they will be permitted to stand by and see the woman delivered by her own unaided efforts. If the word "independent" has any meaning at all in reference to these women it implies that they may deliver the woman when and how they like. Does Dr. Cullingworth desire this?

Dr. Cullingworth tells us he is responsible for the drafting of the Bill. Is it possible that he intends it really to create an "independent" order of midwifery practitioners who will be wholly unfitted by reason of their limited training for such a position? I have never laid much stress on the argument which is embodied in the resolution of the Council of the Obstetric Section of the Royal Academy of Medicine which appears in your issue of April 2nd, that "the Bill would tend to create a new and inferior order of practitioners hurtful to the interest of the profession and dangerous to the public," but I am bound to say that Dr. Cullingworth's letter as officially explaining the objects of the promoters of the Bill has materially altered my opinion in this respect and if the insertion of the word "nurse" tends to lessen the risk of such a misfortune from occurring as is expressed in that resolution it would be an additional reason in its favour. Dr. Cullingworth states that "a midwife and nurse exercise different functions and receive a different training," and yet in a footnote adds "that her functions include a certain amount of attendance on mother and child during the lying-in period." Will Dr. Cullingworth explain in what capacity? It must either be as a "practitioner" or as a "nurse." If as a nurse she certainly should be trained and registered as such; as she is not to be trained and registered as a nurse it would seem that the Bill is really intended by its promoters to make her a practitioner.

But I contend that all these women should be trained as nurses and midwives. If they are not it is the fault of those who undertake to teach them. The Rotunda Hospital was amongst other things formed for the purpose of training women and for 150 years has continuously done so, but they have been always trained as midwives and as midwifery nurses, and in the certificates given them they are described as "midwives and nurse-tenders," "nurse-tender" being synonymous with "monthly nurse." These women receive a training certainly not inferior, probably superior, to that attainable elsewhere, yet during my long professional life I never met with one capable of acting "independently"; they are fully qualified to act as midwives in natural cases, generally are capable of detecting abnormal presentations, &c., and are trained to, and invariably do, send for aid when that is needed; but they are, moreover, good nurses and tend their patients as such for some days subsequent to labour. Why is this impracticable in England? Are the women more stupid or the teachers less efficient? But be the cause what it may the lying-in woman must suffer. The dangers of parturition do not end with delivery. Very many lives of both mothers and infants are lost from causes arising subsequently to delivery and capable of prevention, from mere want of cleanliness, from septic poison, from the use of septic cloths applied to the vulva, especially where laceration has occurred, &c., from the failure of the attendant to recognise at an early date symptoms which, had it been otherwise, might have led to treatment ere it was too late, not to speak of minor ills so numerous and so distressing to mother and child. I hold that no woman should be registered as a midwife who is not trained also as a "midwifery nurse." It is on this point mainly that I am at variance with the promoters of the Bill. If they really desire to benefit poor lying-in women they should accept this as a cardinal principle.

What benefit will accrue to poor lying-in women if this Bill becomes law? The midwife would walk away with her fee as soon as the child was born and placenta removed. She will be no nurse and will be taught to despise that calling. She is not a trained practitioner so would be useless if any bad symptoms appeared; the poor patient would be left to be managed or mismanaged by some old crone or kind neighbour. Of what use, then, will the midwife be? I presume though "independent" she will not be legally and certainly not by training qualified, to use the forceps, to turn, to perforate, &c. She is supposed to deliver the patient; in point of fact she merely sees the woman deliver herself and any other woman could do that as well as the "registered midwife."

The profession in London has so much to be proud of in the splendid hospitals and in the reputation of the men attached to them that they might without loss of dignity learn something from neighbouring countries. In France the midwife has a training vastly superior to anything in this country. If she is to be "independent" here let the example of France be copied; if not, and that it be really intended to benefit the poor, let the example set in Ireland be carefully considered. There is not a town there, and but few country districts, in which women trained as "midwives and nurses" are not to be found following their calling with success. Medical practitioners raise no complaint because these women very rarely presume to go beyond the limit they are trained not to exceed.

If the promoters of the Bill desire to benefit the poor they will adopt the suggestion that these women be trained and registered as "midwives and midwifery nurses." If they do so opposition to the Bill will be materially lessened. If they refuse it will be difficult to believe that the good of the poor is the sole object in view.

I am, Sirs, yours faithfully,

April 4th, 1898. LOMBE ATTHILL, M.D. Dub.

SOME POINTS RELATING TO VACCINATION AS ILLUSTRATED BY OBSERVATIONS DURING THE PRESENT EPIDEMIC IN MIDDLESBROUGH.

To the Editors of THE LANCET.

SIRS,—It happened to me some weeks ago to conduct (by courtesy of the late medical officer of health of Middlesbrough) some medical friends round the small-pox hospital, and one of them, an able and intelligent practitioner, propounded to me the question, "Are the patients vaccinated on admission here?" I found that his idea was—and he stated that it was by no means peculiar to himself—that vaccination so late as the prodromal or even during the early eruptive stage modified the attack of small-pox. So far as I have been able to learn during this epidemic this is so far from being the case that it by no means infrequently happens that vaccination even during the early incubatory period fails to modify the disease. It is to suggest this and some other considerations regarding vaccination that I venture to submit notes of a few cases which appear to me to be of interest. Many cases bearing on the same point which have been spoken of to me, but which have not come under my own observation, I refrain from alluding to. The use of the term "vaccinated" in these notes implies that the operation was successful and that glycerinated calf-lymph was used.

CASE 1.—The patient was exposed to infection from a brother about Feb. 4th to 8th; vaccinated Feb. 9th. The eruption appeared on Feb. 17th and the case was a severe one.

CASE 2.—A married woman showed a variolous eruption on Feb. 7th. Her husband was vaccinated the next day and on Feb. 21st he developed the eruption of variola. His case, however, was a mild one.

CASE 3.—A child showed a variolous eruption on Feb. 5th and two days later the rest of the family were vaccinated. The mother alone did not take, but was revaccinated a week later with success. On Feb. 20th she developed the eruption (variola). I have not heard of any other members of the family contracting variola since then.

CASE 4.—A child, aged seven years, vaccinated (for first time) on Feb. 16th, was seen on Feb. 24th with well-marked confluent eruption of variola.

CASE 5.—A man developed variolous eruption on Jan. 29th. His wife, having at first refused, was revaccinated on Feb. 15th, aborted on Feb. 22nd, developed eruption the next day, and died on Feb. 26th from malignant small-pox. The fœtus, about eight months, was dead but free from any eruption.

CASE 6.—A child, aged eight years, vaccinated on Feb. 11th, on Feb. 25th developed well-marked variolous eruption.

CASE 7.—A child, aged 7 years, vaccinated (for first time) on Feb. 19th. Variolous eruption appeared on Feb. 25th and she died from confluent hæmorrhagic small-pox.

CASE 8.—A married woman, vaccinated in infancy (4 marks), and again about 1895 (2 marks), developed well-marked, but not severe, discrete small-pox in February of this year.

CASE 9.—A child, aged 10 years, was vaccinated on Feb. 12th; a dark red rash appeared on her on Feb. 28th, followed in a couple of days by the ordinary papular eruption of small-pox.

CASE 10.—The patient was vaccinated on March 7th. Variolous eruptions appeared on March 15th. Mild case.

CASE 11.—A child, aged 3 years, was vaccinated on March 3rd. Variolous eruption appeared on March 16th.

CASE 12.—A married woman was vaccinated on Feb. 12th (2 places). On March 6th she consulted Dr. A—— for papular eruption on the wrists and fingers only, attended with much itching but with no feeling of illness. Dr. A—— called in Dr. B—— to see her and she was sent to the Small-pox Hospital the same day. On the 14th she was discharged. On the 19th she again sent for Dr. A——, said she had contracted a chill on leaving the hospital and was suffering from severe pains in the limbs. On the 22nd I saw her and she had developed a papular rash on the face, hands, and trunk. Seen the same evening by Dr. A—— and Dr. B—— they took the same view of the case that I did and she was again removed to the small-pox hospital. I have detailed this case at some length, not so much because it illustrates the occasional extreme difficulty of diagnosis as because it affords a rare instance of small-pox following upon vaccination successfully performed well before the incubation period of the disease could, according to our present ideas, have commenced.

If these few cases, Sirs, (roughly jotted down under pressure of work as they have been), can elicit any information as to the extreme limit of the incubation period, the apparent anomaly of the conditions produced by vaccination and the disease of small-pox (two supposedly antagonistic processes) pursuing simultaneous and independent courses in the body of a patient they will not have been recorded in vain.

Another matter which it would be of great value to have settled as definitely as possible is as to how long it may be before a person, vaccinated after exposure to the disease, should be considered safe as regards that particular exposure, and I would suggest that it cannot be fixed at less than sixteen or seventeen days.

I am, Sirs, yours faithfully,

T. A. COLLINSON, M.R.C.S.Eng., L.R.C.P.Lond., &c.

April 2nd, 1898.

THE OPEN-AIR TREATMENT OF PHTHISIS.

To the Editors of THE LANCET.

SIRS,—I have read with much interest the papers by Dr. Burton-Fanning on the above subject in THE LANCET of March 5th, 12th, and 26th.

I am in full accord with the principle laid down by him of the absolute necessity for the open-air treatment of phthisis, to which, in my opinion, should be added a very large and generous dietary. For many years I have acted on these principles and in 1892 I started phthisical patients in a farmhouse in the north-eastern district of Norfolk. The particular neighbourhood I have selected has a very low rainfall, the climate is distinctly bracing, and the soil is light sand and gravel with a substratum of ragstone. Norfolk enjoys with Suffolk the distinction of having more sunshine than any other part of the British Isles. Since 1892, when my first patient was placed there, I have had in all 17 cases. Of these 4 have died since they left the farm and 4 are still living there and are improving steadily. Of the remaining 9, 8 have returned to their ordinary occupations, whilst the ninth is still undergoing treatment in Germany. They are all doing well and holding their ground. Of the 4 deaths 1 had general tuberculosis, 1 was very far advanced, 1 succumbed to subsequent influenza, and the fourth, after having gained in weight considerably and improved greatly in general condition, failed after working sixteen hours a day in a gassy atmosphere all last winter on insufficient food. The point on which I wish to lay particular stress is that these are hospital patients and that the charges are within reach of a very large number of the poorer classes of the community.

I am, Sirs, yours faithfully,

Gower-street, W.C., March 29th, 1898. JANE H. WALKER.

COLLAPSE FOLLOWING LAPAROTOMY.

To the Editors of THE LANCET.

SIRS,—In Allbutt's "System of Medicine" Dr. Cobbett has well demonstrated the etiology of collapse from the experimental side. I propose to supplement this from the clinical standpoint. For some time I have been of opinion that shock—i.e., reflex inhibition—by no means satisfactorily accounted for the collapse which may follow the simplest laparotomy. The nature and length of the operation do not necessarily indicate the amount of the subsequent collapse. Like Dr. Cobbett, without wishing to deny the action of nervous reflexes, I regard the loss of fluid resulting in failure of the circulation as the prime factor. After pointing out the evident loss of fluid in cases with diarrhœa and vomiting he goes on to say: "On the other hand, it is not so obvious that the collapse which may follow abdominal operation and which accompanies peritonitis is associated with a similar inspissation of blood and tissues. For although the appearance of the patient suggests such a change yet there is no evident loss of fluid sufficient to account for it." After every laparotomy there is within a short time an effusion of fluid into the cavity of the peritoneum and if excessive is evidenced by dulness in the flanks, changing with position. This effusion is often unnoticed because the disturbance and movement necessary to demonstrate it are bad for the patient. The amount of the effusion would seem to depend on many factors, among others the amount of fluid in the patient's tissues, the capacity of the peritoneal cavity and the damage done to the peritoneum. If the patient has lost much fluid either by hæmorrhage or by vomiting and diarrhœa a comparatively small further loss such as a peritoneal effusion is more than likely to produce collapse. Clinically the symptoms of loss of fluid and loss of blood are difficult to distinguish. I have seen two cases within a fortnight of severe collapse a few hours after laparotomy. The question of internal hæmorrhage was raised and decided in the negative. One case recovered, the other died, and at the necropsy the peritoneum was found full of blood from a vessel in the pedicle the ligature of which had slipped. I never appreciated the amount of fluid which might be effused after laparotomy till I had an ocular demonstration in a case of ruptured tubal pregnancy which, owing to the patient at first declining operation, had been leaking intermittently into the peritoneum for a fortnight. The woman was considerably blanched, the abdomen contained handfuls of clot, and the operation being complicated by cysts of both ovaries took one and a half hours, at the end of which time her pulse, stimulated by strychnine and ether, was, everything considered, very fair. Four hours later she became collapsed and died in spite of intravenous infusion of saline solution, bandaging limbs, &c. On reopening the abdomen immediately after death the peritoneum was found to be filled with pints of a watery, blood-stained fluid; the blood-stain was explained by the discovery of several large clots (overlooked at the operation) in the region of the liver. The ligatures were intact. It was this loss of fluid in a patient whose blood and tissues had been inspissated by recent severe hæmorrhage that mainly brought about the fatal result. The benefit of intravenous injection of saline solution in cholera is only transient, the loss of fluid continuing, and the same might be expected of saline solution injected into a vein if the fluid is shortly poured out into the peritoneum. Intravenous injection if continuous might, by filling up the peritoneal cavity as well as the tissues, save some of the less severe cases, but takes too long. It would seem reasonable, therefore, with a patient who has lost much fluid before closing the abdomen to fill the peritoneum with hot fluid such as sterilised water, salt and water, or other watery solution—the exact constitution matters not provided it is unirritating and sterile—the object of this being not to supply the patient with fluid *viâ* the peritoneum, which is a well-known mode of treatment, but by filling the peritoneum with fluid to impose a mechanical obstacle to any great flow of fluid from the tissues into the peritoneal cavity. The tendency of the peritoneum, at any rate immediately after laparotomy, is to exude fluid rather than absorb it. Absorption of the fluid occurs later. The mass of hot fluid in the abdomen also acts as an internal hot-water bottle and tends to prevent adhesions. Firm bandaging of the abdomen would help to limit, but would not obviate the effusion of fluid. If the patient tends to be collapsed at the end of the operation saline solution should also be injected intravenously. The ordinary treatment to sustain the body temperature must be carried out simultaneously. Stimulants in the shape of brandy and strychnine, well diluted, may be given in the intravenous injection — a method of administration not sufficiently utilised, ensuring as it does direct passage of the stimulant into the circulation.

I am, Sirs, yours faithfully,

C. HAMILTON WHITEFORD, M.R.C.S. Eng., L.R.C.P. Lond.,
Medical Officer to the Provident Branch of the
March 27th, 1898. Plymouth Public Dispensary.

*** We do not understand whether our correspondent has himself had experience of the intravenous injection of brandy and strychnine or not? The practice is surely not free from risk, whereas almost as speedy results may be obtained by the less severe measure of hypodermic injection. ED. L.

"HOSPITAL ABUSE."

To the Editors of THE LANCET.

SIRS,—The committee of St. Catherine's Home feel it a duty to reply to certain mis-statements regarding this charity which appear in an article on Hospital Abuse in Bradford in THE LANCET of March 26th. The writer of that article states that St. Catherine's Home (referred to as the Cancer Home) "is associated with the name of Dr. Rabagliati" and goes on to "question whether medical men should be allowed to start hospitals," and to ask, "Who can draw the line between a charity started because there is a genuine public need for such relief or an institution needed only in the imagination of a few medical men desirous of securing staff appointments?"

The facts are as follows. St. Catherine's Home was "started" five years ago by a few ladies who, during other work among the poor, had long felt the urgent need of a home for dying patients for whom other hospitals can do nothing and who are therefore sent out to die as best they can. Especially in the case of cancer patients was this a crying need and therefore St. Catherine's Home has always given the preference to sufferers from cancer although when there is room no dying case is refused. That any medical man should expect to gain advantage, honour, or glory from the cure of dying patients in a hospital where there are no operations and practically no recoveries it is somewhat difficult to see, unless through green spectacles. No medical man had any part or share in originating St. Catherine's Home or in its subsequent management, which is entirely in the hands of a committee of ladies. From its opening until now only one medical man has been connected with the home—viz., Dr. Walter Denby—who has filled the position of honorary surgeon with a kindness gratefully acknowledged by the committee and certainly with no thought of personal advantage. In view of the contemplated removal of this home next June into the larger building now being prepared by the generosity of Mr. Canthra, and the consequent probable increase in the number of patients, two new medical appointments have just been made, one of these being that of Dr. Rabagliati to the post of honorary consulting surgeon. Neither of these appointments, however, takes effect until next June, nor have the names of the new honorary surgeons appeared as yet on any document connected with this home.

The committee repeat emphatically that this home exists in the interest of no medical man or men, unless perhaps "only in the imagination" of some distorted mind. It exists in response to a long-felt and sore need, which need it strives with some success to fill. With regard to the rest of your article doubtless the other charities mentioned will have their own remarks to make. It is much to be regretted that your representative did not choose more wisely his informant. That informant would do well to study certain lines of the late Lord Tennyson concerning something "that is half a truth." Signed on behalf of the committee.

SUSANNAH BOTTOMLEY, President.
HELEN P. RABAGLIATI, Hon. Secretary.

March 31st, 1898.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague.

A PRECONCERTED riot by the Mohammedans in Bombay against all Europeans was precipitated by a local opposition to a search party on Wednesday morning, March 9th. The fanatical rising spread rapidly throughout the city and for two or three hours until the military arrived no European was safe in the streets. Wanton and cowardly attacks on defenceless European men and women occurred in differents parts of the city. The disturbances were attended by the deaths of several Europeans and a large number of natives. The whole work of the Plague Committee was practically suspended for the day. Large search parties with adequate military protection have, however, since examined the disturbed quarters and numerous cases of plague have been discovered in addition to many of the wounded rioters who had hidden themselves away. It will be realised that the European medical officers as well as the nurses are carrying on their already dangerous duties under great risk of personal injuries. It is intended that the measures hitherto adopted shall be continued, but the search parties will for the future be protected by detachments of soldiers.

The daily records of plague have for the present been entirely upset, but those to hand unfortunately show that it continues as rife as ever and that the total mortality averages over 300 a day—a rate of 136 per 1000 per annum.

Some attempt has been made to improve the system of death certification in consequence of from 60 to 70 deaths being recorded daily which have escaped all observation of the Plague Committee.

As any interference with a body after death is contrary to the religious feelings of both Hindoos and Mohammedans, and as the masses of these people rely solely on their own domestic remedies and seldom seek the medical advice of even their own hakims, efforts have been made to get the leaders of the different castes to appoint reliable persons who will be able to give a fairly satisfactory account of the causes of death, so that, as far as possible, every sick person shall come under observation. A misinterpretation of these efforts is said to have accounted for much of the present disturbance.

An important proposal is made by Dr. Thomas Blaney of Bombay. It is that a conference or congress of the medical profession in India should be called in Bombay city for next December, having for its main object the consideration of the most appropriate measures for dealing with plague epidemics in Indian cities, towns, and villages. As the value of quarantine compared to its destructive influence on trade is questioned, and as many of the other measures adopted are also of questionable value, a conference of this kind might prove of considerable assistance to the Indian Government in their arrangements for future outbreaks. Several cases of small-pox of a very severe type are being sent daily into the fever hospital.

In the Punjab the plague seems to be spreading—26 villages in two of the districts having been infected. There is no knowing how many more of the surrounding villages have caught the infection. In other places it seems to be dying out.

March 19th

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Mersey Port Sanitary Authority.

DR. HOPE, the medical officer of health of the city and port of Liverpool, in his report for 1897 to the port sanitary authority stated that during the year, owing to the existence of plague in India and small-pox in some Spanish ports, both of the assistant medical officers of health were constantly engaged in the tidal inspection of ships from the beginning of April. The work of those gentlemen had been carried on in conjunction with the officers of customs, who are the first to receive intimation of sickness on board any vessel approaching the port, either by telegraph from Point Lynas or from Moville or Queenstown. It is recorded that not only were fewer defects per vessel examined found, but that the number of notices served upon owners under the Public Health Act had been only about half the number served in the preceding year, indicating a readiness to comply with the requests made by the inspectors. This result may have been probably due to the fact that many of the vessels had been examined before and that matters requiring attention had been already remedied. During the year the inspectors visited 5775 vessels; 87,414 emigrants left the Mersey during the year, as against 98,271 in the previous year.

Death of Mr. James Johnson, M.R.C.S. Eng., L.S.A., of Bootle.

Mr. James Johnson, who formerly practised in the neighbourhood of Liverpool, died at Breezehill, Bootle, on the 2nd inst. in his eighty-seventh year. Mr. Johnson, who retired from practice in 1872 and was consequently but little known to the present generation of Liverpool practitioners, was in his time a foremost figure in medical circles and in Liverpool and county society. He was a native of the north of Ireland and soon after settling in Liverpool he was appointed surgeon to the Kirkdale Gaol, a post at that time in the gift of the county justices. He resigned that office in 1872. For a number of years he regularly attended the meetings of the county justices in order to present his report on the sanitary condition of the gaol and the health of the prisoners. The late Earl of Derby, Lord Cross, &c., placed great confidence in Mr. Johnson's judgment, his suggestions being invariably acted upon.

Ladies' Charity and Lying-in Hospital.

Dr. Arthur J. Wallace has been appointed hospital medical officer to the Ladies' Charity and Lying-in Hospital, vice Dr. Glynn Whittle, whose term of office has expired. Dr. Wallace is also one of the anæsthetists to the Liverpool Royal Infirmary.

April 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

University of Aberdeen.

THE graduation ceremony in the Mitchell Hall, Marischal College, on the 1st inst. was notable in respect that for the first time in the history of the University there were women graduates, four ladies receiving the degree of M.A. As remarked by Principal Sir William Geddes, lady students had specially distinguished themselves last session, as shown by the class prize lists. He further mentioned that Lady Geddes is successfully promoting a scheme for a residential hall for women students. The degree of D.Litt. was also conferred for the first time, the sole recipient being Mr. James Moir, LL.D., one of the joint-rectors of Aberdeen Grammar School. The degree of M.D. was conferred in ten cases, that of M.B., Ch.B. (new ordinances) in twenty-six, and that of M.B., C.M., (old ordinances) in seven cases. Among those who received the honorary degree of LL.D. was Mr. Charles Chree, M.A., Sc.D., Superintendent of Kew Observatory, Richmond. A well-attended and successful "reception" took place in Marischal College on the same evening. There were twenty-four entrants at the recent medical preliminary examination.

April 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dublin Sanitary Association.

THE council met on the 31st ult. at the offices of the association, and after the final consideration of the Local Government Bill decided to make representations to the Chief Secretary of Ireland on the subject of the appointment of sanitary officers on county councils.

The Irish University Question.

A manifesto has been issued by the authorities of the Irish Presbyterian Church in which they re-affirm their views that the non-sectarian system of education is the system best adapted to the circumstances of the country and protest against any re-arrangement of Irish University education which would endow, through higher education, the Roman Catholic religion or set up a university or college for one denomination. They review fully the various solutions of the vexed questions of university education in Ireland, such as (1) the reconstruction of the Dublin University, making it the one national university of Ireland; (2) a Roman Catholic College affiliated to the Dublin University; (3) a Roman Catholic College in connexion with the Royal University; (4) two universities in Ireland, a Roman Catholic University, with the Dublin University made the one university for all Irish Protestants; and (5) three universities in Ireland, the Roman Catholic University, the Dublin University, and a northern university, or the Royal University, reconstructed to meet the wants of Presbyterians. Rumours are still current in Ireland that Mr. A. J. Balfour is anxious to settle the question of university education in Ireland, but many feel he will have a very difficult task before him.

Londonderry Lunatic Asylum.

At a meeting of the Coleraine Board of Guardians held on April 2nd the following resolutions were passed:—"1. That from the report of Dr. Hetherington, resident medical superintendent of Londonderry Lunatic Asylum, it appears that there are 456 patients in it, all in the enjoyment of good health, and should the Local Government Bill for Ireland receive the sanction of the British Parliament there cannot be a doubt that one of the workhouses of the county could be obtained for an auxiliary asylum, which without any difficulty would provide accommodation for more than one-half the inmates of the present asylum. 2. In the event of one-half of the inmates being transferred we can see no reason whatever for the erection of a new asylum and we would protest against a moribund body, such as the Board of Control, exercising the power of laying oppressive taxation on the ratepayers of this county (Derry?) by the erection of an expensive and unnecessary asylum. 3. As we understand that no contracts have been entered into we hope the chief secretary will take further steps to prevent the Board of Control from proceeding further in the matter and we would entreat him to take powers under the Local Government Bill to amalgamate unions and take over the control of the lunatic asylums, paying all expenses connected with them from the Imperial Exchequer." There is a very strong feeling that owing to the heavy way in which County Derry is taxed at present, and also from the circumstance that the new Local Government Bill will provide for auxiliary asylums by utilising some of the workhouses, further provision for lunatics in new asylums should not be made at present. Another reason urged against the new Derry asylum is that it will be situated at one end of the county. I am afraid, however, that matters have gone too far (the ground for the new asylum being bought) to stop the erection of the new building.

The late Mr. Henry Bingham, M.D., R.U.I.

It is with very sincere regret that I announce the death of this well-known Belfast medical practitioner, which took place at his residence in that city early on Tuesday morning, March 29th, at the age of fifty years, from cardiac asthma. His death, as he had only been ailing for a short time, came as a surprise to the public, but not to his intimate friends in the medical profession, to whom it was well known that for several years he was suffering from a gradually advancing heart affection. Dr. Bingham was born at Crossgar, co. Down, fifty years ago. He was for several years engaged in teaching most successfully in Belfast, but having a taste for the medical profession he entered Queen's College, Belfast, where he was a very successful student, and graduated M.D. of the old Queen's (now the Royal) University in 1878, and in 1893 he became a L.R.C.S. Edin. He also studied at the London Hospital. Beginning practice nineteen years ago in Mountpottinger, on the south side of the river which divides Belfast, he rapidly, by his sterling abilities, genial disposition, and extreme kindliness, gained a very large *clientèle*. He was at the late local Belfast municipal elections nominated for one of the wards and, although unsuccessful, he polled a very large number of votes. His friends feared that to one like him with a damaged heart the excitement of such a contest was very prejudicial. Dr. Bingham was greatly respected by his medical brethren and was a member of Council of the Ulster Medical Society. He was buried on March 31st, his funeral being very largely attended by his medical friends. Several of those in practice in his own district acted as pall-bearers. He leaves a widow and one son (who is studying at Queen's College). Dr. Bingham was a very great favourite both with the public and with the medical profession. He was an Irishman to the tips of his fingers, genial, kindly, social, and humorous, and ready always to help those in difficulties. It is given to few men to be more popular than the late Henry Bingham was.

April 4th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Orthoform.

ORTHOFORM, a new antiseptic and anæsthetic compound obtained by Dr. Einhorn, has been tried in the surgical polyclinic of Munich, by Dr. Kallenberger, who in his report communicated to the *Berliner Klinische Wochenschrift* says that it is a fine white powder, not hygroscopic and very little soluble in water. It is quite harmless to the animal organism, as injections of from 4 to 6 grammes given to animals did not produce any toxic symptoms and external applications of 60 grammes in a week had no ill effect on the human subject. Its anæsthetic value is proved by the fact that the ends of the nerves with which it comes into contact are rendered insensible. By its want of solubility it is unable to act through the skin or through the mucous membranes, but it has a marked anæsthetic action in wounds, burns, ulcers, &c. Its effect is of much longer duration than is that of cocaine, which, owing to its solubility, is easily absorbed. Orthoform is also a powerful antiseptic. Pieces of rabbit's muscle sprinkled with it did not show any putrefaction. It has been used in a great many surgical cases with successful results. Its anæsthetic action developed in from three to five minutes and was perceptible after thirty-five hours—in some instances even after four days. To ascertain whether the anæsthesia was really due to the orthoform it was several times given alternatively with other substances, such as iodoform, boric acid, &c., the effect being that the patients who hitherto had not complained of any pain at once began to feel it. Orthoform has the power of diminishing the discharge from wounds. If required it may be applied in the form of ointment, especially to burns. Dr. Kallenberger describes the effects produced by its use in several cases of wounds, carcinomatous and syphilitic ulcerations, and burns. He mentions that applied after the extraction of teeth it is a good anæsthetic, and he suggests that it may supply the place of morphia after accidents.

An Outbreak of Enteric Fever.

Last February enteric fever of an extremely severe type suddenly appeared among the men of the regiment of infantry in garrison at Saarbrücken in Rhenish Prussia, attacking nearly 300 men within a few days, and proving fatal to 33 of them. The barracks being of recent construction and provided with modern hygienic arrangements it was at first a matter of surprise to the medical officers of the garrison to see the epidemic spread in such a rapid way. A special commission, presided over by Dr. von Coler, the chief of the Army Medical Service, and consisting of four members of the Army Medical Department, who by special order of the Emperor were joined by

Dr. Gerhardt, professor of clinical medicine at Berlin University, succeeded in tracing the source of the infection. They ascertained that only those men who had taken part at a dinner given in honour of the Emperor's birthday became ill, whilst those who were elsewhere on that occasion were not attacked. It was further ascertained that a man who had come from a place where enteric fever was prevalent had helped the cook in preparing a potato salad, and this man, who a few days afterwards was the first to fall ill, had evidently conveyed the germs to the potatoes, which are known to be one of the best media for the cultivation of the bacilli of enteric fever. The sudden and rapid development of the epidemic was therefore clearly explained.

Remedies against Gout.

Saligenin, a compound obtained by Dr. Loderer, has been successfully administered in gout by Dr. Walter of Sulzbach, Bavaria. According to a communication published by him in the *Münchner Medicinische Wochenschrift*, saligenin removes the pain, swelling, and fever of gouty arthritis in a short time. Its action is more powerful and of longer duration than that of salicylic acid, whilst the undesirable effects of the latter, such as digestive troubles, cyanosis, and tingling in the ears, are avoided. It is easily soluble in water. Three grammes a day as a rule are sufficient. Another compound producing nearly the same effect is hexamethylentetramin or urotropin, by which uric acid is easily dissolved. Urotropin, which is also termed aminoform, may be used as a prophylactic by persons of gouty constitution, and it is said that if two grammes are taken in a glass of water every morning for several months there will be no subsequent fits of gout.

Tuberculous Growth of the Pleura.

In the *Zeitschrift für Klinische Medicin* Dr. Askanazy describes two cases of pulmonary tuberculosis combined with pleurisy where the necropsy showed the pleura to be converted into a yellow tumour-like mass several centimetres in thickness, resembling a malignant growth. It did not look like tubercle, especially as it appeared to be somewhat solid, but on microscopical examination tubercle bacilli were found. Dr. Askanazy therefore concludes that a tumour-like form of tuberculosis exists which microscopically does not differ from the usual forms. The specimen described had no tendency to softening but, on the contrary, showed fibrous metamorphosis, to which its unusual solidity was attributable. Probably the tumour-like form of tuberculosis is due to an infection of minor virulence.

April 4th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Seamy Side of Medical "Charity."

LET it be admitted at once that the Italian system of providing the poor with medical or surgical relief is defective; that, for instance, the "ambulanza," where such relief is to be had, is often so far from the patient's house or place of work that he loses valuable time in going to it; that in consequence the treatment cannot be followed up with that regularity which ensures success; and that the "ambulanza" itself, as regards resources and working staff, is seldom equal to the many demands made on both. But it is one thing to recognise a defect and another thing to seek to remedy it by means as faulty in a different way; and this, it would appear, is the case in many populous centres of Italy. The "means" referred to is the institution by private speculation of an "ambulanza medica presso la farmacia" (a medical consulting-room, in fact, attached to the druggist's shop), at which for a very small charge the poor patient gets advice and medicine, the charge covering both the "consultant's fee" and the pharmacist's service. One suspicious fact about this "speculative ambulance" is that it is generally the pharmacist who "runs" it, the "medical man" being subordinate—so "subordinate," in fact, that his possession of the due qualification is sometimes difficult to check or ascertain. No doubt the conjoint fee, in which the "medical" and pharmaceutical services are lumped together, is a small one—small enough to tempt the poor man to incur it rather than lose half a day's work by going to the regular but often very remote "ambulanza" furnished by the town or commune. But the system throws wide the door to others besides the poor labouring man; it is, in fact, utilised by a public often quite well enough off to pay the regular practitioner's fee and the druggist's bill into the bargain. But for this public which poses as poor and gets its advice and medicine at a fourth of the regular charge it is difficult to see how the "ambulanza medica presso la farmacia" could be conducted without loss. If the druggist finds it pay the "medical" partner to the speculation must be a "quantité négligeable." The whole system, under the guise of charity, seems a thinly-veiled replica of the "'cross-counter therapeutics" so prevalent and often so disastrous in Italy, while it undoubtedly encroaches on the province of the duly qualified and often struggling practitioner. So much is this felt to be the case that in Milan, I hear, the "Ordine dei Sanitari" (Guild of Medical Men) are taking steps for the summary suppression of the "ambulanza medica presso la farmacia" and Government is being memorialised to act, through the prefects, in the direction indicated. The system (widely prevalent, it would appear) is admitted even by its defenders to be a "speculazione privata," justified, however, by the difficulty of dealing medically with the really poor. It offers, however, too many facilities for irregular practice, demoralising, if not dangerous, to the public and grossly injurious to the medical profession. The Government, it is felt, are bound to put a stop to it, if equally bound to give medical relief to the really poor in a legitimate way.

Fatal Blunder and Severe Punishment of an Unqualified Assistant Druggist.

At Padua a case for some days before the law-court has aroused much interest in the medical and pharmaceutical worlds as well as among the general public. The facts were these. Signor Aristide Risi, suffering from typhoid fever, was attended by Dr. Borgherini, who in course of treatment had occasion to prescribe a clyster containing a due proportion of carbolic acid in solution. The prescription was sent to be made up at the pharmacy of Signor Angelo Cecconi, who, however, happened for the time to be off duty. In his absence it was made up by a "commesso" (boarder), one Attilio Jublin, a fourth-year's student in pharmacy, by whom the carbolic acid was added to the clyster in such excess that poor Risi died. The fact produced a strong impression, Risi being a well-known citizen with a wife and family, and Cecconi head of one of the chief druggist's establishments in Padua. The widow raised an action against him for "omicidio colposo" (culpable homicide) and the case, conducted by distinguished counsel on both sides, occupied several days in hearing. The sentence, awaited by a crowded audience with much impatience, was to the following effect. Jublin was condemned to 100 days' imprisonment, while Cecconi was absolved; both, however, were held liable in costs and in damages (the amount of which I have not yet heard) to the widow Risi. The case, indeed, offers tragic illustration of what may spring from the abuse commented on in THE LANCET of March 5th, p. 685—the abuse whereby pharmacists, absenting themselves from duty, leave their place to be supplied by unqualified assistants. This is all too frequent a practice in Italy and ought to give the travelling public pause before entrusting its health (or life) to the "consultant pharmacist," who is so apt to be "represented" by an assistant as ignorant of drugs as his master is of clinical medicine.

The Traffic in Mineral Waters.

Not an hour too early the Government has intervened to protect the public against the dangers arising from "irregularities" (to put it mildly) in the mineral water trade. Italy is exceptionally rich in natural beverages, alkaline or acidulated, and the demand for them, particularly on the part of the travelling world, often and justly suspicious of the so-called "acqua potabile," threatens almost to exceed the supply. Adulteration has accordingly thrust its contaminating finger into many a favourite "natural water" and the frequency with which the sanitary officer at the instance of the public analyst impounds whole consignments of this or that well-advertised beverage attests at once the vigilance of the hygienic authority and the need for its exercise. Apart, however, from adulteration there are other sources of danger to the public health in the mineral water trade and it is at them that the Government is striking an opportune blow in the circular it has addressed to the prefects of the localities in which such water abounds. These functionaries are henceforth to make provision: "that the conditions surrounding the source present no danger to the public health; that the source itself is protected against infiltrations from the neighbouring soil; and that the conducting-pipes and reservoirs are proof against all external contact." Furthermore, the said prefects are to see "that the bottles and corks or stoppers are sterilised; that the workmen employed at the source shall not suffer from 'malattie trasmissibili' (infective diseases); and that the places for sterilisation and bottling shall be separate from those in which the packing and forwarding operations are carried on." In all cases in which those precautionary regulations have not been observed the water is to be declared "insalubre e nociva" (unwholesome and prejudicial to health) and excluded from commerce in terms of Art. 42 of the Public Health Act.

April 2nd.

Obituary.

GEORGE FREDERICK HELM, M.A. CANTAB., M.D. DUB., F.R.C.S. ENG.

DR. G. F. HELM died suddenly on March 31st, whilst in a cab in which he was being driven to his residence at Marazion, Cornwall. Dr. Helm, who was the son of the late Rev. Joseph Helm, formerly vicar of Worthing, received his medical education at St. Bartholomew's Hospital and Cambridge University, and also studied for a time at Paris. He graduated M.A. Cantab. and M.D. Dublin in 1867, having taken the F.R.C.S. Eng. in 1863. The deceased was formerly house surgeon at St. Bartholomew's Hospital, and was for three years demonstrator of anatomy at the Cambridge University Medical School. Dr. Helm was for several years medical officer to Rugby School, but he resigned the appointment owing to ill-health. He then settled at Marazion, and was elected ophthalmic surgeon to the Royal Cornwall Infirmary, Truro, and he soon established a large consulting practice in West Cornwall. The deceased was a keen cricketer, and had been a member of the Cambridge University team. He was also an active member of the Penzance board of guardians. Dr. Helm, who was in his sixty-first year at the time of his death, was held in the highest esteem in West Cornwall and great regret is felt at his sudden demise.

JAMES ROBSON, L.S.A., J.P., OF SOUTH SHIELDS.

THE death is reported of Mr. James Robson of South Shields at the age of nearly eighty years. Mr. Robson had practised actively in South Shields for a period of nearly sixty years, first in partnership with his uncle, Mr. Emery, and afterwards on his own account. He had a large colliery practice as well as a good private practice. He was a great rider and being very methodical in his work found time, without ever neglecting his patients, to get a day's hunting or some other form of recreation. Even when failing health came he did not give in, but persevered in pursuing a more or less active life, including in the day's work a dip in the open sea, in accordance with the fashion of his native town, and to this practice he attributed a decided improvement in his health and in the tone and action of his heart. Ten or eleven years ago he retired from practice, but in the town council and on the Bench he took an active and useful part in the town and remained comparatively active to the end. During the recent severe weather he went to see the effects of the storm on the north pier at the mouth of the Tyne and contracted a severe bronchitis which proved fatal. He was greatly respected and beloved and will be much missed. He leaves a widow and a son and daughter who in their loss will enjoy the sympathy of the inhabitants of the town which he served so well.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

AT the special session of the Council held on Tuesday, April 5th, Sir William Turner was elected by a unanimous vote President of the Council in succession to the late Sir Richard Quain. Sir William Turner's connexion with the Council has been long, while his grip of its business and his knowledge of its methods have been perfected by his recent occupation of the chair during the illness of the late President, when he gave evidence of possessing that blend of firmness, clearness, and courtesy which are the qualities needed for his new post. His residence in Edinburgh accentuates the compliment paid him by the confidence of the Council.

Dr. McVail's proposal that the Council should not discuss the Midwives Bill having found but little favour, that difficult measure came up for discussion in full conclave. Our report leaves the matter in a very interesting stage, but although many things have been said by many members which invite editorial comment we prefer to await the close of the debate before expounding its lessons to our readers.

TUESDAY, APRIL 5TH.

A special session of the General Council of Medical Education and Registration, summoned to elect a President in place of the late Sir Richard Quain and to consider the Midwives Registration Bill, was opened to-day in the hall of the Council, Oxford-street, London. Sir Richard Thorne Thorne and Dr. P. Heron Watson were unavoidably absent. Sir DYCE DUCKWORTH, Senior Treasurer of the Council, was elected temporary chairman.

Dr. JAMES LITTLE was introduced to the Council as Crown Representative for Ireland.

The Business of the Session.

Sir DYCE DUCKWORTH said: Gentlemen, we meet in a special session to-day, and must all feel that this assembly takes place under the shadow of a great loss, the loss of our President, Sir Richard Quain, our leader and our friend, who had been longer and more intimately bound up with the work and interests of this Council than any other member of it. It is not for me, however, but it will be for his successor, whom we must presently elect from our body, to make at some future time appropriate and worthy reference to the character and services of our late President. As your senior executive officer it appeared to be my duty to summon you for a special meeting in order to fill the vacant presidential chair. The circumstances of the case in this respect alone appeared to me to justify such a course, and others of my colleagues were also of this opinion. But had our late President been amongst us it would have been imperative for him to summon a special meeting of the Council at this time to consider the provisions of the Midwives Bill, in obedience to a recent request from the Privy Council that our body should furnish it forthwith with its opinion thereon. We could not therefore have delayed to meet till our ordinary assembly at the end of May. There is then abundant justification for this special meeting, and I may express the hope, which I think will be generally entertained, that if possible, we should complete our business at to-day's sitting.

Election of President.

Sir DYCE DUCKWORTH: I have to announce that I have received notice of the following motion, moved by Mr. Teale and seconded by Dr. Bennett: "That Sir William Turner be elected President of the General Medical Council." I have therefore to call upon Mr. Teale.

[At this stage of the proceedings Sir William Turner left the Council chamber.]

Mr. TEALE: I have much pleasure in rising to propose that Sir William Turner be elected our President. If we consider Sir William Turner's very strong qualifications for this post, if we look them over one by one I think we should find that they are exceptionally strong. In length of service he is one of the oldest members of this Council. But length of service would not of itself justify our making such an appointment. I think those of us who remember Sir William Turner's work here—I think I am the oldest of his colleagues—all feel that throughout the whole of his period of membership he has been a very prominent, a very strong, and a very helpful member of this Council. He has been on the Executive Committee since 1887, he has been on the Business Committee since 1892, and he has recently acted as temporary President in a manner which has commended itself, I think, to every member of the Council. He was entirely our presiding officer at the last session. He has therefore acquired a great deal of knowledge of the work which has to be done by the President. He has been brought into close contact with our late President, Sir Richard Quain, and he has no doubt thereby added to his great experience of the work of the Council. In addition we have in Sir William Turner a gentleman who has apart from this Council had enormous experience in public work. As a professor in the University of Edinburgh he is one of the most prominent and active members of the executive of the University and some years ago he was a member of the Royal Commission on the Medical Acts which led to the Medical Act of 1886 under which we now act. Therefore in the matter of experience and knowledge we have in Sir William Turner an exceptionally likely person for President. Apart from all these considerations there is a collateral, or rather an accidental, advantage in our being able to find in Sir William Turner one who is a member of the Scottish Branch Council. This Council is not an English council, it is a council of Great Britain and Ireland; and it is not an undesirable thing that now and then this more imperial character of the Council should be emphasised by going outside England for a President. All these things being considered, I feel I shall carry the Council with me in proposing Sir William Turner as a strong man—a man who will guide our counsels with a firm hand and a gentle touch.

Dr. BENNETT: I desire to second the motion, although I should have preferred that the duty had been performed by some member of greater experience in the Council than myself. I have only been just a year on the Council, but I may say that it is at the request of the Irish members of the Council that I second the nomination.

Sir DYCE DUCKWORTH said that on the last two occasions when presidents were elected the decision of the Council was arrived at by show of hands. Of course it was quite open to them to proceed in another way—by ballot, but he thought after the speeches they had heard and the way they had been received they might proceed as before by show of hands.

Mr. BROWN said he should like to know over what period the election extended.

Mr. BRUDENELL CARTER, on a point of order, said that the Council had no power to elect a President for a longer period than that for which he sat as a member of the Council, and in the case of Sir William Turner he would sit as a member of the Council until Dec. 18th, 1901, which was the limit of time for which they could elect him.

Mr. BROWN said his view merely was that the period should be less than five years.

The motion was then put to the Council and a show of hands being taken Sir DYCE DUCKWORTH declared it to be carried.

Accompanied by his proposer and seconder Sir William Turner returned to the Council chamber, when it was announced to him by Sir DYCE DUCKWORTH that he had been elected President *nemine contradicente*.

Sir WILLIAM TURNER, having taken the chair, said: I think I need scarcely assure you how grateful I feel for this mark of your confidence. No member of a professional body but must feel gratified when his colleagues in that body elect him to the position of their President. All of us who are members of corporations, medical and surgical corporations, and who have filled the presidential chairs of those corporations, I am quite sure, felt at the time of their election how gratifying it was to be chosen; but how much more so must this be the case in a body like this General Medical Council — the supreme administrative body in our profession, formed not merely of members of one corporation, but representative of the universities, of the great medical and surgical corporations, representative, I may say also, of the Crown and of the profession generally. It is the highest position which any member of the medical profession can hope to reach, and I should be profoundly ungrateful to you, gentlemen, if I did not feel fully the sense of your graciousness and also the sense of the responsibility which you have imposed upon me, because the office of President of the Council is, I think I may say so, becoming more and more as years go on a position of greater responsibility. The Council is consulted by the Government. It is brought into close and immediate relation with all the great educational bodies in the country and its duties are all of an arduous and onerous description. When I look back to the year 1873, the year I entered this Council, I was then in a body which had as its President Sir George Paget representing on the Council the University of Cambridge. I was two years under his presidency. He was succeeded by Sir Henry Acland, and with the exception of three years when I was out of the Council I sat under his presidency for the fifteen years that he occupied the chair. Then followed Mr. John Marshall, and lastly our President who has just left us. When I look back upon all these distinguished men I feel that I have had a training in the work of the Council, that I have been associated with men who made it one of the great objects of their lives, one of their highest duties, that they should do their work as Presidents of this Council fully and faithfully. I hope to follow in their footsteps, and I can assure you, gentlemen, that in assuming the responsibility which you have imposed upon me I do it with a due intention of discharging my duty here to the best of my power.

The Late Sir Richard Quain.

The PRESIDENT said he felt sure they ought not to proceed to any other business without referring to the death of their late President and expressing their sympathy with his family in the beveavement they had sustained. He would suggest that they should allow a small committee to be appointed in order to prepare a proper minute on this matter, and if they would entrust it to Sir Dyce Duckworth, Mr. Carter, and himself they would see to it. They would bring up the minute for approval to-morrow.

This suggestion was at once adopted by the Council.

Midwives Registration Bill.

The next business was to receive and consider a report from the Midwives Bill Committee arising out of communications from the Privy Council in regard to the re-introduction into the House of Commons of the Midwives Registration Bill of last session. The first of the two communications, dated Feb. 15th and signed by Mr. C. L. Peel, secretary of the Council, was as follows:—

> Referring to my letter of the 20th November last on the subject of the Midwives Registration Bill of last session, I am directed by the Lord President of the Council to state, for the information of the General Medical Council, that the Bill was re-introduced into the House of Commons on Friday last by Mr. J. B. Balfour and is put down for second reading on 11th May. I am therefore to request that you will move the General Medical Council to favour the Lord President with any observations they may desire to offer thereon at the earliest possible moment. I am to add that the new Bill has not yet been printed, but that his Grace is informed that it is absolutely identical with the Bill of last session, a copy of which is transmitted herewith for reference.

A second letter, dated March 15th, recalled attention to the foregoing and requested that the Registrar should move the General Medical Council to furnish the Lord President with any observations they might desire to offer on the Bill "with the least possible delay."

The PRESIDENT said that the committee on the Bill had prepared a report. He was sure that they all regretted to hear of the reason of Sir Richard Thorne's absence. Sir Richard Thorne, who was chairman, had been absent from two of the meetings of the committee, but Dr. Glover, who signed as acting chairman, had taken charge of the report and would now bring it before the Council.

Dr. GLOVER in moving that the report be received and entered on the minutes regretted the absence of Sir Richard Thorne, who had been present at their first meeting. He regretted it because of Sir Richard Thorne's position in the profession and the Council and because he was an eminently fit and proper person to introduce the subject. He assumed that the Council had received the Bill and knew something of its contents, and as to the recommendations of the committee respecting it he would postpone going over these until his formal motion had been adopted.

Dr. Atthill seconded the motion, which was agreed to.

The report contained the following:

General Description of Bill.

In a prefatory memorandum to the Bill it is stated that its chief object is "to enable the public, and especially such of the poor as are in the habit of employing midwives, to distinguish between those midwives who have been trained and have given evidence of being competent for their duties and those who have not."

The Bill, however, does not contain any provision forbidding the practice of the latter class and thus entirely fails to give that protection to the poorer classes from the risks which they incur at the hands of ignorant women professing to act as midwives, to which protection the Council have always contended they are entitled.

The only justification of such legislation as is contemplated in the Bill is that it will tend to protect lying-in women from the hands of the incompetent. Unless the failure of the Bill to do this can be corrected by such amendments as are suggested below the passage of it would, in the opinion of the Committee, be a retrograde measure tending to the degradation of midwifery as an art and to a continuance of the present preventable mortality of lying-in women.

Under Clause 2 the term "midwife" is defined to mean "a woman who undertakes to attend cases of labour in accordance with the regulations to be laid down under the Act." Persons of the male sex are excluded by this definition; it also excludes the prefix "natural" before the word "labour," the insertion of which was considered necessary by the Council in 1895.

By reason of this omission from the definition the Bill proposes to give a legal status to a new order of practitioners in midwifery, who are women not properly qualified to take sole charge of midwifery cases, and thus directly contravenes the Medical Act (1886), 49 and 50 Vict., cap. 48, by which no person can be registered to practise midwifery unless also qualified to practise medicine and surgery. The Act in question was enacted for the prime purpose of preventing the injury to the public resulting from persons practising one of the three divisions of the triple qualification without any assured knowledge of either of the other two subjects. The Bill, by its Clause 2, proposes to re-establish the old and dangerous position.

Further, the clause makes it no part of the duty of the midwife to do more than attend at the time of the labour, and provides in no wise for the nursing and after-care of either the mother or the newly-born infant during the lying-in period.

The Bill proposes to establish a "Midwives' Register," and also a "Midwives' Board" for the "purpose of carrying out the provisions of the Bill." In the Bill of 1895 the term "Midwives' Board" was defined as "constituted for the purpose of carrying out the provisions of the Bill subject to the approval of the General Medical Council."

Clause 3 limits the use of the title "midwife" to women who are on the Register, attaches to the employment of that title by others a penalty not exceeding five pounds, directs that no woman shall be registered until she has complied with the rules and regulations to be laid down under the Act, and provides by Sub-section (4) that the certificate of her registration shall not confer any right or title to be registered under the *Medical Acts*, or to assume any name, title, or designation implying that she is by law recognised as a licentiate or practitioner in medicine or surgery, or that she is qualified to grant any medical certicate, or any certificate of the cause of death.

Certificates of stillbirth are not mentioned, neither is any fine or penalty specified for breaches of Sub-section (4).

This clause does not provide any means for preventing wholly ignorant and untrained women from practising midwifery, nor does it prevent such persons from recovering charges for their services.

Further, there is no provision in the clause to prevent a registered midwife from employing uneducated assistants and substitutes.

Clause 4 provides for the registration, on application made within two years from the passing of the Act, of any woman who at the time of its passing has been in *bonâ fide* practice as a midwife for a period of two years or who at that time holds a certificate in midwifery from the Royal College of Physicians of Ireland or the Obstetrical Society of London or such other certificate as may be approved by the Board. By this clause existing midwives of any kind may, without any evidence of character, claim registration as a right at any time during two years after the passing of the Bill. The unprecedented position of authority proposed to be conferred by this clause upon the unincorporated "Obstetrical Society" must also be noted. There is no provision in the Act for re-registration whether after change of address, change of name, or restoration to the Register after erasure.

Clause 5 provides that the Midwives' Board shall be "constituted by the General Medical Council," and that it shall consist of twelve registered medical practitioners, three to be appointed by the Royal College of Physicians of London, three by the Royal College of Surgeons of England, three by the Society of Apothecaries, three by the Incorporated Midwives' Institute, and of "six persons (not necessarily medical) to be appointed for terms of three years by the Lord President of the Council."

It is not easy to understand in what sense a Board so appointed can be said to be "constituted" by the General Medical Council, which is not given any voice in the selection of any of the members of the Board in question. The Council in 1895 recommended a Board of thirteen registered medical practitioners, twelve to be appointed by the four bodies mentioned above, with a chairman to be appointed by the Lord President. It will be observed that the Board proposed by the Bill would be more numerous, and therefore more costly, than that proposed by the Council, and that one-third of its members need not be registered medical practitioners and are constantly eligible for re-appointment, whereas the medical members are not.

The same clause provides that the Corporation members of the Midwives' Board shall be "appointed" by the respective bodies, and that the Crown members shall also be "appointed," but "for terms of three years"; and it afterwards provides that one-third of the "elected" members, no election having been mentioned, shall retire annually, but shall be eligible for re-election after the lapse of a year. The clause is not very intelligible, but it may, perhaps, be assumed that the word "elected" is intended to apply to the corporation members, and that the Crown members, unlike the "elected" ones, will be eligible for immediate reappointment on the expiration of their three years of office. It would further appear that the Crown members would all go out of office at the same time. However this may be, it is evident that the Board would be a body of fluctuating and uncertain composition; and it may be questioned whether the discretion to be reposed in it is not too large.

This clause of the Bill casts upon the proposed Midwives' Board the onus of arriving at decisions on nearly all the more difficult questions of principle which are likely to arise in connexion with its subject matter and places it under the control of the Medical Council with regard to some of these, but not with regard to others. Thus the Board is the sole authority for—

1. Making rules for regulating the conditions of admission to the Register of midwives other than those in *bonâ-fide* practice at the time of the passing of the Act and for the mode of conducting the qualifying examinations.
2. Appointing examiners.
3. Deciding upon the places where and the times when examinations shall be held.
4. Preparing and publishing annually a Register of Midwives.
5. Deciding upon the conditions under which a midwife may be suspended from practice.
6. Deciding upon the removal from the Register of the name of any midwife for disobeying the rules and regulations from time to time laid down by the Board, or for some other misconduct, and for deciding upon the restoration to the Register of any name so removed.

On the other hand, in framing rules for regulating the admission to the Register of women already in *bonâ-fide* practice as midwives at the passing of the Act, in framing rules for regulating, supervising, and restricting within due limits the practice of midwives, and generally in doing any other duty which may be necessary for the due and proper carrying out of the provisions of the Act, the resolutions of the Board are to be subject to the approval of the General Medical Council. While expressing its willingness to act in the supervisory manner thus proposed by the Bill the Council should again, as in 1895, point out that proposals which seek to impose upon it fresh statutory duties calculated to increase the number, duration, or expense of its sittings, unless provision for the necessary payment is made from some other source than the funds derived from the registration of medical and dental practitioners, are inequitable and contrary to the Acts under which the Council is appointed.

Clauses 6, 7, and 8 deal with questions of fees and expenses, of the appointment of a registrar, and of the provision, &c., of a Midwives' Register.

Clause 9 requires that any local sanitary authority in England and Wales shall appoint its medical officer of health or other medical practitioner or practitioners to be a local supervising body over the midwives in the district. The duties of this officer or officers would be numerous and some of them would be very onerous. They include the general supervision of a number—often large—of midwives, the investigation of any charges as to malpractice, negligence, or misconduct on their part that any one may choose to make; the keeping of a copy of the Midwives' Register for public inspection; the determination as to the validity of the claim of any midwife to be placed on the Register; and, under Clause 10, the reporting of the death of any midwife in the district.

No fee or remuneration is proposed for the performance of all these duties, the intention probably being that they should as a rule be thrown upon existing officers—namely, the medical officers of health, some 1600 in number, whether they assent or not. The duties are, however, almost without exception entirely foreign to those of a medical officer of health; they largely concern the well-being and comfort of individual women, whether parturient or midwives, and they tend to turn the health officer at one time into a detective, at another into a judge. Apart from the question of controlling the occurrence and spread of puerperal fever, these duties should not, in the opinion of the Committee, devolve on the health officer, who in nine cases out of ten is a busy practitioner.

A survey of the clauses thus summarised shows, as mentioned above, that whilst the Bill seeks to protect the title of "midwife" by the aid of a penalty it does not render illegal the attendance on natural labour for gain by women who are not registered, and consequently does not seriously afford any reasonable check to the evils which at present are causing much injury and suffering to lying-in women and children, and to remedy which the Bill has been brought forward.

General Considerations and Recommendations.

In considering the Bill referred to them your Committee have held in view the previous conclusions of the Council to the effect that it is most desirable that measures should be adopted to protect parturient women of the poorer classes from the grave risk which they now incur owing to the practices of midwives, many of whom are most ignorant and nearly all of whom carry on their work without any medical supervision. In this view they thoroughly concur; and having regard both to the provisions of the Bill as submitted to Parliament and to the serious omissions from it they submit that no measure should be considered as satisfactorily meeting the requirements of the case unless it contains provisions to the following effect:—

1. That the title of the Bill shall be a Bill to Promote the Better Training of Midwives and Midwifery Nurses and for the Compulsory Registration of them as such.

2. That the term "midwife" shall be defined as meaning a woman who undertakes to attend cases of natural labour and to tend as a nurse the mother and newly-born infant during the lying-in period.

The term "Midwives' Board" should be defined in the same words as in the Bill of 1895.

3. That it shall be the duty of the local sanitary authority of every district to appoint such registered medical practitioners as are willing to be so appointed, to whom midwives shall be required to apply for assistance and advice in all cases other than cases of natural labour, and under all circumstances which may be laid down by the Midwives' Board as calling for medical intervention. The local authority shall pay to every registered medical practitioner so consulted a sum of not less than one guinea and not more than two guineas; provided always that when the patient is able to pay for such medical services the local sanitary authority shall recover the fees for the same from the patient or other responsible person by ordinary process of law.

4. That no woman or any association of persons formed for the purpose shall either habitually or for gain attend, or undertake to attend, on a lying-in woman unless the person attending and all the members of any association providing such attendance, be registered according to the provisions of the Act.

5. That the certificate of registration shall not confer on any woman the right to sign a certificate of stillbirth or any medical certificate, and that a penalty be imposed under Clause 3 for the granting of certificates referred to in that clause.

6. That every woman registered under the Act shall annually register her name and address on the payment of a nominal fee on or before a day to be named by the Midwives' Board, and that provision for re-registration shall be made.

7. That no registered midwife shall employ as assistant or substitute any person who is not also herself registered.

8. That the privilege accorded to existing midwives to register under Clause 4 of the Bill be limited to one year from the passing of the Act; that by the same clause no evidence of *bonâ fide* practice or certificate in midwifery be accepted for the purposes of registration except as approved by the Midwifery Board; and that no woman be allowed to register without evidence being furnished to the Board that her character is satisfactory.

9. That the term "constituted," as applied to the Midwives' Board in Clause 5, be defined in the Bill.

10. That the Midwives' Board should consist of registered medical practitioners, four to be elected by the Royal College of Physicians of London, four by the Royal College of Surgeons of England, and four by the Apothecaries' Society of London, and of one chairman to be appointed by the Lord President of the Council; that a quorum be defined; and that all regulations framed by such Board shall be subject to the approval of the General Medical Council.

11. That since the duties proposed to be cast under the Bill on the General Medical Council could not be carried out unless a considerable portion of each sitting of the Council were devoted to that purpose, which would involve a large increase of expense, and since the funds of the Council consist solely of fees paid by medical practitioners for admission to the Medical Register in Scotland and Ireland as well as in England and Wales, such additional duties ought not to be imposed upon the Council unless a grant be made by the Treasury to meet the expenses involved.

12. That undue assumption of responsibility by registered midwives shall be specially provided against, and legal protection afforded to the public against malpraxis.

13. That provision should be made in the Bill to make it penal for any person or body of persons in the United Kingdom to grant, or to profess to grant, any certificate in midwifery, for the purposes of this Act, to any woman other than that provided for in any Act that may be passed.

14. That there should be statutory control and inspection of private lying-in homes.

15. That all penalties recovered under the Act be paid to the Treasurer of the Midwives' Board.

16. That this Act should be made to apply to Scotland and Ireland as well as to England and Wales, in which case the constitution of the Midwifery Board should be altered accordingly.

The report contained also the following notes:

Note by Mr. Carter.—I desire to place on record my dissent from many of the opinions expressed in the foregoing report, whether they are introduced into the portion said to be a "description" of the Bill or into the subsequent "considerations and recommendations."

R. BRUDENELL CARTER.

Note by Mr. Brown.—Whilst agreeing generally with the report signed by the Acting Chairman of the Committee, I desire to suggest further that the Privy Council be informed that in any Act of Parliament regulating midwifery practice by women it is desirable that the title or titles which a person registered under the Act may take or use shall be strictly defined, and that the title or titles should clearly indicate that the holder is to be regarded rather as a nurse than as an independent practitioner of midwifery. I would suggest the titles "Midwifery Nurse" and "Obstetric Nurse" as sufficiently distinctive of the calling of those women whose names are permitted to be placed on the Register, and no other title or description should be used by them. The use of such titles as Licentiate or Diplomate in Midwifery or Obstetrics should be strictly prohibited.

GEORGE BROWN.

Dr. **MACALISTER** moved:—

That the Council now go into Committee of the whole Council for the purpose of considering the recommendations of the Committee.

Dr. **BRUCE** seconded the motion.

Dr. **MCVAIL** moved as an amendment:—

That instead of proceeding to consider the Midwives Registration Bill in Committee the Medical Council do agree to inform the Lord President of the Privy Council that the Medical Council is of opinion that the Bill should not be passed by Parliament, as the public safety requires that any person who is recognised by law as a practitioner in midwifery should have a knowledge of midwifery, medicine, and surgery not less than is at present required for admission to the medical registration which is open equally to men and women.

In supporting this proposal he said that the view he took of Dr. MacAlister's motion was that it was equivalent to a motion for the second reading of a Bill in the House of Commons and that if they went into committee it would mean that they approved of the leading principle of the bill. That principle was the creation of a new order of medical practitioners who were to act quite independently of the medical profession as a whole. It was quite true that their work was to be somewhat restricted, but how far restricted they did not quite know. In the present Bill labour was to be divided into two classes. It was true that the Bill did not name natural labour. The former Bill did, but the present Bill was in effect the same as the last, and it would be for the Council to consider what cases of midwifery could safely be attended by women and what cases could not. But whatever might be the rules adopted it would remain possible under this Bill for an ignorant woman to decide whether a case should go into one category or the other, when the most distinguished obstetricians could not say at an early stage that a particular case would be one of natural labour or not. Supposing in the end she made up her mind to send for a skilled practitioner, who was to come? There was no provision that it was to be a medical officer living in the district and no provision that the man called in was to get a fee. The Bill bristled with inconsistencies and answered no popular demand. If Parliament chose to pass it let them. Parliament had done some things which it was thought were wrong. It had abolished the Contagious Diseases Acts, with untold disaster to our soldiers and sailors; it had passed the Vivisection Act and so paralysed physiological and pathological and therapeutic research in this country; and it was shortly to in effect make vaccination voluntary with results which perhaps their descendants would find to be appalling. Who were the people who wanted the Bill? A handful of wealthy philanthropists, some members of a diploma-selling society in London, anti-vaccinators, anti-vivisectionists, anti-contagionists—in fact, all the anti-commonsense people of the country. But could they get any meeting of any Royal College in London, Dublin, or Edinburgh to say that the Bill was a Bill that should pass? The Council represented the whole profession and their duty was to tell the Lord President their opinion honestly. He was glad that he represented a part of the kingdom to which the Bill did not apply, and he would certainly resist its extension to Scotland. If England said that they would have it England might have it, but Scotland would not have it, and his closing advice to English members was that they should not have it either.

Sir **CHRISTOPHER NIXON**, in seconding the amendment, thought he was justified in saying for Ireland that that country was like Scotland and would not have the Bill. In the interests of the public rather than of the profession he thought the Bill should not be passed at all. He regarded the measure as a great source of danger to the public, whose interests the Council ought to regard as the paramount consideration. Was it to be supposed that mere registration would raise the moral tone of the women whom it was desired to reach by the Bill? If they approved of this measure they would be going distinctly against the Act of 1886, which required that all persons who practised midwifery should have a knowledge also of medicine and surgery, and be reversing their policy with regard to unqualified assistants, for they would be assisting to create a body of practitioners who would be used simply as unqualified assistants. He for his part would rather have unqualified medical assistants than midwifery assistants.

Mr. **BRUDENELL CARTER** suggested that the Council might quite fairly inform the Lord President of the Privy Council that there was no urgency whatever in regard to the question. Childbirth mortality was not on the increase. As a matter of fact, it had been for many years on the decrease. He did not for a moment think that the Bill would pass—for this reason, that it contained a provision to throw the expenses upon the rates, and that would excite such hostile feelings as would never be produced by mortality statistics. The Bill was bad in principle and he trusted it would never become the law or this country.

Mr. **BROWN** was of opinion that the Bill was wholly bad. There was not a clause in it which could possibly meet the evils complained of. He suggested that the Council should condemn the Bill *in toto*.

Sir **PHILIP SMYLY** said that the Royal College of Surgeons in Ireland had adopted the same resolution against the Bill as the Royal College of Physicians of Ireland.

Sir **WILLIAM GAIRDNER** doubted whether the amendment if adopted would not have the very opposite effect intended by the mover, for if the Council took such a strong position as the amendment invited them to do he was afraid they would be confronted with their own previous resolution on the subject, which was to the effect that they regretted the absence of proper provision and urged upon the Government the desirability of passing into law some measure for the education, supervision, and registration of midwives. He quite believed that Dr. McVail and Mr. Brown were willing to see the extinction of the midwife altogether. But he was quite sure that if they expected to see the midwife extinguished they were too sanguine. She had existed from antediluvian days and sprang from a primary need of society and human nature. Of course, it was a different thing to have the midwife springing up as a social institution and being taken up by the State and coddled into a false position. They were asked to contribute their share to organise midwives into a separate profession for medicine. That was his objection. He did not think they could give midwives all the rights and privileges, though in a minor degree, which they claimed for the profession itself.

Dr. **Atthill**, who said that he had always been against the registration of midwives, felt objections to the Bill as it stood, but he thought they must not refuse to consider the measure. Long ago he had said that they were beginning at the wrong end. Instead of saying that they should qualify they should have said and say now that they should educate.

Dr. **MacAlister** said that the Council at this special session were gathered together to consider the Bill. If they refused to do so it would stultify them and give an uncourteous answer to the Lord President of the Privy Council.

Dr. **McVail** protested that there was not the slightest discourtesy, but asked leave to amend his proposal by prefixing words to show that instead of intending discourtesy to the Privy Council it was his opinion that adequate preliminary precautions had been taken before his proposal was voted upon.

After a short adjournment for tea,

Dr. **McVail** said that with the consent of his seconder he would withdraw his proposal for the present.

Dr. **Glover** thought the Council should not agree to the proposed withdrawal.

Leave, however, was given, and after the President's remark that the amendment would go on the minutes the motion to go into committee on the recommendations of the committee on the Bill was unanimously agreed to.

On the motion of Dr. **MacAlister**, seconded by Mr. **Teale**, it was agreed:—

> That the title of the Bill shall be—A Bill to Promote the Training of Women as Midwives and to Provide for the Regulation of their Practice.

A recommendation to insert into the title after the word *midwives* the words *and midwifery nurses* was withdrawn.

The **President** suggested in the case of the next recommendation that meantime it would be better to leave over that part of it providing that a midwife should tend as a nurse the mother and newly-born infant during the lying-in period, and that discussion, if any, should be taken on the first part of the recommendation—namely, "that the term midwife shall be defined as meaning a woman who undertakes to attend cases of natural labour."

This led to a debate upon the meaning of the words "natural labour" and "midwife" and the necessary amount of supervision which should be exercised by the medical man, in the middle of which the Council adjourned.

Medical News.

THE VICTORIA UNIVERSITY.—In the Faculty of Medicine the following candidates have passed in the subjects indicated:—

SECOND EXAMINATION.

A. Anatomy and Physiology.—Granville Ainsworth and Arthur Anderson, Owens College; E. W. Anderton, Yorkshire College; J. T. Bailey and A. D. Beckett, Owens College; Philip Benington, University College; A. T. Blease, Owens College; J. E. Bolton and Henry Brown, Yorkshire College; P. I. Caddow, University College; A. C. Clarke, Owens College; Robert Cook, University College; E. R. Cooper, Owens College; J. L. Dimond, University College; T. H. B. Dobson, Owens College; W. F. Ellis, Yorkshire College; D. J. Ferris, Mercier Gamble, J. P. Good, Reginald Gordon, F. G. Hack, and C. R. Hall, Owens College; F. W. Harrowell, Yorkshire College; A. R. Jackson, L. C. Johnson, and R. E. Kelly, University College; Reginald Lawrence, C. H. Lee, and James McIlraith, Owens College; *J. C. Mann, University College; A. F. Martin and P. A. H. Radcliffe, Yorkshire College; H. W. Russell, Owens College; J. H. Sutcliffe, Yorkshire College; Thomas Tierney, Owens College; C. R. Willans, Yorkshire College; and T. B. Williams, W. J. Woodyatt, and W. A. B. Young, Owens College.

B. Materia Medica and Pharmacy.—J. L. Beddoes, W. H. Broad, and P. I. Caddow, University College; B. H. Hirst, Yorkshire College; A. S. Hopper, University College; W. C. Johnson, R. S. Nichol, C. A. Ricketts, F. M. Rogers, and C. W. S. Saberton, Owens College; Edward Swales, University College; George Taylor, R. N. West, H. M. Williamson, and P. G. Williamson, Owens College.

FINAL EXAMINATION.

Part I.—J. W. Aldred and F. H. Allen, Owens College; Godfrey Carter, Yorkshire College; Willie Cunliffe, Owens College; C. A. Dixon and Harry Dunk, Yorkshire College; J. T. Grierson, University College; I. Walker Hall, Owens College; W. S. Henderson and J. E. W. McFall, University College; R. A. Needham, Owens College; W. F. Oyston and J. A. Reed, Yorkshire College; C. R. Schofield, Owens College; W. A. Stott, Yorkshire College; and W. H. Tattersall and William Thompson, Owens College.

Part II.—William Bradley, W. J. S. Bythell, ‡H. J. Crompton, Herbert Davies, and †Robert Kelsall, Owens College; H. A. Mawdsley, University College; W. T. Melling and John Milne, Owens College; S. C. Moore, University College; and †D. S. Wylie, Owens College.

* University Scholar in Medicine.

† Awarded First-class Honours. ‡ Awarded Second-class Honours.

UNIVERSITY OF ABERDEEN.—The following candidates have passed in the subjects indicated:—

Degree of Doctor of Science (D.Sc.).—Alexander Brown, M.A., B.Sc., M.B., C.M., Aberdeen.

Degree of Doctor of Medicine (M.D.).—William Gordon Grant, M.B. C.M., Salterhill, Elgin; William Cardiff Hossack, M.B., C.M., Poona, India; *Robert Gordon McKerron, M.A., M.B., C.M., Aberdeen; *John MacLeod Hendrie MacLeod, M.A., M.B., C.M., Dundee; Peter Mitchell, M.B., C.M., Johannesburg, South African Republic; James Robertson Reid, M.B., C.M., Birkdale, Southport, Lancs; Cecil Robertson, M.B., C.M., Southfields, London, S.W.; George Taylor, M.B., C.M., London; Charles Thiselton Dyer Urquhart, M.B., C.M., Aberdeen; and *James Stratton Warrack, M.A., M.B., C.M., Burnley, Lancs.

Degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.) (Old Ordinances).—William Cartwright, Blackburn; William Cromar, Aberdeen; Ernest St. Clair Henriques, Jamaica, West Indies; William Mitchell Ogilvie, Aberdeen; John Smith Purdy, Morpeth, Northumberland; Robert Samuel Trotter, Perth; and Edward Wood Wood-Mason, Calcutta.

Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) (New Ordinances).—Henry Adams, M.A., Aberdeen; Alexander Chalmers, Aberdeen; James Stephen Chapman, Bridgend, Auchterless, Aberdeenshire; William Scott Clark, Leitchfield, Ardersier, Inverness-shire; James McRae Cowie, Haremoss, Monquhitter, by Turriff; William Deane Manson Donald, Banff; John Ebenezer Esslemont, Aberdeen; †Thomas Fraser, M.A., Aberdeen; William Kensit Glover, Aberdeen; William Elmslie Henderson, M.A., Aberdeen; David John Kelly, Hill-head, Petty, Fort George; James McKay, Aberdeen; David Roger Moir, Aberdeen; †William Ironside Moir, Aberdeen; George Mowat, Mains of Barrack, Auchnagatt, Aberdeenshire; George Ford Petrie, Aberdeen; John Moir Petrie, Aberdeen; †Frederick Philip, Aberdeen; Theodore Francis Ritchie, Inverurie; George Joseph Saunders, London; David Sivewright, M.A., Strichen, Aberdeenshire; Charles Cameron Slorach, Huntly; Joseph Alexander Thomson, B.Sc., Cullen; Alexander Urquhart, M.A., F.C., Old Meldrum; Edward Bruce Wilson, Huntley; and Andrew Watson Cook Young, Chapel of Garioch, Pitcaple.

* Thesis considered worthy of "commendation."

† Passed final examination "with credit."

THE ROYAL AQUARIUM.—Included in the Easter attractions at this place of entertainment is a lecture illustrated by lantern views entitled "A Trip to Klondike." To those who intend to visit this new gold region some practical hints are offered, while to the general public the exhibition will prove of educational value. A statement was made by the lecturer to the effect that at Klondike when the thermometer registered 40° below zero he felt the cold less than he has in Yorkshire when the temperature has been only 3° below the freezing point.

THE REGISTRATION OF PLUMBERS.—At a public meeting held at the town-hall, Durham, the following resolution was carried unanimously: "That this annual general meeting of the North of England District Council for the National Registration of Plumbers is of opinion that an organised and efficient system of registration of qualified plumbers is essential to the protection and preservation of the health of the community, and records its approval of legislative sanction being given to the registration movement and its desire that the Members of Parliament in the district will support the Bill now before the House of Commons."

A PRIZE COMPETITION.—The *Maryland Medical Journal* of Feb. 26th states that the second quinquennial prize of $1000, under the will of Samuel D. Gross, will be awarded on Jan. 1st, 1900. The prize is to be awarded every five years to the writer of the best original essay, not exceeding 150 printed pages 8vo in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens. The successful competitor shall publish his essay in book form and deposit a copy in the Samuel D. Gross Library of the Philadelphia Academy of Surgery. All interested in further information should apply to Dr. J. Ewing Mears, 1429, Walnut-street, Philadelphia, Pennsylvania.

PRESENTATIONS TO MEDICAL MEN. — Mr. William Roxburgh, M.B. Glasg., of Troon, Ayrshire, was presented at a social meeting, held on March 25th, by the first ambulance class in connexion with the Ailsa Shipbuilding Yard, with a valuable drawing-room timepiece in appreciation of his services as tutor to the class.—Mr. Edward H. Binney, M.B. Syd., who has for several years held the position of medical superintendent of the Sydney Hospital, Sydney, New South Wales, and who has been succeeded by Mr. W. C. McClelland, M.B. Syd., has been entertained at the hospital by the members of the medical staff, employés, and friends, and presented on the occasion with an oak roller-top desk, and also with an onyx-block, the gift of the matron and nursing staff.—An honorarium of £25 has been presented to Mr. James A. Dick, M.D. Edin., M.B. Syd., the honorary visiting medical officer of the Randwick Asylum, by the directors of the Society for the Relief of Destitute Children, Randwick, New South Wales.

DIPHTHERIA IN LONDON.—In the four weeks ended on March 26th there was considerable diminution in the amount of diphtheria in London, as compared with the same period of time ended Feb. 26th. In the earlier period the total number of notified cases of the disease in London was 939, but the total of the March period was only 813, so that the weekly average of 235 notifications in February gave place to 203 last month. Then, again, in the February period four districts had upwards of 50 cases each, amounting to an aggregate of 299, but only two districts had such excess of cases in the March period, and 140 cases in all. All sanitary districts of London save one were invaded in the latter period, but in six of the invaded areas only 14 cases were heard of altogether. The 166 registered deaths of the earlier period (41 weekly) gave place to 160 in March (40 weekly), but the per case mortality in March, which was 19 7 per cent. of notifications, was high in comparison with the 17·7 per cent. of the February period. In the outer ring of the metropolis the registered deaths declined in even larger proportion than in London itself. In the February period the weekly numbers of deaths were 15, 22, 18, and 23, or 78 in all, and in the March period 22, 19, 10, and 16, or a total of 67 deaths.

Parliamentary Intelligence.

HOUSE OF COMMONS.

MONDAY, MARCH 28TH.

Imported Dairy Produce.

SIR MARK STEWART asked the President of the Local Government Board if he was aware that large quantities of dairy produce were imported from countries where sanitary regulations might be said not to exist and what precautions the Government were taking to protect consumers against peril to health from diseased foreign produce.—Mr. T. W. Russell, who replied to the question, said: There is no doubt that dairy produce is imported from countries where there are not the same regulations in force as to dairies and cowsheds as in England, but I am not aware that large quantities of dairy produce are imported from countries where sanitary regulations do not exist. The precautions which are provided for the protection of consumers against peril to health from diseased foreign produce are the same as those in the case of home produce. Medical officers of health and inspectors of nuisances throughout the country are empowered to examine any animal, carcass, meat, flesh, milk, and a number of other articles which are deposited for sale and to seize any such articles which appear to be diseased or unsound or unwholesome or unfit for food with a view to the same being dealt with by a justice and the justice is empowered to order the same to be destroyed or otherwise disposed of so as to prevent its being used for food. A penalty not exceeding £20 or at the discretion of the justice imprisonment for a term of not more than three months may be imposed in such cases.

THURSDAY, MARCH 31ST.

The Payment of Public Vaccinators.

Mr. M'Kenna asked the President of the Local Government Board, in view of the proposal in the Vaccination Bill that domiciliary visits shall be made by the public vaccinators, whether it was proposed to make additional provisions for the payment of public vaccinators, and more particularly in the case of those acting in country districts, on account of the long distances which must necessarily be traversed.—Mr. Chaplin replied: I have no doubt that some revision in respect of the fees now payable for stational vaccination will be required when the system of domiciliary vaccination has been adopted.—Mr. Thomas Bayley asked whether the increased cost would be borne by imperial or local taxation.—Mr. Chaplin: It will be borne as now.—Mr. Bayley: That is out of local taxation.

Vaccination in Scotland.

Mr. Crombie asked the Lord Advocate whether glycerinated calf-lymph was generally used by public vaccinators in Scotland; and whether, as he did not contemplate any alteration of the law at present, he could take other means to enforce its use.—The Lord Advocate replied: I am informed by the Local Government Board for Scotland that they have no means of ascertaining exactly the quantity of glycerinated calf-lymph used by public vaccinators in Scotland, but, as I have already stated in reply to a question put to me by the hon. member for the West Division of Aberdeenshire (Dr. Farquharson), the provision of a supply of glycerinated calf-lymph to Scotland will be considered in connexion with the arrangements which, I understand, are now being considered by the English Local Government Board.

Treatment of Habitual Inebriates.

The Home Secretary, in reply to Mr. Knowles, said that he hoped to introduce the measure with regard to the treatment of habitual inebriates on a very early day after the Easter holidays.

FRIDAY, APRIL 1ST.

The Supply of Vaccine.

Captain Greville asked the President of the Local Government Board whether he was aware that Dr. Reece, a medical inspector under the Local Government Board, while making an official inspection in Middlesborough and Darlington during March, recommended local authorities and others to use the glycerinated calf vaccine prepared by a particular private firm; whether Dr. Reece and all other inspectors were officially authorised to advocate by name the interests of a private firm; whether it was consistent with the regulations of the Local Government Board that officials should use their position as a means of pushing the sale of the goods of any particular firm; whether the matter had already been previously brought to the knowledge of the Local Government Board; and whether prompt steps would be taken to check the practice complained of. — Mr. Chaplin replied: I am informed by Dr. Reece that he has not either in Middlesborough or Darlington recommended local authorities and others to use the glycerinated calf lymph prepared by any particular firm, but on one occasion when conferring with a board of guardians who required immediately a large supply of lymph he was pressed to state the name of some firm to whom a telegram could at once be sent and he mentioned the only firm whose telegraphic address he happened to know. The inspectors of the Department are not officially authorised to advocate by name the interests of private firms and so far as I am aware there has been no instance where an official of the Department has used his position as a means of pushing the sale of the goods of any particular firm. I had received a communication on the subject previously to the notice of this question, but as there has been no such practice as that suggested no steps on my part were necessary.

Medical Officers of Volunteer Corps.

Mr. Brodrick (Under-Secretary of State for War) said, in reply to a question by Sir Howard Vincent, that an army order is about to be issued giving the initial outfit allowance to medical officers on the establishment of volunteer corps.

Dog Muzzling Order.

Some discussion took place at the sitting with regard to this dog muzzling order. Several members took exception to sheep dogs not being allowed, like sporting dogs, to go unmuzzled. Mr. Walter Long, in supporting the present state of things, said that as the result of extensive inquiries he found that no great inconvenience was caused through sheepdogs being muzzled, and that to extend the exemption to them would mean the giving up of the Order altogether. Rather than do this he preferred to face the unpopularity of enforcing the Order. In the quarter ended March 31st, 1896, there were over 200 cases of rabies in the country; in the next quarter, 123; in the next, 67; in the next, 48; and in the quarter just ended the total number of actual cases reported had fallen to 6. In addition there were 3 suspected cases. The policy adopted was one founded on vast experience and the Board of Agriculture were determined to adhere to it, believing that it would result in eradicating rabies.

MONDAY, APRIL 4TH.

Nusseerabad Mission Hospital.

Mr. James Stuart asked the Secretary of State for India whether he was aware that the United Presbyterian Missionary Society had for twenty-five years rented a Government building at Nusseerabad as a mission hospital; whether the new regulations in reference to venereal disease amongst the troops in India were recently sent to Dr. Huntly, who was in charge of the hospital, and was asked if the mission would carry out the rules; whether Dr. Huntly replied that the mission hospital had been treating all natives, including women, affected with the disease in question, and was prepared to continue such treatment, but that any examination of women for a purpose similar to that of the Contagious Diseases Act was out of the question; and whether shortly afterwards six months' notice was served that the Government would take away this building from the mission, and whether he proposed to take any action in the matter.—Lord George Hamilton replied: I have not received any report upon this subject, but if the hon. gentleman will be good enough to furnish me with the information on which he bases his question I will make inquiry.

River Pollution.

Sir John Brunner asked the Lord Advocate whether he would introduce or favourably regard the introduction of a Bill to empower the Scottish County Councils immediately north of the border to act with the English County Councils immediately south of the border for the purpose of the formation of joint committees for the prevention of the pollution of rivers.—The Lord Advocate replied that the Government could not undertake the introduction of such a measure, but the Secretary for Scotland would be favourably disposed to the introduction of such a Bill as the hon. Member seemed to contemplate if its terms were suitably arranged.

Prison Diet.

Mr. Davitt asked the Home Secretary whether the dietary scale in the convict prisons of England and Wales for penal servitude prisoners at hard labour had been increased in recent years, and if so could he state to what extent in ounces of bread or meat, or both, in the week; whether penal class diet had been increased and if so to what extent; and whether punishment diet was still restricted to sixteen ounces of bread per day and a pint of water.—Sir M. White Ridley replied that the diet per week had been increased by a pint of soup containing 4 oz. of pork, 4 oz. of peas, and some other ingredients. There was no such thing as a penal class diet. The diets for ill-conducted and idle convicts would be found in the draft rules: No. 1 diet was as stated by the hon. Member, but could not be given for more than three days at a time.

The Analysis of Foreign Milk.

Mr. Jeffreys asked the President of the Local Government Board if he could state whether the foreign fresh milk imported into this country was inspected at the port of entry for the purpose of analysis; if so, how many samples had been taken; whether any information had reached him of illness arising from the use of this milk; and whether there was any sanitary inspection of the dairies where this milk was produced similar to that which was enforced in this country.—Mr. T. W. Russell, replying for Mr. Chaplin, said: There is no system of inspection for the purpose of analysis such as that suggested, but I am informed that some samples of milk imported from France were taken for analysis in the months of December and January last at the request of the Board of Agriculture. I have not received information as to illness arising from the use of this milk. I am not in a position to state what are the arrangements for the sanitary inspection of dairies in the different countries from which milk is received in this country; but I believe that information bearing on this question has been collected by the Royal Commission on Tuberculosis and this will no doubt be published in connexion with their report.

Prisons Bill.

At this sitting the House agreed to the second reading of the Prisons Bill and referred the measure to the Grand Committee on Law. During the debate that took place the Home Secretary announced that he had looked into the question of the No. 1 diet and taken some medical evidence with regard to it and he had come to the conclusion that some improvement might with advantage be made. As to the other prison diet he said he was not averse to making it the subject of inquiry, though at the present moment he had no direct evidence to substantiate the grave charges made in this connexion. On the subject of corporal punishment the Home Secretary said that in view of the character of a large proportion of our prison population it was necessary to retain the power to administer it. This power, however, was only exercised in case of mutiny or incitement to mutiny, personal violence to an officer or servant of the prison, or an act of gross insubordination requiring to be repressed by extraordinary measures.

BOOKS, ETC., RECEIVED.

APPLETON, D., AND Co., New York.
Transactions of the Nineteenth Annual Meeting of the American Laryngological Association. May, 1897. 1898.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.
Respiratory Exercises in the Treatment of Disease. By Harry Campbell, M.D., B S. Lond. 1898. Price 7*s*. 6*d*.
The Latin Grammar of Pharmacy. By Joseph Ince, F.C.S., F.L S., F.G.S. Seventh Edition. 1898.

BEETON AND Co., Fetter-lane, London, E.C.
Professions for Boys and How to Enter Them. By M. L. Pechell. With a Preface by the Rev. J. E. C. Welldon. 1898. Price 2*s*. 6*d*.

BLAKISTON, P., SON AND Co., Philadelphia.
Retinoscopy (or Shadow Test). By James Thorington, M.D. Second Edition. Illustrated. 1898.
Syringomyelia. An Essay to which was awarded the Alvarenga Prize of the College of Physicians of Philadelphia for the Year 1896. 1897.

CHURCHILL, J. & A., Great Marlborough-street, London.
A Manual of General Pathology. By Walter S. Lazarus Barlow, M.D., M.R.C P. 1898. Price 21*s*.

COCCOZ, ALEXANDRE, Paris.
Dix Leçons de Bactériologie Chirurgicale. Par Dr. Villemin. Août-Septembre, 1897. 1898.

FISCHER, GUSTAV, Jena.
Die Technik der speziellen Therapie. Von Dr. F. Gumprecht. 1898.
Handbuch der Therapie innerer Krankheiten. Von Dr. F. Penzoldt und Dr. R. Stintzing. Neunte und zehnte Lieferungen. 1898.

JENKINS, W. R., New York.
Veterinary Obstetrics. By W. H. Dalrymple, M.R.C.V.S.

KIMPTON, HENRY, High Holborn, London.
A Practical Treatise on Sexual Disorders of the Male and Female. By R. W. Taylor, A.M., M.D. Illustrated. 1897. Price 12*s*. net.
A System of Practical Medicine. By American Authors. Edited by A. L. Loomis, M.D., LL.D., and W. G. Thompson, M.D. Vol. iii.: Diseases of Alimentary Canal, &c. 1898. Price 25*s*. net.

LEWIS, H. K., Gower-street, London, W.C.
Inflammation of the Bladder and Urinary Fever. By C. M. Moullin, M.D. Oxon., F.R.C S. 1898. Price 5*s*.
Yellow Fever in the West Indies. By J. Anderson, M.D. Edin. 1898. Price 3*s*. 6*d*.

LIBRAIRIE MALOINE, Place de l'Ecole de Médecine, Paris, et Bureau de la *Gazette des Eaux*, Paris.
Annuaire des Eaux Minérales. Quarantième Année. 1898.

LIPPINCOTT, J. B., COMPANY, London and Philadelphia.
Mammalian Anatomy: A Preparation for Human and Comparative Anatomy. By H. Jayne, M.D., Ph.D. Part I: The Skeleton of the Cat: Its Muscular Attachments, Growth, and Variations, compared with the Skeleton of Man. Illustrated. 1898. Price 21*s*. net.
Therapeutics of Infancy and Childhood. By A. Jacobi, M.D. Second Edition. 1898. Price 15*s*. net.

LONG, JOHN, Chandos-street, Strand, London.
Trewinnot of Guy's. A Novel. By Mrs. C. Kernahan. 1898. Price 6*s*.

LONGMANS, GREEN AND Co., Paternoster-row, London.
The Diseases of the Lungs. By J. K. Fowler, M.A., M.D., F.R.C.P., and R. J. Godlee, M.S., F.R.C.S. Illustrated. 1898. Price 25*s*.

MARLBOROUGH, E., AND Co., Old Bailey, London.
Egyptian (Arabic) Self-Taught. With English Phonetic Pronunciation. Second Edition. By C. A. Thimm, F.R.G.S. 1898. Price 2*s*.

PEARSON, C. A., Henrietta-street, London, W.C.
The Isobel Handbooks. No. 4. A Healthy Home and How to Attain It. By Dr. Andrew Wilson. Edited by "Isobel" of *Home Notes*. With Index. 1898. Price 1*s*.

SMITH, ELDER, and Co., Waterloo-place, London.
Dictionary of National Biography. Edited by Sidney Lee. Vol. liv. Stanhope-Stovin. 1898.

THE REBMAN PUBLISHING COMPANY, Adam-street, Strand, London.
The American Year-book of Medicine and Surgery, 1898. Edited by G. M. Gould, M D. Illustrated. Price 38*s*.
Archives of the Roentgen Ray. February, 1898. Vol. ii. No. 3. Edited by W. S. Hedley, M.D., and S. Rowland, M.A., M.R.C.S. 1898. Price 4*s*. net.

THE SHIPPING WORLD COMPANY, Arundel-street, Strand, London.
Sanitation in the British Mercantile Marine. By Wm. G. Russell. Illustrated. 1898. Price 3*s*. 6*d*.

WHITAKER AND Co., White Hart-street, Paternoster-square, London.
Radiography and the X Rays. By S. R. Bottone. Illustrated. 1898. Price 3*s*.

The United Temperance Gazette, the quarterly parts for 1897, and for the March quarter, 1898. (The Ideal Publishing Union, Paternoster-row, London).—Cassell's Time Tables: First issue of enlarged and improved series. April issue, 1898, price 4*d*. (Cassell and Company, La Belle Sauvage, Ludgate-hill, London.—Magazines, &c., for April: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Chapman's Magazine, Myra's Journal, Pall Mall Magazine, Windsor Magazine, Cornhill Magazine, Blackwood's Magazine, Pearson's Magazine, English Illustrated Magazine, Knowledge, Humanitarian, The Navy and Army, Wellington and Waterloo, Ladies' Field, Wide World Magazine, and St. Peter's Magazine.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ATTFIELD, D. H., M.B., B.C. Cantab., D.P.H., has been appointed Medical Officer by the Watford Urban Dirtrict Council, vice R. A. St. Leger.

BAYS, JAMES T., M.D. Lond., M.R.C.S., has been appointed Medical Officer of Health for the City of Grahamstown, Cape Colony.

BEVAN, R., L.R.C P. Lond., M.R.C.S., D.P.H., has been re-appointed Medical Officer of Health by the Ashford, Kent, Urban District Council.

BOND, FRANCIS THOMAS, M.D. Lond., M.R.C.S., F.R.S. Edin., has been re-appointed Medical Officer of Health for Chepstow.

BROWN, H. R., M.B., C.M. Edin., has been appointed Medical Officer of Health by the Maldon Urban District Council.

BURDWOOD, J. W., L.F.P.S. Glasg., has been re-appointed Medical Officer of Health by the Bourne Rural District Council.

CLARKE, J. P., M.B., B.Ch. Irel., has been appointed Medical Officer for the Middlesbrough Workhouse, vice G. Longbotham, resigned.

COLE, RICHARD MOUNT, L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Consulting Surgeon to the Gloucester General Infirmary.

COLLINGRIDGE, W., M.D., M.R.C.S., D.P.H., has been re-appointed Medical Officer of Health by the London Port Sanitary Authority.

CUMMINS, LILLIAN CUNARD, L.R.C.P. & S. Irel., has been appointed Assistant Medical Officer to the Lincoln Lunatic Hospital.

DRINKWATER, JAMES PRATCHETT, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health by the Llangollen Rural District Council.

ELLISTON, G. S., M.R.C.S., has been re-appointed Medical Officer of Health by the Bosmere Guardians and District Council.

FULLER, J., F.R.C.S. Edin., M.R.C.P. Irel., has been appointed Medical Officer of Health by the Long Ashton Rural District Council.

HALL, C. R., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer for the Third Sanitary District of the Hatfield Union.

HAMMOND, WILLIAM, L.R.C.P. Edin., M.R.C.S., L.S.A., has been re-appointed Medical Officer for the Sixth Sanitary District of the Liskeard Union.

HARE, A. W., M.B., B.Ch. Aberd., has been appointed Junior House Surgeon to the Borough Hospital, Birkenhead.

JONES, J. A., L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Aberavon Town Council.

JOYCE, J. H., M.B., B.C. Cantab., has been appointed Medical Officer for the No. 2 Sanitary District of the Ashby-de-la Zouch Union.

KENNINGTON, R., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the No. 8 Sanitary District of the Basingstoke Union.

KNOX, R. G., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Hospital, Weston-super-Mare.

LEWIS, J. K., M.R.C.S., has been appointed Medical Officer for the Rewe Sanitary District, by the Devon St. Thomas Guardians and Rural Council.

LIMRICK, W. S., L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health by the Waterloo District Council.

LOGAN, R. R. W., M.R.C.S., has been appointed Medical Officer for the No. 3 Sanitary District of the Ashby-de-la-Zouch Union.

MACKENZIE, W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Raunds Urban Sanitary District.

MOXON, WM., M.D. Durh., L.R.C.P. Edin., M.R.C.S., has been re-appointed Medical Officer of Health by the Matlock Urban District Council.

ROBINSON, A. S., B.A., M.B., B.C. Cantab., L.S.A. Lond., has been appointed Medical Officer and Public Vaccinator to the Kirkleatham District of the Guisborough Union.

SADLER, M. T., M.D. Lond., M.R.C.S., has been re-appointed Medical Officer of Health by the Barnsley District Council.

SAUNDERS, A. M., M.B., C.M., D.P.H. Aberd., has been appointed Medical Officer of Health for the Burgh of Burghead, Morayshire.

SMITH, T. H., L.R.C.P., L.R.C.S. Edin., D.P.H. Camb., has been re-appointed Medical Officer of Health by the Reddish Urban District Council.

SOUTHEY, A. J., M.R.C.S., has been re-appointed Medical Officer of Health by the Eton Urban District Council.

TURNER, C. R., F.R.C.S. Eng., has been appointed Surgeon to St. George's Hospital, London.

WASHBOURN, WILLIAM, L.R.C.P. Lond., M.R.C.S., has been appointed Surgeon to the General Infirmary, Gloucester, and the Gloucestershire Eye Institution.

WEBB, JOHN EUSTACE, M.B., C.M. Aberd., has been re-appointed Medical Officer for the Fourth Sanitary District of the Liskeard Union.

WYNNE, W., M.B., Ch.M. Edin., has been appointed Medical Officer for the No. 2 Sanitary District of the Rye Union, vice H. Harratt, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ADDENBROOKE'S HOSPITAL, Cambridge.—Resident Assistant House Surgeon. Board, lodging, and washing in the Hospital provided.

BURY INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, residence, and attendance.

CAMBERWELL HOUSE, Peckham-road, S.E.—Junior Assistant Medical Officer, unmarried. Salary commencing at £120, with board, lodging and washing. Applications to the Medical Superintendent.

CHESTER GENERAL INFIRMARY.—Assistant House Surgeon for one year. Salary £40 per annum, with residence and maintenance in the house.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Resident Medical Officer. Salary £100 per annum, with board, &c.

COUNTY ASYLUM, Rainhill, near Liverpool.—Assistant Medical Officer, unmarried. Salary commencing at £100 per annum, with prospect of increase to £250, with furnished apartments, board, attendance, and washing.

DURHAM COUNTY HOSPITAL, 16, South Bailey, Durham.—House Surgeon for one year. Salary £100 a year, with board and lodging.

FLINTSHIRE DISPENSARY.—Resident House Surgeon. Salary £120 a year, with furnished house, rent and taxes free, also coal, light, water, and cleaning, or in lieu thereof the sum of £20 per annum. Applications to the Secretary, Board-room, Bagillt-street, Holywell.

GENERAL HOSPITAL, Nottingham.—House Surgeon for two years. Salary £100, rising £10 a year to £120.

GENERAL INFIRMARY, Gloucester, and **GLOUCESTERSHIRE EYE INSTITUTION**, Gloucester.—Assistant Surgeon.

HANTS COUNTY ASYLUM, Fareham.—Third Assistant Medical Officer, unmarried. Salary £100 per annum, increasing to £125 after twelve months' service, with furnished apartments, board, washing, and attendance.

KING'S COLLEGE, London.—The Sambrook Medical Registrarship. Applications (from King's College students only) to be made to the secretary.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Resident Medical Officer for one year. Salary 100 guineas per annum, with board, lodging, and washing.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL, Sunderland.—House Surgeon, unmarried. Salary £80 per annum, with board, residence, and washing.

PLYMOUTH ROYAL EYE INFIRMARY.—Honorary Physician.

RONSAY PARISH COUNCIL, Orkney.—Resident Medical Officer. Salary £61 sterling per annum. Applications to the Clerk of the Parish Council, Ronsay, Orkney.

ROYAL ALBERT HOSPITAL, Devonport.—Resident Medical Officer for two years, unmarried. Salary £100 per annum, with board and lodging.

ROYAL FREE HOSPITAL, Gray's-inn-road, London, W.C.—House Physician for six months. Board, &c., provided.

ROYAL ORTHOPÆDIC HOSPITAL, 297, Oxford-street, and 15, Hanover-square, London.—House Surgeon and Anæsthetist for twelve months. Salary £100 per annum, with board and residence.

SCARBOROUGH HOSPITAL.—Senior and Junior Resident House Surgeons. The former for twelve months. Salary £80 per annum, with board and lodging, and the latter for six months. Salary at the rate of £50 per annum, with board and lodging.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House Surgeon. Salary £30 per annum, with board, lodging, and washing.

ST. SAVIOUR'S UNION, London.—Dispenser at the Northern Dispensary, 302, Borough High-street, S.E. Salary at the rate of £70 per annum, with furnished apartments, and 12s. weekly in lieu of rations, subject to statutory deductions. Applications to the Clerk, John-street West, Blackfriars-road, S.E.

TEIGNMOUTH HOSPITAL, South Devon.—House Surgeon (to act as Secretary). Salary £60, with board and lodging.

YORK DISPENSARY.—Resident Medical Officer to visit and attend sick poor at their own homes, unmarried. Salary £150 a year, with furnished apartments, coals, and gas. Applications to W. Draper, Esq., De Grey House, York.

Births, Marriages, and Deaths.

BIRTHS.

DALISON.—On March 30th, at Ilsington Lawn, Puddleton, Dorset, the wife of Bernard E. Dalison, M.B., C.M. Edin., of a son.

FLEMING.—On Monday, April 4th, at 10, Chester-street, Edinburgh, the wife of Robert A. Fleming, M.D., F.R.C.P.E., of a son.

GORDON.—On March 25th, at Lower Baggot-street, Dublin, the wife of T. E. Gordon, M.B., F.R.C.S. Irel., of a daughter.

JOSCELYNE.—On April 3rd, at The Homestead, Southwick, Sussex, the wife of E. W. Joscelyne, M.B., of a daughter.

PATRICK.—On March 27th, at Stoneygate, Leicester, the wife of James Williamson Patrick, L.R.C.S., L.R.C.P., of a son.

WAINEWRIGHT.—On April 2nd, at Lee-terrace, Blackheath, S.E., the wife of Robert Spencer Wainewright, M.D. Lond., of a daughter.

MARRIAGE.

GAMLEN—MITCHELL.—On March 31st, at West Hartlepool, Durham, Harold Ernest Gamlen, M.B., B.S., D.P.H., third son of T. Hornsey Gamlen, of Hartlepool, to Mary, youngest daughter of P. Mitchell, of West Hartlepool.

DEATHS.

COTTERELL.—On April 5th, at West Halkin-street, Belgrave-square, S.W., Edward Cotterell, F.R.C.S., aged 41 years.

GRIFFITH.—On March 21st, Caroline, the beloved wife of Samuel Clewin Griffith, Esq., M.D., Master of the Society of Apothecaries of London.

HELM.—On March 31st, at Marazion, Cornwall, suddenly, George Frederick Helm, M.D., F.R.C.S., in his 61st year.

VINE.—On March 8th, off Cape Town, Herbert Vine, M.B., C.M. Edin., aged 33 years, Surgeon British India s.s. *Avoca*.

WILLIAMS.—On April 2nd, at Wellesley-villas, Croydon, Cecil Henry John Williams, L.D.S. R.C.S.I., aged 37 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

"UP-TO-DATE THERAPEUTICS."

A DISTINGUISHED physician sends us the circular of the editors of the *Alkaloidal Clinic* of Chicago—W. F. Waugh, M.D., literary editor; and W. C. Abbott, M.D., managing editor—announcing the gift of the nine-vial case of alkaloids thrown in with the *Clinic*, all to be had in continuity for $1 per year. Our valued correspondent seems slightly ruffled at being so canvassed for his patronage of the *Clinic* and being told that it contains a contribution from a friend of his. He need not, however, be greatly perturbed. The delivery of such gifts and overtures and alkaloids is now almost as much a business of the postman as the delivery of letters and threatens to destroy the old simplicity of medical practice. But surely regular members of the medical profession might leave this business in alkaloids to the manufacturing druggists.

LONDON DRAINS.

To the Editors of THE LANCET.

SIRS,—On all sides one hears of the great amount of measles and other illnesses about. I refer to London. I think I can give a reason, and that is that in London our drains are insufficiently and ineffectually flushed. Probably a good storm of rain or two would give these a good cleansing, but how long its beneficial effect would remain is another question. At present our sewers are not flushed on the top and only partially on the sides, while the force of water is insufficient to wash off the accumulations which render them dangers to health. This washing can be done thoroughly by using but one-tenth of the water now recklessly poured down our drains without flushing force. There is only one way to do it and the sooner the local authorities take it to heart the better. A valued and skilled surveyor (I refer to the late Mr. Walker, of St. Martin's parish, I believe) stated this repeatedly: "The most efficient flushing is by either a fixed or temporary pipe placed in the sewers and connected to the street water force, thus washing with such power that every part of the drain is effectually cleansed." Mr. Walker's opinion was that the dry and unwashed upper parts of the drains were more disease-spreading than any other. If one wants to put out a fire in a building one would not pour water on the floor, but would attack the burning mass with jets of water. Drain fever germs want the same treatment. When this is given, and not till then, will be cut away the root of disease germs so freely spread in the atmosphere through vent-holes and ventilators. Many borough and district surveyors would be glad to see more efficient means of drain flushing provided, and many local authorities would like to expend funds in the adoption of the new system, but public opinion requires to be educated in the matter.

I am, Sirs, yours faithfully,

Greenwich-road, S.E., March 24th, 1898. J. C. MERRYWEATHER.

*** Mr. J. C. Merryweather's remarks as to the importance of thoroughly flushing all drains and sewers point to an object most desirable of attainment. Any means by which stagnation and consequent fermentation of the contents of the sewers may be prevented would certainly assist in improving the general health. His suggestion would seem to apply only to sewers large enough for the passage of a man with a hose. It has, however, been proved that the air emanating from drains and sewers is not charged with micro-organisms to the extent to which it is commonly credited. Examinations of such air have shown the number of bacteria present to be extremely small—except in cases where fermentation is active or the flow of sewage much disturbed. This is owing to the moisture which is always present in sewer air and which when condensed upon the walls causes any bacteria present to adhere, consequently their frequent flushing would be an undoubted gain. External air is always more free from bacteria immediately after rainfall, while at the same time the number present in pools of water is found to have increased. Undoubtedly there is a tendency to an increase of certain forms of sickness in large towns during long-continued dry weather. This probably arises, not only from stagnation in the sewers, &c., but from the free escape of sewer air through the street gullies and yard traps of private drains, the water in which either evaporates or having become stagnant and saturated with gases allows the free passage of sewer air. The importance of keeping all yard gullies re-charged cannot be too much insisted upon; indeed, every yard gully should be made to receive the waste pipe from some sink in constant use in addition to rain-water. Everyone knows that sewer and drain air by depriving the lungs of oxygen lowers the vital powers and predisposes those exposed to its influence to the attacks of disease apart from the actual presence of any specific organism which might accompany it.—ED. L.

UNFORTUNATELY-WORDED ADVERTISEMENTS.

A CERTAIN town on the south coast has recently in common with many others been in the throes of an election for county councillors. One of the candidates was a medical man whose virtues were set forth upon a handbill in a way not consistent with professional etiquette—that is to say, for a man in practice. The local paper also contains an advertisement of the St. John Ambulance Brigade Branch, of which the medical man in question is the honorary medical officer. His name is given with the other officers and the staff of the branch and at the end of the advertisement is an intimation that in cases of accident any of the above are to be sent for. This advertisement, or rather the last two lines, should be altered. We should say that in case of accident the proper person to send for is the nearest medical man.

LAY NOMENCLATURE OF DISEASES.

To the Editors of THE LANCET.

SIRS,—A young medical man upon entering into private practice should understand that some of his patients may know considerably more of the healing art than himself and the sooner he assimilates this fact the better he will get on. In the hope of helping him to understand the unintelligible language he will occasionally hear from them I enclose a list of cases treated at a cottage hospital during the past year which has been printed and circulated amongst its subscribers. This list was composed by the lay committee of the hospital, though it is headed "Medical Returns of cases treated." In addition to such misprints as "cerebal," "iscbid," "gastic," and "periostetis," you will observe some remarkable points in it. "Urethral carbuncle" must surely be a terrible disorder, but if you will read "caruncle" for "carbuncle" perhaps you will have less pity for the patient. "Libia," which occurs twice, sounds like a geographical term, but the student should understand that it represents "tibia" to the lay mind. "Gluteal senius" might be supposed to be identical with "glateal sinus," which is found a few lines lower, but that the medical officer in charge of the latter case entered it in the hospital case-book as "pelvic cellulitis" (possibly the committee examined this female themselves and were kind enough to spare their officer's feelings by quietly correcting his diagnosis). "Onkylosis" of left elbow is not described in any of the text-books, nor is "vinicious andemia," which seems to convey the suggestion of intemperance on the part of the patient which is incorrect seeing that according to the case-book the woman was suffering from "pernicious anæmia." "Gastulis" also and "Tuterculer abscess" are diseases not described by lecturers at hospitals, to whom I would suggest that occasional remarks on the lay nomenclature of diseases might be useful to their students. I am, Sirs, yours faithfully,

March 30th, 1898. J. J.

THE LIGHT SIDE OF MEDICINE.

UNDER the above heading Mr. Norman Porritt, in the *Phonographic Record*, tells some good stories dealing with the ludicrous side of medical practice. A friend had attended at a difficult labour until 5 A.M. Creeping wearily to bed he was soon dreaming of that happy land where patients do not trouble and the night-bell is at rest when a loud ring awakened him. Popping his head out of window he saw the husband of the patient whom he had left but an hour ago. "Well, is anything wrong?" he asked. "No," said the man: "I had to pass on my way to my work and I thought I would just tell you she were all right." Gratitude in this case was not a virtue. The other story is told at the expense of a patient. An enema had been ordered with an ounce of turpentine in it. The medical man was assured by a female good Samaritan who was in the house that she knew quite well how to administer an enema, and as the apparatus was produced the medical man left without any misgivings. "Well," he said, on his next visit, "did you have the enema?" "Yes," said the patient, "but it *was* a business and it did taste nasty." The enema had been given with the apparatus but by way of the patient's throat.

AN OBSTINATE CASE OF HERPES.

To the Editors of THE LANCET.

SIRS,—I have a patient at present under treatment who has suffered for years from herpes præputialis of a very troublesome character, which seems to me to be incurable. The ailment recurs regularly about every month and lately the prepuce (which is well behind the glans) has become thickened somewhat and during his recent attack there was much œdema below the frænum, which I evacuated by means of the hypodermic syringe. The man is beyond the middle age, married, is practically a teetotaler, leads an active outdoor life, and has always been a healthy man in every sense of the word. He has not had syphilis or gout. His "thorn in the flesh," so to speak, worries him beyond measure and considerably interferes with his occupation — when an attack is "on" — and ruffles his temper too. The usual remedies have been persevered with: lotio plumbi c. cocaine, ung. hydr. nit. and "pasma" acid. boric., pulv. amyli and zinci oxid. have been adopted as "dusting powders," all of which *benefit* him, but they do no more. If any professional brother would kindly suggest what further should be done either as a prophylactic or as a curative remedy I should feel much obliged.—I am, Sirs, yours faithfully,

High-street, Putney, April 2nd, 1898. J. FFRENCH BLAKE.

THE CONTROL OF VOMITING AFTER ANÆSTHESIA.

DR. J. TORRANCE PUGH, of Philadelphia, states in the *Philadelphia Polyclinic* that he has used inhalations of vinegar in about twenty-five cases for the purpose of controlling nausea and vomiting after anæsthesia both in private and in hospital practice. The method of administration is by saturating a towel or cloth with fresh, strong vinegar (preferably that made from cider) and holding it a few inches above the patient's face, or hanging it from the bedstead so that it will be near his head. It should be used directly after the anæsthetic has been discontinued and kept up continuously for hours.

HEROIC TREATMENT.

THE following interesting account of "bone-setting" by the natives of the Congo River appears in the new magazine *The Wide World*. It would appear that the local white doctor could not get a fractured leg to unite, the patient being a most intractable one, but the difficulty was surmounted by one of the patient's fellow tribesmen in the following way. He was laid on the ground on his back and under his head was placed a box. The broken leg was then stretched straight out and covered with a little hillock of soft clay. This clay, being pressed hard down upon the leg and a fire kindled upon it, was practically turned into brick. The patient was kept in this position for over five weeks, being fed during the time by two attendants. The result is said to have been perfectly satisfactory.

A DISCLAIMER.

To the Editors of THE LANCET.

SIRS,—Our client, Mr. Adrian Hope, the secretary of the Hospital or Sick Children, Great Ormond-street, wishes us to write to you and state that he and his wife, Mrs. Adrian Hope, the artist, have no connexion whatever with the lady who gave evidence at the inquest on the late Mrs. Uzielli. We shall be greatly obliged if you will kindly publish this letter. Yours faithfully,

Lincoln's-inn-fields, London, W.C., April 5th, 1898. HASTIES.

THE ORIGIN OF "TRILBY."

IN an interesting little paper in the *St. Peter's Magazine*, a new Roman Catholic publication, for April, written by Mr. A. W. à Beckett, the assistant editor of *Punch*, reference is made to the original of Du Maurier's celebrated novel "Trilby." Mr. à Beckett says that the central idea of the hypnotic influence exercised by Svengali was founded on a case reported in THE LANCET some forty or fifty years ago. "No less a person than the famous Jenny Lind was able to cause a factory girl without any musical education to sing like a sister nightingale," says Mr. à Beckett.

◆

Constant Subscriber (St. Austell).—A School Board is obliged to notify the closure of a school at other times than those of the regular holidays to the Education Department. This being so, it is only fair that the Board should be given a certificate to say that the school was closed for good reasons and thus avoid the loss of the grant. We do not think there are any legal rights in the matter.

Mr. Edward S. Cardell.—Ordinary medical books of reference are supplied to all applicants. No discretion as to age is necessary because all authorised readers are of age. Books of the class called "curious" are not supplied to anyone, medical or lay, without a sufficient reason being given for the application.

K. D. Y.—The degree is no longer granted. It is not, and never was, registrable in Great Britain.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2 30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (16th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.) St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (13th). — HUNTERIAN SOCIETY.—8.30 P.M. Clinical Evening. Cases will be shown by Sir Hugh Beevor, Dr. F. J. Smith, Dr. J. H. Sequeira, Mr. J. Adams, Dr. A. Davies, and others.

LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—5 P.M. Cases and Specimens will be shown by Dr. S. Spicer, Dr. J. Horne, Dr. H. Tilley, Dr. St. C. Thomson, Dr. Hill, Mr. Yearsley, and Mr. Lake.

THURSDAY (14th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Adjourned Discussions:—On Dr. Newman's Demonstration on the Bacteriology of the Female Genital Organs.—On Dr. W. Alexander's paper on the Enucleation of Uterine Myomata. Paper:—Dr. F. Purcell: The Risks to the Ureters in Performing Hysterectomy.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

WEDNESDAY (13th).—EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr A. H. Tubby: Swellings in the Groin, their Diagnosis and Treatment. (Post-Graduate Course.)

FRIDAY (15th).—LONDON POST-GRADUATE COURSE.—King's College 3 to 5 P.M., Prof. Crookshank: Tetanus, Rabies, and Cholera.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 6th, 1898.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 31	29 70	E.	...	81	61	39	42	44	Fine
April 1	29·91	N.E.	...	73	52	34	35	36	Foggy
" 2	29·80	N.	...	84	56	36	41	43	Cloudy
" 3	29 82	S.W.	...	95	59	43	47	52	Fine
" 4	29 81	W.	0·05	93	55	46	46	48	Cloudy
" 5	30·17	N.E.	...	71	51	37	38	41	Cloudy
" 6	30·12	S.W.	...	95	60	38	42	45	Fine

During the week marked copies of the following newspapers have been received: *Cornubian Times, Bucks Herald, Western Mail, Bradford Telegraph, Cornish Times, Western Morning News, Newcastle Weekly Chronicle, Kettering Guardian, Wolverhampton Chronicle, Luton Reporter, Times of India, Pioneer Mail, Chester Chronicle, Derbyshire Times, Wiltshire Advertiser, Liverpool Daily Post, Scotsman, Architect, Southampton Times, Builder, Bath Chronicle, Bristol Mercury, Dundee Advertiser, Glasgow Herald, Leeds Mercury, Leicester Post, Sussex Daily News, Worcester Echo, Birmingham Gazette, North British Daily Mail, Manchester Courier, Sheffield Telegraph, West Lothian Courier, Yorkshire Post, Middlesboro Evening Telegraph, Brighton Gazette, Louth and North Lincolnshire Advertiser, City Press, Local Government Chronicle, North-Eastern Daily Gazette, Mining Journal, Reading Mercury, Hertfordshire Mercury, Poole, Parkstone, and East Dorset Herald, Weekly Free Press and Aberdeen Herald, Surrey Advertiser, Local Government Journal, Public Health, Guy's Hospital Gazette, Western Guardian, Ulverston Advertiser, Bromsgrove Messenger, &c., &c.*

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B.P.L. Bindery,
NOV 29 1898

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